



GANESAR COLLEGE OF ARTS AND SCIENCE

(Accredited with 'B' grade by NAAC)

MELAISIVAPURI - 622 403, PUDUKKOTTAI, TAMILNADU

Phone: 04333 - 247218, 247603



STUDENTS PROJECT



GANESAR COLLEGE OF ARTS AND SCIENCE

(Accredited with 'B' grade by NAAC)

MELAISIVAPURI - 622 403, PUDUKKOTTAI, TAMILNADU

Phone: 04333 - 247218, 247603

ACADEMIC YEAR 2018-19

கணேசர் கலை அறிவியல் கல்லூரி, மேலைச்சிவபுரி

தேர்வு மையம் எண்: 010

ஏப்ரல்-2019, எம்.ஏ திட்டக்கட்டுரைத் தலைப்புகள்

வ.எண்	மாணவர்கள் பெயர்	பதிவு எண்	கட்டுரைத் தலைப்பு	வழிகாட்டியின் பெயர்
1.	க.ஆர்த்தி	P17100251	உறவு சிறுகதைத் தொகுப்பில் சமூகச் சிந்தனைகள்	முனைவர் பொன்.கதிரேசன்
2.	சே.கீதாலெட்சுமி	P17100252	வண்ணதாசனின் ஒரு சிறு இசை சிறுகதைத் தொகுப்பில் வாழ்வியல் சிந்தனைகள்	முனைவர் பொன்.கதிரேசன்
3.	சே.கௌசல்யா	P17100253	முக்கூடநபள்ளில் வளங்களும் வேளாண் மரபுகளும்	முனைவர் சி.முடியரசன்
4.	தே.மணிஷா	P17100255	பெருமாள் முருகனின் பூக்குழி - ஓர் ஆய்வு	முனைவர் ம.செல்வராசு
5.	அ.ராஜேஸ்வரி	P17100256	அறப்பளீசுர சதகம் - ஓர் ஆய்வு	முனைவர் கதி.முருகேசன்
6.	ரா.சாய்லெட்சுமி	P17100258	நந்திக் கலம்பகம் - ஓர் ஆய்வு	முனைவர் ம.செல்வராசு
7.	வீ.சரோஜாதேவி	P17100259	பெருமாள் முருகனின் ஏறுவெயில் நாவல் உணர்த்தும் சமூக நிலை	முனைவர் மா.தமிழ்ச்செல்வி
8.	த.தமிழ்ச்செல்வி	P17100260	அற்புதத் திருவந்தாதியில் காரைக்காலம்மையாரின் பக்தித் திறம்	முனைவர் பெரி.அழகம்மை
9.	சே.வைத்தீஸ்வரி	P17100261	திருச்செந்தூர் பிள்ளைத்தமிழ் - ஓர் ஆய்வு	முனைவர் வே.அ.பழனியப்பன்

S.V. Sornam

PRINCIPAL
Ganesar College of Arts & Science
MELASIVAPURI - 622 403

நெறியாளர் சான்றிதழ்

முனைவர் கதி.முருகேசன் எம்.ஏ.,எம்.பில்.பி.எஸ்.பி.எச்.19..

உதவிப்பேராசிரியர்

தமிழ் உயராய்வு மையம்,

கணேசர் கலை அறிவியல் கல்லூரி,

மேலைச்சிவபுரி-622 403.

“அறப்பளிகர சதகம் - ஓர் ஆய்வு”

என்னும் தலைப்பில் பாரதிதாசன் பல்கலைக்கழக முதுகலைப்பட்டத்தின் பகுதி நிறைவாக அமைந்த இவ்வாய்வேடு. எனது மேற்பார்வையில் கணேசர் கலை அறிவியல் கல்லூரி மாணவி அ.ராஜேஸ்வரி (பதிவேண்: P17100256) என்பவரால் வழங்கப் பெற்றதாகும். இவ்வாய்வு ஆய்வாளரால் தன்னியலாகச் செய்யப்பட்டது என்றும் இவ்வாய்வின் மீது அவருக்கு வேறு எந்தப் பட்டமும் வழங்கப்பெறவில்லை என்றும் சான்றளிக்கின்றேன்.

இடம் : மேலைச்சிவபுரி

நாள் : 18/3/19

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18/3/19

நெறியாளர்
முனைவர்.கதி.முருகேசன்,
உதவிப்பேராசிரியர், தமிழ் உயராய்வுமையம்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி - 622403



சி.வ.சுப்பிரமணியம்
18-03-19
முதல்வா

முதல்வா
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

வநர்யாளர் சான்றதழ்

முனைவர் **ம. செல்வராசு** எம்.ஏ.,எம்.ஃபில்.,பி.எட்.,பிஎச்.டி.,
இணைப் பேராசிரியர்,
தமிழ் உயராய்வு மையம்,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி - 622 403.

“**வருமாள் முருகனின் புக்குழி - ஓர் ஆய்வு**” என்னும்
தலைப்பில் **தெ.மனிஷா** (பதிவு எண்: P17100255) செய்துள்ள
இவ்வாய்வேடு அவர் கணேசர் கலை அறிவியல் கல்லூரியில் முதுகலை
தமிழ்த்துறை மாணவராக இருந்து ஆய்வு செய்த காலத்தில்
தன்னியலாகச் செய்யப்பட்டதெனச் சான்றளிக்கின்றேன். இதற்கு முன்
வேறு எந்தப் பட்டம் பெறுவதற்கும் இவ்வாய்வேடு அளிக்கப்பெறவில்லை
என உறுதியளிக்கின்றேன்.

இடம் : மேலைச்சிவபுரி
நாள் : 19-3-19

Handwritten signature and date: 19/3/2019

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வநர்யாளர்
எம்.ஏ., எம்.ஃபில்., பி.எட்., பிஎச்.டி.,
இணைப் பேராசிரியர் & துறைத் தலைவர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி



Handwritten signature and date: 19-03-19
முதல்வர்

முதல்வர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றதழ்

முனைவர் சி.முடியரசன் எம்.ஏ.,எம்.ஃபில்.,பி.எட்.,பிஎச்.டி.,
உதவிப் பேராசிரியர்,
தமிழ் உயராய்வு மையம்,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி - 622 403.

முக்கூடற்பள்ளில் வளங்களும் வேளாண் மரபுகளும்
என்னும் தலைப்பில் செ.கௌசல்யா (பதிவு எண்: P17100253)
செய்துள்ள இவ்வாய்வேடு அவர் கணேசர் கலை அறிவியல் கல்லூரியில்
முதுகலை தமிழ்த்துறை மாணவராக இருந்து ஆய்வு செய்த காலத்தில்
தன்னியலாகச் செய்யப்பெற்றது என்றும் இவ்வாய்வேட்டிற்காக
ஆய்வாளருக்கு வேறு எந்த பட்டமும் வழங்கப்பட வில்லை என்றும்
சான்றளிக்கின்றேன்.

[Handwritten Signature]
19/03/2019

இடம் : மேலைச்சிவபுரி

நாள் : 19.03.2019

[Handwritten Signature]
முனைவர் சி.முடியரசன்
எம்.ஏ.,பி.எட்.,எம்.ஃபில்.,பி.எச்.டி.
உதவிப்பேராசிரியர், தமிழ் உயராய்வு மையம்,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி - 622 403, புதுக்கோட்டை மாவட்டம்



சி.முடியரசன்
19-03-19
முதுகூலவர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றிதழ்

முனைவர் ம.செல்வராசு எம்.ஏ.,எம்.பில்.,பி.எட்.,பிஎச்.டி.,
இணைப் பேராசிரியர்,
தமிழ்த்துறை,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி-622 403.

“நந்திக்கலம்பகம் - ஓர் ஆய்வு” என்னும் தலைப்பில் பாரதிதாசன்
பல்கலைக்கழக - முதுகலைப்பட்ட ஆய்வேட்டுத் திட்டப் பாடப்பகுதிக்காக
ரா.சாய்லெட்சுமி (பதிவெண்: P17100258) செய்துள்ள இவ்வாய்வேடு, அவர் கணேசர்
கலை அறிவியல் கல்லூரியின் தமிழ்த்துறையில் பயின்ற காலத்தில் எனது
மேற்பார்வையில் தன்னியலாகச் செய்யப்பட்டதெனச் சான்றளிக்கின்றேன்.

இடம் : மேலைச்சிவபுரி

நாள் : 19-3-19



முனைவர் ம.செல்வராசு
எம்.ஏ., எம்.பில்., பி.எட்., பிஎச்.டி.,
இணைப் பேராசிரியர் & துறைத் தலைவர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி



செ. சண்முகம்
19-03-19
முதல்வர்
முதல்வர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றிதழ்

முனைவர் பெரி.அழகம்மை எம்.ஏ.,பி.எச்.டி.,
உதவிப் பேராசிரியர்,
தமிழ்த்துறை,
தமிழ் உயராய்வுமையம்,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி-622 403.

“அற்புதத்திருவந்தாதியில் காரைக்காலம்மையாரின் பக்தித் திறம்”

என்னும் தலைப்பில் த.தமிழ்ச்செல்வி (பதிவெண்: P17100260) செய்துள்ள இவ்வாய்வேடு அவர் கணேசர் கலை அறிவியல் கல்லூரியில் முதுகலை தமிழ்த்துறை மாணவராக இருந்து ஆய்வு செய்த காலத்தில் தன்னியலாகச் செய்யப்பட்டதெனச் சான்றளிக்கின்றேன்.

இடம் : மேலைச்சிவபுரி
நாள் : 18.03.2019

(Handwritten Signature)

ணி. அழகம்மை
18/03/19
நெறியாளர்

முனைவர் பெரி.அழகம்மை எம்.ஏ.,பி.எச்.டி.
உதவிப் பேராசிரியர், தமிழ் உயராய்வு மையம்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி-622403



சி.வெள்ளையன்
18-03-19
முதல்வர்

முதல்வர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றிதழ்

முனைவர் மா.தமிழ்ச்செல்வி எம்.ஏ.,பிஎச்.டி.,

உதவிப் பேராசிரியர்,

தமிழ் உயராய்வுமையம்,

கணேசர் கலை அறிவியல் கல்லூரி,

மேலைச்சிவபுரி-622 403.

“பெருமாள் முருகனின் ஏறுவெயில் நாவல் உணர்த்தும்

சமூகநிலை” என்னும் தலைப்பில் பாரதிதாசன் பல்கலைக்கழக முதுகலைப் பட்டத்தின் பகுதி நிறைவாக அமைந்த இவ்வாய்வேடு என் மேற்பார்வையில் கணேசர் கலை அறிவியல் கல்லூரி மாணவி வீ.சரோஜாதேவி (பதிவெண்: P17100259) என்பவரால் வழங்கப் பெற்றதாகும். இவ்வாய்வு ஆய்வாளரால் தன்னியலாகச் செய்யப்பட்டதென்றும், இவ்வாய்வின் மீது வேறெந்தப் பட்டமும் ஆய்வாளருக்கு அளிக்கப் பெறவில்லை என்றும் சான்றளிக்கின்றேன்.

இடம் : மேலைச்சிவபுரி

நாள் : 21-3-2019

21.3.19

முனைவர்
நெறியாளர் 21-3-19

முனைவர் மா.தமிழ்ச்செல்வி எம்.ஏ.,பிஎச்.டி.,
உதவிப் பேராசிரியர், தமிழ் உயராய்வு மையம்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி-622403



சு. சசுஷ்ணம்
முதல்வர் 21-03-19
முதல்வர்

கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றிதழ்

முனைவர் பொன். கதிரேசன். எம். ஏ., டி. பி. டி., எம். ஃபில்., பிஎச். டி.
உதவிப் பேராசிரியர்,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி - 622 403.

'உறவு சிறுகதைத் தொகுப்பில் சமூகச் சிந்தனைகள்' என்னும் தலைப்பில் பாரதிதாசன் பல்கலைக்கழக முதுகலைப் பட்டத்தின் பகுதி நிறைவாக அமைந்த இவ்வாய்வேடு என் மேற்பார்வையில், மாணவி க. ஆர்த்தி (பதிவு எண் : P17100251) என்பவரால் வழங்கப் பெற்றதாகும்.

இவ்வாய்வு ஆய்வாளரால் தன்னியலாகச் செய்யப்பட்டது என்றும் இவ்வாய்வின் மீது அவருக்கு வேறு எந்தப் பட்டமும் வழங்கப் பெறவில்லை என்றும் சான்றளிக்கிறேன்.

இடம் : மேலைச்சிவபுரி.

நாள் : 18.03.2019

 
நெறியாளர் 18.03.2019.

முனைவர் பொன். கதிரேசன் M.A., M.Phil., T.P.T., UGC(NET), DIP (Yogo), Ph.D.

உதவிப் பேராசிரியர் & ஆய்வு நெறியாளர்,
தமிழ்த்துறை, கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி, புதுக்கோட்டை-622 403.

அலைபேசி: 93605 07675. மின்னஞ்சல்: umaponkathir@gmail.com

சு. சுவாமி

முதல்வர் 18-03-19

முதல்வர்

கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி



நெறியாளர் சான்றிதழ்

முனைவர் வே.அ.பழனியப்பன் எம்.ஏ.,எம்.பில்.,பி.எல்.,பி.எச்.டி.,

தவிப்பேராசிரியர்,

மிழ்த்துறை,

கணேசர் கலை அறிவியல் கல்லூரி,

மலைச்சிவபுரி-622 403.

“திருச்செந்தூர்ப் பிள்ளைத்தமிழ் - ஓர் ஆய்வு” என்னும் தலைப்பில் சே.வைத்தீஸ்வரி
திவு எண்: P17100261) செய்துள்ள இவ்வாய்வேடு அவர் கணேசர் கலை அறிவியல்
கல்லூரி முதுகலை (எம்.ஏ) மாணவராக இருந்து ஆய்வு செய்த காலத்தில் தன்னியலாகச்
செய்யப்பட்டது என்றும், வேறு எந்தப் பட்டத்திற்கும் இவ்வாய்வேடு அளிக்கப்பெறவில்லை
என்றும் சான்றளிக்கிறேன்

இடம் : மேலைச்சிவபுரி

திகதி : 18/3/2019

(Handwritten Signature)
நெறியாளர்
18/3/2019

முனைவர் வே. அ. பழனியப்பன்
எம். ஏ., எம். பில்., பி. எல்., பி. எச். டி.,
தவிப்பேராசிரியர்
கணேசர் கலை அறிவியல் கல்லூரி
மலைச்சிவபுரி - 622403.



சி.வ. சே.முனைவர்
18-03-19
முதல்வா

முதல்வா
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றிதழ்

முனைவர் பொன். கதிரேசன். எம். ஏ., டி. பி. டி., எம். ஃபில்., பிஎச். டி.,
உதவிப் பேராசிரியர், தமிழ்த்துறை,
கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி - 622 403.

'வண்ணதாசனின் ஒரு சிறு இசை சிறுகதைத் தொகுப்பில் வாழ்வியல் சிந்தனைகள்' என்னும் தலைப்பில் பாரதிதாசன் பல்கலைக்கழக முதுகலைப் பட்டத்தின் பகுதி நிறைவாக அமைந்த இவ்வாய்வேடு என் மேற்பார்வையில், மாணவி சே. கீதாலெட்சுமி (பதிவு எண் : P17100252) என்பவரால் வழங்கப் பெற்றதாகும்.

இவ்வாய்வு ஆய்வாளரால் தன்னியலாகச் செய்யப்பட்டது என்றும் இவ்வாய்வின் மீது அவருக்கு வேறு எந்தப் பட்டமும் வழங்கப் பெறவில்லை என்றும் சான்றளிக்கிறேன்.

இடம் : மேலைச்சிவபுரி.

நாள் : 18.03.2019



நெறியாளர் 18.03.2019.

சும. அசோகன்

18-03-19

முதல்வர்

முதல்வர்

கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

முனைவர் பொன். கதிரேசன் M.A., M.Phil., T.P.T., UGC(NET), DIP (Yoga), Ph.D.
உதவிப் பேராசிரியர் & ஆய்வு நெறியாளர்,
தமிழ்த்துறை, கணேசர் கலை அறிவியல் கல்லூரி,
மேலைச்சிவபுரி, புதுக்கோட்டை-622 403.
அலைபேசி:93605 07675. மின்னஞ்சல்:umaponkathir@gmail.com



கணேசர் கலை அறிவியல் கல்லூரி, மேலைச்சிவபுரி

தேர்வு மையம் எண்: 010

2018-2019, எம்ஐல் திட்டக்கட்டுரைத் தலைப்புகள்

வ.எண்	மாணவர்கள் பெயர்	பதிவு எண்	கட்டுரைத் தலைப்பு	நெறியாளர் பெயர்
1.	ச.கனிமொழி	2K18FT-20186	பத்துப்பாட்டில் உணவுப் பழக்க வழக்கங்கள்	முனைவர் பொன்.கதிர்சன்
2.	அ.மேனகா	2K18FT-20187	ஐங்குறுநூறு - முல்லைத்திணையில் நிலவளமும் வாழ்வியலும்	முனைவர் வே.அ.பழனியப்பன்
3.	அ.சசிகலா	2K18FT-20188	பொருநர் ஆற்றுப்படை - ஓர் ஆய்வு	முனைவர் பெரி.அழகம்மை ✓
4.	ப.சுவாதிவள்ளி	2K18FT-20189	மலைபடுகடாம் - ஓர் ஆய்வு	முனைவர் ம.செல்வராசு ✓


Head
Department of Tamil
Ganesar College of Arts and Science
Melasiyapuri, Panamaravathi
Pudukkottai - 622403


PRINCIPAL
Ganesar College of Arts & Science
MELASIYAPURI - 622 403

நெறியாளர் சான்றிதழ்

முனைவர்.பெரி.அழகன்மை எம்.ஏ.,பி.எச்.டி.,

உதவிப் பேராசிரியர்

தமிழ்த்துறை

கணேசர் கலை அறிவியல் கல்லூரி

மேலைச்சிவபுரி - 622403

“பொருநராற்றுப்படை - ஓர் ஆய்வு” என்னும் தலைப்பில் அ.சசிகலா (2K18FT20188) அவர்கள் செய்துள்ள இவ்வாய்வேடு கணேசர் கலை அறிவியல் கல்லூரித் தமிழ்த்துறை மாணவராக இருந்து ஆய்வு செய்த காலத்தில் தன்னிலையாகச் செய்யப்பட்டது என்றும் வேறு எந்தப் பட்டத்திற்கும் இவ்வாய்வேடு அளிக்கப்பெறவில்லை என்றும் சான்றளிக்கிறேன்.

இடம் : மேலைச்சிவபுரி

நாள் : 30.08.2019

எளி.சுதேசனை 30/08/19
நெறியாளர்

முனைவர்.பெரி.அழகன்மை எம்.ஏ.,பி.எச்.டி.,
உதவிப் பேராசிரியர், தமிழ் உயராய்வு மையம்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி-622403



சுதி. எசுப்தனை
30 - 08 - 19

முனைவர்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

நெறியாளர் சான்றிதழ்

முனைவர் பொன்.கதிரேசன்.எம்.ஏ.,டி.பி.டி.,எம்.பில்.,பிஎச்.டி.,

உதவிப் பேராசிரியர்,

தமிழ்த்துறை,

கணேசர் கலை அறிவியல் கல்லூரி,

மேலைச்சிவபுரி.

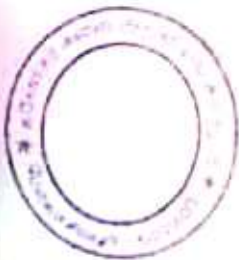
“பத்துப்பாட்டில் உணவுப் பழக்க வழக்கங்கள்” என்னும் தலைப்பில் பாரதிதாசன் பல்கலைக்கழக எம்.பில் பகுதி நிறைவாக அமைந்த இவ்வாய்வேடு, என் மேற்பார்வையில் ஆய்வாளர் சி.கனிமொழி (பதிவு எண் : 2K18FT-20186) என்பவரால் வழங்கப் பெற்றதாகும்.

இவ்வாய்வு ஆய்வாளரால் தன்னியலாகச் செய்யப்பட்டது என்றும் இவ்வாய்வின் மீது அவருக்கு வேறு எந்தப் பட்டமும் வழங்கப் பெறவில்லை என்றும் சான்றளிக்கிறேன்.

இடம்: மேலைச்சிவபுரி

நாள் : 30.8.2019


நெறியாளர் 30.8.2019.



தி.செய்தி

30-08-19

தி.செய்தி

கணேசர் முதல்வர்

மேலைச்சிவபுரி

முனைவர் பொன்.கதிரேசன்.எம்.ஏ.,டி.பி.டி.,எம்.பில்.,பிஎச்.டி.,

உதவிப் பேராசிரியர் & ஆய்வுத்திட்டாளர்

தமிழ்த்துறை, கணேசர் கலை அறிவியல் கல்லூரி,

மேலைச்சிவபுரி, புகள்கொட்டை 602 401

தொலைபேசி: 04262-222222, 04262-222222

பெயர்: கனிமொழி சிவசுந்தரி

நெறியாளர் சான்றிதழ்

முனைவர்.ம.செல்வராசு எம்.ஏ.,எம்.பி.எல்.,பி.எட்.,பி.எச்.டி.,

இணைப் பேராசிரியர்

தமிழ்த்துறை

கணேசர் கலை அறிவியல் கல்லூரி

மேலைச்சிவபுரி - 622403

“மலைபடுகடாம் ஓர் ஆய்வு” என்னும் தலைப்பில் ப.சுவாதிவள்ளி (2K18FT20189) அவர்கள் செய்துள்ள இவ்வாய்வேடு கணேசர் கலை அறிவியல் கல்லூரி தமிழ்த்துறை மாணவராக இருந்து ஆய்வு செய்த காலத்தில் தன்னிலையாகச் செய்யப்பட்டது என்றும் வேறு எந்தப் பட்டத்திற்கும் இவ்வாய்வேடு அளிக்கப்பெறவில்லை என்றும் சான்றளிக்கிறேன்

இடம் : மேலைச்சிவபுரி

நாள் :


நெறியாளர் கையொப்பம்
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி


முதல்வர்

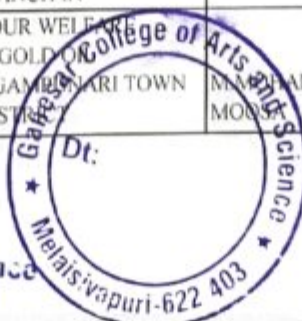
கணேசர் கலை அறிவியல் கல்லூரி
மேலைச்சிவபுரி

Ganesar College of Arts and Science, PG Dept of Commerce

Project Details from 2018 -19

	NAME	TITLE [2018-2019]	GUIDE	REG.NO
1	V.ALAGUMFENAL	CUSTOMER SATISFACTION OF UTILITY IN THE WRIST WATCHES A STUDY WITH REFERENCE TO	R.SENTHIL KUMAR	P17110201
2	P.BALAMURUGAN	TOWARDS ON TAJMAHAL GROUP OF COMPANY IN	S.LAKSHMANAN	P17110202
3	T.DEV ANANDH	POLICY HOLDER SATISFACTION TOWARDS SERVICES OFFERED BY SECTOR[LIC] AND PRIVATE SECTOR[ICICI] INSURANCES COMPANYS IN	K. MURUGASEN	P17110204
4	D.JAYANTHI	A STUDY ON CUSTOMERS AWARENESS ON TELEMARKETING ADVERTISEMENT WITH SPECIAL REFERENCE TO PONNAMARAVATHY TOWN	M.MOHAMMED IBRAHIM MOOSA	P17110205
5	N JAYASRI	SATISFACTION OF AADHIKALATHU ALANGAR MALIGAI AT PONNAMARAVATHY	S.MANJULA	P17110206
6	N.KUMAR	A STUDY ON SERVICE QUALITY OF BANK IN KARAUKUDI	C.BALAMURUGAN	P17110208
7	C.LAKSHMI	BEHAVIOUR TOWARDS TELEVISION ADVERTISEMENT WITH SPECIAL REFERENCE TO PONNAMARAVATHY	V.TAMILSELVI	P17110209
8	K.MAHALAKSHMI	A STUDY ON CONSUMER BEHAVIOUR ON RETAILING MARKETING IN TEXTILE SHOWROOM WITH SPECIAL	K. MURUGASEN	P17110210
9	M.MANGAIYAR KARASI	A STUDY ON CUSTOMERS PREFERENCE TOWARDS INDUCTION STOVE IN	A.DURAI PANDI	P17110211
10	V.NITHYA	A STUDY ON CONSUMER PREFERENCE OF DIFFERENT BRANDS OF SHAMPOO AT PONNAMARAVATHY TALUK	S.MANJULA	P17110212
11	K.PAKKIYARAJ	A STUDY ON PERFORMANCE OF ASHABRAMA VIDYAL IN MARUNGAPURI TALUK	M.MOHAMMED IBRAHIM MOOSA	P17110213
12	S.PAVITHRA	QUALITY OF WORKLIFE OF EMPLOYEES IN PUBLIC AND PRIVATE SECTOR BANKS IN	C.BALAMURUGAN	P17110214
13	A.RAMYA	A STUDY ON EMBURSEMENT OF WOMEN ENTERPRENURES IN PONNAMARAVATHY TALUK	K. MURUGASEN	P17110218
14	P.SANGEETHA	IN WATCHING THE TELEVISION CHANNELS IN SINGAMPUNARI TALUK	M.MOHAMMED IBRAHIM MOOSA	P17110219
15	M.SHARMILA	EFFECTIVENESS OF PUBLIC DISTRIBUTION	C.BALAMURUGAN	P17110220
16	R.TAMILSELVI	SATISFACTION TOWARDS ONLINE SHOPPING WITH SPECIAL REFERENCE TO PONNAMARAVATHY	S.LAKSHMANAN	P17110223
17	S.THILAGAVATHI	A STUDY ON CONSUMER SATISFACTION IN CANARA BANK WITH SPECIAL REFERENCE TO NAGARAPATTI BRANCH IN	V.TAMILSELVI	P17110224
18	M.VIJAYAKUMAR	A STUDY ON LABOUR WELFARE MEASURE IN RMS GOLD INDUSTRY AT SINGAMPUNARI TOWN IN SIVAGANGAI DISTRICT	M.MOHAMMED IBRAHIM MOOSA	P17110227

Department of Commerce
Ganesar College of Arts and Science
Melasivapuri, Ponnamaravathi
Pudukkottai - 622403



S. S. Srinivasan
Ganesar College of Arts & Science
MELASIVAPURI - 622 403

**“CUSTOMER SATISFACTION OF UTILITY IN THE WRIST WATCHES”
A STUDY WITH REFERENCE TO PONNAMARAVATHY TOWN.**

A project report submitted to the
BHARATHIDASAN UNIVERSITY, TIRUCHIRAPALLI - 24
In partial fulfillment of the requirements for the award of the Degree of the

MASTER OF COMMERCE

Submitted By
V.ALAGUMEENAL
(Reg.No. P17110201)

Under the Guidance of
Dr.R.SENTHILKUMAR, M.Com., M.Phil., M.B.A., M.Phil., PGDCA., Ph.D.,
Assistant Professor



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APRIL – 2019

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CERTIFICATE

This is to certify that the project report entitled “CUSTOMER SATISFACTION OF UTILITY IN THE WRIST WATCHES” - A STUDY WITH REFERENCE TO PONNAMARAVATHY is a bonafide work done by V.ALAGUMEENAL (Reg.No. P17110201) is submitted to Bharathidasan University for the awards of the degree of MASTER OF COMMERCE. The subject on which the project work has been prepared is her original work and it was not previously used for the awards of any other degree.

Date: 23/03/2019

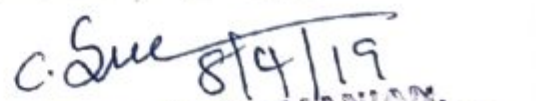
Place: Melaisivapuri


Signature of the Guide
Head of the Department of Commerce
Ganesar College of Arts and Science,
Melaisivapuri, Pudukkottai (Dt.)


Signature of the Guide 23/3/19
Dr. R. SENTHILKUMAR,
M.Com., M.Phil., M.B.A., M.Phil., PGDCA., Ph.D.,
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M.Com., M.Phil., NET, M.B.A., M.Ed., SET, PGDCA., Ph.D.
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**A STUDY ON LABOUR WELFARE TOWARDS ON
TAJMAHAL GROUP OF COMPANY IN PUDUKKOTTAI**

*Project Report Submitted to Bharathidasan University in partial
fulfillment of the requirement for the degree of*

MASTER OF COMMERCE

2018 – 2019

Researcher

P.BALAMURUGAN

(Reg. No. : P17110202)

Under the Guidance of

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**DEPARTMENT OF COMMERCE
GANESAR COLLEGE OF ARTS & SCIENCE**

**Melasivapuri – 622 403,
Pudukkottai District, Tamilnadu.**

April - 2019

Mr. S.LAKSHMANAN, M.Com., M.Phil., B.Ed.,

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CERTIFICATE

This is to certify that the project report entitled “A STUDY ON LABOUR WELFARE TOWARDS ON TAJMAHAL GROUP OF COMPANY IN PUDUKKOTTAI” is a bonafide work done by P.BALAMURUGAN, (Reg. No. P17110202) is submitted to Bharathidasan University for the awards of the degree of MASTER OF COMMERCE. The subject on which the project work has been prepared is here original work and it was not previously used for the awards of any other degree.

A. DURAI PANDI M.Com., M.Phil., (Ph.D.)
Head of the Department of Commerce
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Head of the Department



Signature of the Guide

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**A COMPARATIVE TO STUDY ON POLICY HOLDER
SATISFACTION TOWARDS SERVICES OFFERED BY PUBLIC
SECTOR (LIC) AND PRIVATE SECTOR (ICICI) INSURANCE
COMPANIES IN PONNAMARAVATHI TALUK**

*Project Report Submitted to Bharathidasan University in partial
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MASTER OF COMMERCE

2018 – 2019

Researcher

T.DEV ANANDH

(Reg. No. : P17110204)

Under the Guidance of

Prof.K.MURUGESAN, M.Com., M.Phil., PGDCA., C503



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CERTIFICATE

This is to certify that the project report entitled “A COMPARATIVE TO STUDY ON POLICY HOLDER SATISFACTION TOWARDS SERVICES OFFERED BY PUBLIC SECTOR (LIC) AND PRIVATE SECTOR (ICICI) INSURANCE COMPANIES IN PONNAMARAVATHI TALUK” by T.DEV ANANDH, (Reg. No. P17110204) is a work under my guidance and supervision during the academic year 2018 - 2019.

Place : melaisivapuri

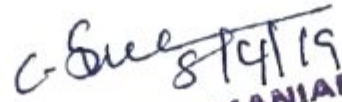
Date : 28/3/2019


Head of the Department
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**“A STUDY ON CUSTOMER’S AWARENESS ON TELEMARKETING
ADVERTISEMENT (WITH SPECIAL REFERENCE TO
PONNAMARAVATHY TOWN”**

A project report submitted to the
BHARATHIDASAN UNIVERSITY, TIRUCHIRAPALLI - 24
In partial fulfillment of the requirement for the Degree of

MASTER OF COMMERCE

2018 – 2019

RESEARHER
D. JAYANTHI
(Reg.No. P17110205)



Under the Guidance of
Dr. M. MOHAMAD IBRAHIM MOOSA M.Com., M.Phil., Ph.D.,



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April - 2018

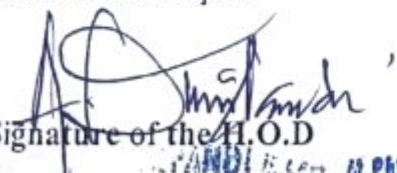
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Pudukkottai (District)

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This is to certify that the project report entitled "A STUDY ON CUSTOMER'S AWARENESS ON TELEMARKETING ADVERTISEMENT (WITH SPECIAL REFERENCE TO PONNAMARAVATHY TOWN)" by D. JAYANTHI (Reg.No: P16110205) is a work under my guidance and supervision during the academic year 2018 – 2019

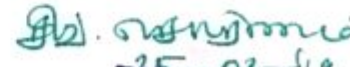
Date: 25-3-19.

Place: Melaisivapuri


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25-03-19
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**A STUDY ON EMPLOYEES JOB SATISFACTION OF ATHIKALATHU
ALANGARA MALIGAI AT PONNAMARAVATHI**

**Project Report Submitted to Bharathidasan University in Partial Fulfillment of the
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Reg.No : P17110206

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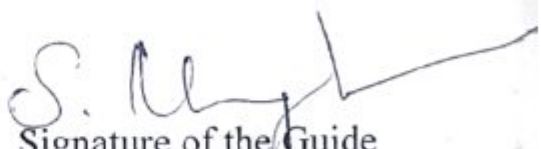
CERTIFICATE

This is to certify that the project report entitled "A STUDY ON EMPLOYEES JOB SATISFACTION OF ATHIKALATHU ALANGARA MALIGAI AT PONNAMARAVATHI" by N.JAYASHRI (Reg.No: P 17110206) is a work under my guidance and supervision during the academic year 2018- 2019.

Date: 25.03.2019

Place: melasivapuri


Head of the Department,
M.Com., M.Phil., (Ph.D.)
Head of the Department of Commerce
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Signature of the Guide


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Signature of the Principal
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Dr. C. SUBRAMANIAN,
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A STUDY ON SERVICE QUALITY OF BANK IN KARAIKUDI (TOWN)

**Project Report Submitted to Bharathidasan University in Partial Fulfillment of the
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2018 – 2019

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V.KUMAR

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Under the Guidance of

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This is to certify that the project report entitled entitled ““A STUDY ON SERVICE QUALITY OF BANK IN KARAİKUDI (TOWN)”” by V.KUMAR (Reg.No : P17110208) is a work under my guidance and supervision during the academic year 2018- 2019.

Date: 25-03-2019

Place: Melaisivapuri


A. SRINIVASAN M.Com., M.Phil., (Ph.D.)
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Dr. C. SUBRAMANIAN,
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**A STUDY ON CONSUMER BUYING BEHAVIOUR TOWARDS TELEVISION
ADVERTISEMENT WITH SPECIAL REFERENCE TO PONNAMARAVATHY TALUK**

A project report submitted to the

BHARATHIDASAN UNIVERSITY, TIRUCHIRAPALLI – 24

In partial fulfillment of the requirements for the award of the Degree of the

MASTER OF COMMERCE

Submitted by

C. LAKSHMI

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APRIL-2019

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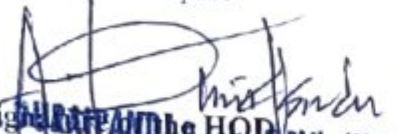
Pudukkottai – (District), Tamil Nadu.

CERTIFICATE

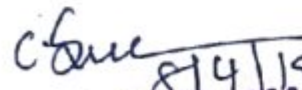
This is to certify that the project report entitle "A STUDY ON CONSUMER BUYING BEHAVIOUR TOWARDS TELEVISION ADVERTISEMENT WITH SPECIAL REFERENCE TO PONNAMASRAVATHY (TALUK)" is a bonafide work done by C.LAKSHMI (Reg.No. P 17110209) is submitted to Bharathidasan University for the awards of the degree of MASTER OF COMMERCE. The subject on which the project work has been prepared is her original work and it was not previously used for the awards of any other degree.

Date: 25-03-2019

Place: Melaisivapuri


Signature of HOD
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Signature of PRINCIPAL
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Melaisivapuri



**A STUDY ON CONSUMER BEHAVIOUR OF RETAIL MARKETING IN
TAXTAILS SHOWROOM WITH SPECIAL REFERENCE TO
PONNAMARAVATHY TALUK**

A Project report submitted to the

BHARATHIDASAN UNIVERSITY, THIRUCHIRAPALLI-24

In Partial fulfillment of the requirements for the award of the Degree of the

MASTER OF COMMERCE

Submitted By

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Assistant Professor



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APRIL-2019


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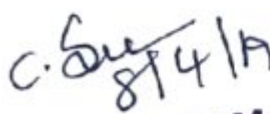
This is certifying that the project entitled " A STUDY ON CONSUMER BEHAVIOUR OF RETAIL MARKETING IN TEXTAIL SHOWROOM WITH SPECIAL REFERENCE TO PONNAMARAVATHI TALUK" by K. MAHALAKSHMI is a work under my guidance and supervision during the academic year 2017-2019.

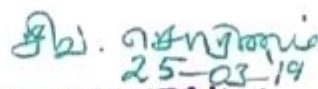
Date: 25.03.2019

Place: Melaisivapuri


Signature of the Guide
K. Mahalakshmi, M.Com., M.Phil., (Ph.D.)
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Signature of the Principal
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Melaisivapuri



**A STUDY ON CONSUMER PREFERENCE TOWARDS INDUCTION
STOVE IN PONNAMARAVATHY TALUK**

**Project Report Submitted to Bharathidasan University in Partial Fulfillment of the
Requirement for the Degree of**

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2018 – 2019

Researcher

M.MANGAIYARKARASI

Reg.No : P17110211

Under the Guidance of

Mr.A. DURAI PANDI M.Com., M.Phil., (Ph.D),,



Department of Commerce

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Melasivapuri – 622 403

April - 2019

A.DURAI PANDI M.Com., M.Phil.,(Ph.D).,
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Melaisivapuri, Pudukottai District – 622 403.

CERTIFICATE

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Date: 25-3-19

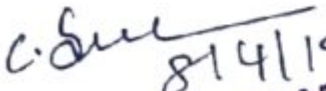
Place: Melaisivapuri


A.DURAI PANDI M.Com., M.Phil., (Ph.D.)
Head of the Department of Commerce
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J.J. College of Arts and Science (Autonomous)
Sivapuram, Pudukkottai - 622 422.

**A STUDY ON CONSUMER PREFERENCE OF DIFFERENT BRANDS OF SHAMPOO
AT PONNAMARAVATHY TALUK**

A project report submitted to the
BHARATHIDASAN UNIVERSITY, TIRUCHIRAPALLI - 24
In partial fulfillment of the requirements for the award of the Degree of the
MASTER OF COMMERCE

Submitted By
V.NITHYA
(Reg.No: P 17110212)

Under the Guidance of
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Assistant professor



Department of Commerce,
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Melaisivapuri-622403, Ponnamaravathy Taluk
APRIL - 2019


Prof. S.MANJULA M.Com., M.Phil., PGDCM,,
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CERTIFICATE

This is to certify that the project report entitled " A STUDY ON CONSUMER PREFERENCE OF DIFFERENT BRANDS OF SHAMPOO AT PONNAMARAVATHY TALUK is a bonafide work done by V.NITHYA (RegNo.P17110212) is submitted to Bharathidasan University for the awards of the degree of MASTER OF COMMERCE. The subject on which the project work has been prepared is her original work and it was not previously used for the awards of any other degree.

Date: 25-03-2019.

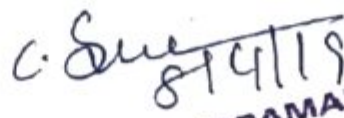
Place: Melaisivapuri


Signature of the HOD
R. RURAIPANDI M.Com., M.Phil., (Ph.D.)
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Signature of the PRINCIPAL
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Dr. C. SUBRAMANIAN,
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**A STUDY ON PERFORMANCE OF ASHA GRAMA VIDİYAL
IN MARUNGAPURI TALUK**

*Project Report Submitted to Bharathidasan University in partial
fulfillment of the requirement for the degree of*

MASTER OF COMMERCE

2018 – 2019

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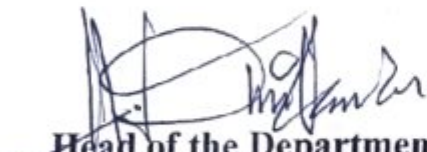
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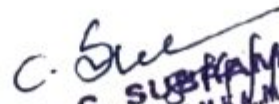
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**QUALITY OF WORKLIFE OF EMPLOYEES
IN PUBLIC AND PRIVATE SECTOR BANKS
IN SINGAMPUNARI TOWN**

*Project Report Submitted to Bharathidasan University in partial
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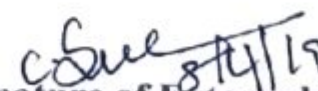
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**A STUDY ON EMPOWERMENT OF WOMEN ENTREPRENEURS IN
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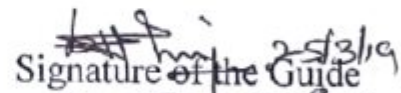
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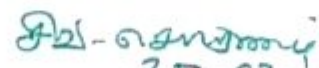
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**A STUDY ON CONSUMER PREFERENCE
IN WATCHING THE TELEVISION CHANNELS
AT SINGAMPUNARI TALUK**

*Project Report Submitted to Bharathidasan University in partial
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**CONSUMER PREFERENCE ON THE EFFECTIVENESS
OF PUBLIC DISTRIBUTION SYSTEM (PDS)
IN THIRUKKALAMBUR PANCHAYAT**

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**A STUDY ON CUSTOMER SATISFACTION TOWARDS ONLINE SHOPPING
WITH SPECIAL REFERENCE TO PONNAMARAVATHY TALUK**

A project report submitted to the

BHARATHIDASAN UNIVERSITY, TIRUCHIRAPALLI-24

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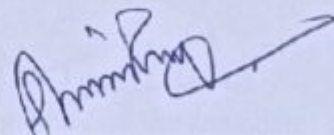
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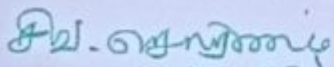
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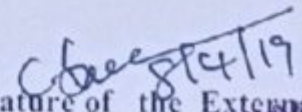
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**A STUDY ON CUSTOMER SATISFACTION IN CANARA BANK
WITH SPECIAL REFERENCE TO NAGARAPATTI BRANCH IN
PUDUKKOTTAI DISTRICT**

A project report submitted to the

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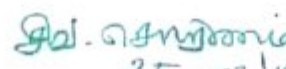
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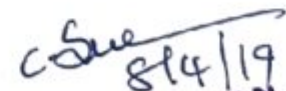
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**A STUDY ON LABOUR WELFARE MEASURES IN
RMS GOLD OIL INDUSTRY AT SINGAMPUNARI TOWN
IN SIVAGANGA DISTRICT**

*Project Report Submitted to Bharathidasan University in partial
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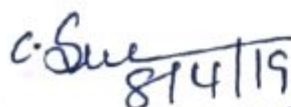
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**A STUDY ON CONSUMER PREFERENCE TOWARDS INDUCTION
STOVE IN PONNAMARAVATHY TALUK**

**Project Report Submitted to Bharathidasan University in Partial Fulfillment of the
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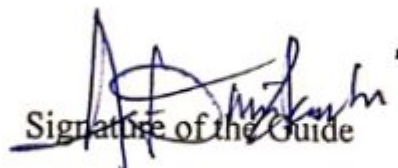
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ACKNOWLEDGEMENT

I would like to express my thank to Bharathidasan University for helping me to study the degree of Master of Commerce.

I am extremely thankful to our principal **Dr. S.V.SORNAM M.A., M.Phil., Ph.D.**, for the all the assistance and encouragement rendered to me during my project work.

I would like to express my gratitude to **A. DURAI PANDI M.Com., M.Phil., (Ph.D.)**, Head of the department of commerce, Ganesar College of Arts & Science, Melaisivapuri for his valuable suggestions.

I propose thank to my **guide Mr.A. DURAI PANDI M.Com., M.Phil., (Ph.D.)**, Head of the department of commerce, Ganesar College of Arts & Science, Melaisivapuri for the effective guidance and continued to do this work successfully.

With immense pleasure I express my special thanks to **ALL STAFF MEMBERS** of Ganesar College of Arts & Science, Melaisivapuri encouragement and spontaneous blessings.

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I express my Sincere thanks to My my Father **P.MAHALINGAM** and my mother **M.LAKSHMI** and my brother **M.MATHANKUMAR**.

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I express My Sweet thanks to **My Lovable Friends** and finally **thanks** to the **GOD** for the sufficiency of his grace.

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A decorative border of small, brown and black butterflies surrounds the central text. The butterflies are arranged in a continuous line along the top, bottom, and sides of the page.

INTRODUCTION

A STUDY ON CONSUMER PREFERENCE TOWARDS INDUCTION STOVE IN PONNAMARAVATHY TALUK

CHAPTER - I

1.1 INTRODUCTION

Markets are not created by god or nature or economic forces but by businessmen. The want they satisfy may have been felt by the customers before it was offered and given means of satisfying it.

It may indeed, like for food in famine have dominated the customers' life and filled all his waking movements. But it was a theoretical want before only when the action of businessman makes it an effective demand is there a customer a market.

It may have been an unmet want. There may have been no want at all; until, business action created it by advertising or by salesmanship or by inventions something new. In every case it is business action that creates the customer.

It is the customer and he alone who through being willing to pay for goods or for services convert economic resources in wealth thing "Peter F. Drucker"

Consumer preference is an important factor marketing management unless a marketing manager has the knowledge of the factors that affect consumer

purchasing patterns are likely to be influenced by demographic, economic, psychological and sociological factors. They must find out the consumer needs and which satisfy their needs.

INDUCTION STOVE:

First patents date from the early 1900s. Demonstration stoves were shown by the Frigidaire division of General Motors' in the mid-1950s on a touring GM showcase in North America. The induction cooker was shown heating a pot of water with a newspaper placed between the stove and the pot, to demonstrate the convenience and safety. This unit, however, was never put into production.

Modern implementation in the USA dates from the early 1970s, with work done at the Research and Development center of Westinghouse Electronic Corporation at Churchill borough, near Pittsburgh, PA, USA. That work was first put on public display at the 1971 National Association of Home Builders Convention in Houston, Texas, as part of the Westinghouse consumer products division display.

The stand alone single-burner range was named the coal Top Induction Range. It used paralleled Delco Electronics transistors developed for automatic electronic ignition system to drive the 25 KHz current.

Westinghouse decided to make a few hundred production units to develop the market. These were named cool Top 2 induction ranges. The development work was done at the same Research and development location, by a team led by bill Moreland and terry malarkey. The ranges were \$1500. That price included a set of high quality cook ware made of quadruple, a laminate of stainless steel, carbon steel, aluminum and another layer of stainless steel.

The unit also featured a self-cleaning oven, solid-state kitchen timer and capacitive-touch control button. The units were more expensive than standard cook tops.

1.2 STATEMENT OF THE PROBLEM:

Marketing is intensifying as the various sectors recognize that marketing contributes to the improved performance in the market place.

The market offers a variety of product to the consumers. The media plays a vital role in helping manufactures promoter s and find market for their products. The focus is trying to capture the market motivation consumers and not the market. Hence a complete understanding as to the brand preference and attitudes to a particular brand is necessary.

In this modern world, where women's employment is a must in bettering the economic status of the family, the need for induction stove is felt by the kitchen

queen women, to a greater extend, because it saves her time and energy, thus Induction stove plays a significant role in day to day routine life which cannot be denied or over liked. Hence the researcher has chosen the topic “A study on consumer preference towards Induction Stove product in Ponnamaravathy Taluk”

1.3 CONCEPTS AND DEFINITION:

1. Marketing:

“Marketing is a total system of business activity designed to plan, price, promote and distribute want satisfying goods and services to the benefit of the present and potential consumer.

2. Product:

“A product is anything that one receives in an exchange transaction”

3. Branding:

“Branding is a way for an organization to identify its offerings and distinguish them from its competitions”.

4. Advertising:

“Advertising is any paid from of non personal presentation and promotion of ideas, goods, services by an identified sponsor”.

1.4 OBJECTIVES OF THE STUDY:

The objectives of the study are as follows:

- 1) To determine the decision maker.
- 2) To find out the factors that influencing the consumers to buy the Induction Stove.
- 3) To study the reason for consumer preference towards the Induction Stove.
- 4) To find out the satisfaction level of the customer regard to Induction Stove.
- 5) To give suggestions for improvement of Induction Stove products.

1.5 HYPOTHESIS:

- 1) There is no relationship between Age and Brand preference.
- 2) There is no relationship between Income and Brand preference.

1.6 PERIOD OF THE STUDY:

The data were collected from the respondents during the period from December 2014-February 2018.

1.7 PROFILE OF THE STUDY AREA

Ponnamaravathy comes under the purview of Pudukottai district administration. The town is located at a distance of 38 kms from the district headquarters. The town is situated in the state highways connecting

Ponnamaravathy and Pudukottai. All the important towns such as Madurai, Karaikudi, and Pudukottai are within a distance of 50 kms from the town. History of the town dates back since 17th century. Temples in the town are cited in old Tamil literature, silpathaikaram. This indicates that the town has a connection Cholan and Pandyan kingdoms. The town is bounded by small hamlets on all sides. The town has Thottiyarpatti on the eastern side and southern sides of the town. Bagavandapatti is in the western side. Manapatti village is in the northern side of the town.

1.7.1 LOCATION OF PONNAMARAVATHY

Ponnamaravathy is located on the state highway connecting Pudukottai and Ponnamaravathy. The town is located at distance of 38 kms south of Pudukottai town. The town is well connected to all the parts of Tamilnadu by roads.

1.7.2 Roadways

Ponnamaravathy is well connected to the towns of Pudukottai, Tiruchirapalli, Karaikudi, Madurai and Dindugul. Private and Government buses are in operation in the town.

1.7.3 Railways

The nearest railway station to the town Pudukottai which is a distance of 38 Kms from the town.

1.7.4 Airways

The nearest Airport to the town is Madurai, which is at a distance of 85 kms from the town.

1.8 PHYSICAL CHARACTERISTICS

1.8.1 Geography

The town is located in the pudukottai district; one of the dry regions of the state and is mainly dependent on the rain for agriculture and other activities. The topography of the town is almost flat, with large number of water bodies both natural and manmade water for public use. The town is at an altitude of 498 feet above the sea level.

1.8.2 Climate temperature

The town has hot, dry climate almost throughout the year. There is no much variation between the maximum and minimum temperatures in the town.

1.8.2 Rainfall

The town receives very moderate rainfall during the months of October, November through the North East monsoon. The average annual rainfall is about 88 mm

1.8.3 Soil type

The major soil type found in the town is red soil. The major agricultural crop in the area is paddy cultivation by Tank irrigation.

1.9 HISTORY OF PONNAMARAVATHY

The ago, i.e., since 16th century, pomamaravathy was a separate kingdom and it was named after the king ponna and amaran. The town was built by these kings. The alazinaciamman temple of the town is mentioned in silapathigaram, an old Tamil literature showing the prominence of the town since olden days. Moreover the literature reveals that the town had link between Cholan and pandiyan dynasties. The town has witnessed large number of wars between the cholas and

pandiyas. In the 12th century there was a war between pandiyas and singalars in this region. The town has large number of historical landmarks revealing the ancient traits of the town. The town has a manmade tank named after the king Amarkandan, it's called as "AmarkandanOorani". The siva temple in the town was built by Raja Raja Cholan II. There is an important place in the town called as "Natukal", the place where the king Ponnamaravathi died and even today the stone is the symbol of pride and respect patronizing Tamil warriors and their bravery.

1.10 AREA AND POPULATION

As per 2001 census the population of the town 11,776 persons. The town has 5704 males (49%) and 6702 females (51%) in the town. In Ponnamaravathy, 11% of population is below 6 years. The town is divided into 15 wards. Wards wise population of the town is given in the following table.

1.11 SCOPE OF THE STUDY:

The study is based on behavioral aspects of the Induction Stove consumers. Therefore this study purposes to survey the consumers regarding their brand loyalty in the purchase of induction stove.

The outcome of the study may provide an assessment of the buyers, their income, age, sex, education and occupation. This may be very useful to the manufacturers and traders of various brand of Induction Stove, to understand buyer behavior. They can also come to know the important features to be developed in induction stove to time and financial constraints the scope of the study has been restricted to the survey of a small sample of buyers in Ponnamaravathy Taluk.

1.12 LIMITATION OF THE STUDY:

The study has the following limitation:

- a) The study was limited to woraiyur and hence generalization may not hold good.
- b) The sample was taken at convenience and not from the whole area which limits its scope of applicability.
- c) Some of the respondents were not willing to co-operate with the study. So more than one attempt had to be made to get answer from the respondent.

1.13 SAMPLING DESIGN:

For the purpose of the study 50 respondents were selected by convenience sampling method.

1.14 METHODOLOGY:

The researcher has adopted the following methodology for data collection and its interpretation. A sample of 50 respondents was chosen from people residing in Ponnamaravathy Taluk. The 50 respondents were selected using convenient sampling. The researcher has used primary data. The data collected has been analyzed by means of percentage analysis and the researcher has used chart to represent the interpretation. The primary data were collected from the consumers' using well structured and protested interview schedule regarding age, income,

occupation, source of brand awareness most preferred Induction Stove. Statistical tool like chi-square test is used to test the hypothesis.

1.15 ANALYSIS AND INTERPRETATION:

The data collected has been analysis by means of percentage analysis and researcher has used and diagrams to represents the interpretation.

1.11 CHAPTER SCHEME:

Chapter-I:

The first chapter deals with the Introduction. Induction stove, Statement of the problem, concept and definition, objectives, hypothesis, area of the study, period of the study, scope, limitation of the study, sampling design, methodology, analysis and interpretation and chapter scheme.

Chapter-II:

Induction Stove – an overview.

Chapter-III:

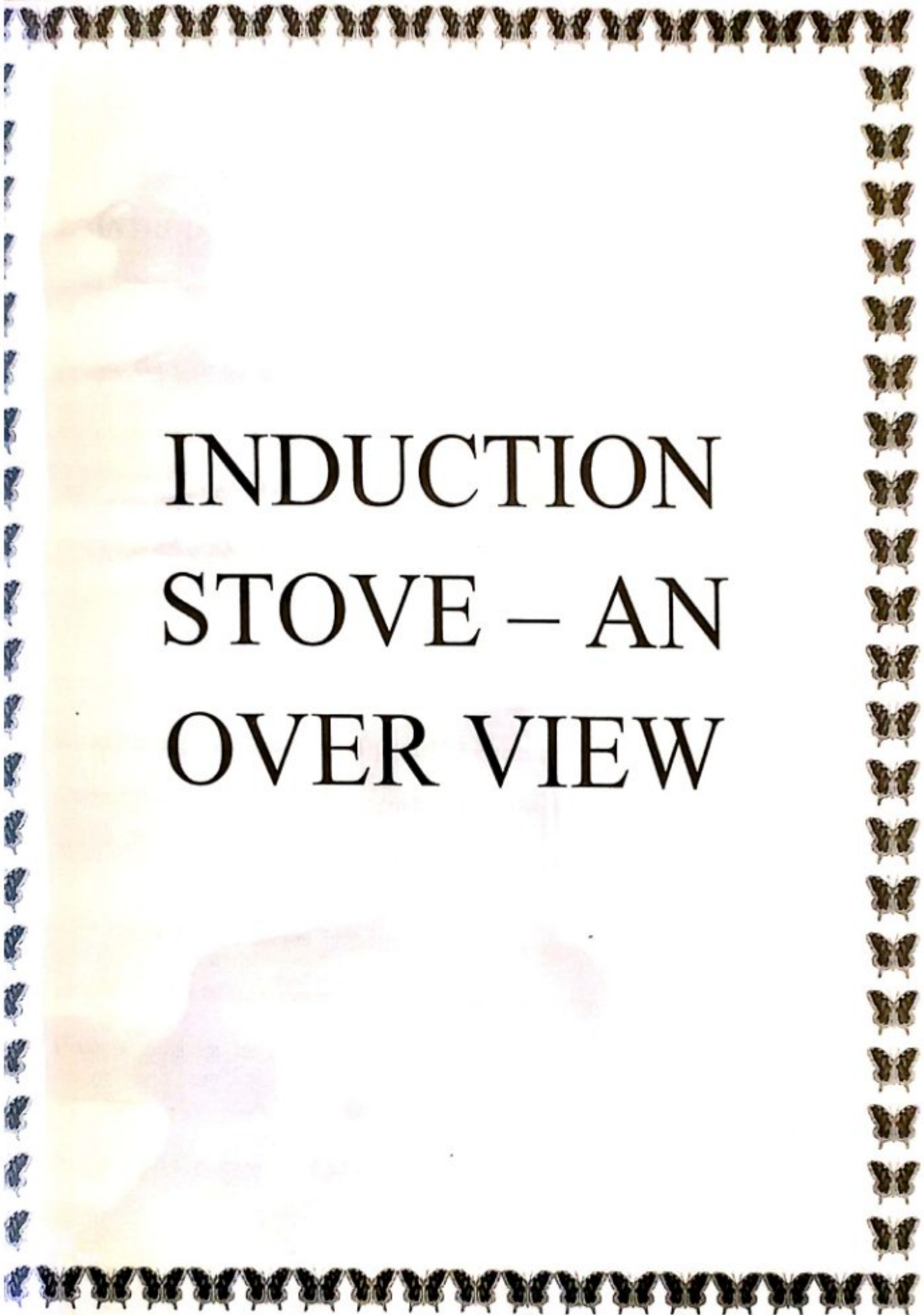
Consumer preference

Chapter-IV:

Analysis of tables and interpretation and testing of hypothesis.

Chapter-V:

Deals with findings, suggestions and conclusions.

A decorative border of small, brown and black butterflies surrounds the central text. The butterflies are arranged in a repeating pattern along the top, bottom, and right edges, with a vertical column on the right side. The background features a faint, artistic illustration of a person's hand and arm in shades of yellow, orange, and purple.

INDUCTION STOVE – AN OVER VIEW

INDUCTION STOVE-AN OVER VIEW

2.1 INTRODUCTION:

Induction cooking uses induction heating to directly heat a cooking vessel, as opposed to using heat transfer from electrical coils or burning gas as with a traditional cooking stove. To be used on an induction cook top, a cooking vessel must be made of a ferromagnetic metal, or placed on an interface disk which enables non-induction cookware to be used on induction surface.

In an induction cooker, a coil of copper wire is placed underneath the cooking pot. An alternating electric current flows through the coil, which produces an oscillating magnetic field. This field induces an electric current in the pot. Current flowing in the metal pot produces resistive heating which heats the food. While the current is large, it is produced by a low voltage.

An induction cooker is faster and more energy-efficient than a traditional electric hob. It allows instant control of cooking energy similar to gas burners. Because induction heats the cooking vessel itself, the possibility of burn injury is significantly less than with other methods; the surface of the cook top is only heated from contact with the vessel. There are no flames or red-hot electric heating

elements as found in traditional cooking equipment. The induction effect does not heat the air around the vessel, resulting in further energy efficiencies; some air is blown through the cook top to cool the electronics, but this air emerges only a little warmer than ambient temperature.

Induced current can heat any type of metal, but the magnetic properties of a steel vessel concentrate the induced current in a thin layer near the surface, which makes the heating effect stronger. In non-magnetic materials like aluminum, the magnetic field penetrates too far, and the induced current encounters little resistance in the metal. Practical induction cookers are designed for ferromagnetic pots that will stick to a magnet.

Since heat is being generated by an induced electric current, the unit can detect whether cookware is present (or whether its contents have boiled dry) by monitoring how much power is being absorbed. That allows such functions as keeping a pot at minimal boil or automatically turning an element off when cookware is removed from it.

2.2 HISTORY:

An early induction cooker patent from 1909 illustrates the principle. The coil of wire S induces a magnetic field in the magnetic core M. The magnetic field passes through the bottom of the pot A, inducing eddy currents within it. Unlike

this concept, a modern cooktop uses electronically-generated high-frequency current

First patents date from the early 1900s. Demonstration stoves were shown by the Frigidaire division of General Motors in the mid-1950s on a touring GM showcase in North America. The induction cooker was shown heating a pot of water with a newspaper placed between the stove and the pot, to demonstrate the convenience and safety. This unit, however, was never put into production.

Modern implementation in the USA dates from the early 1970s, with work done at the Research & Development Center of Westinghouse Electric Corporation at Churchill Borough, near Pittsburgh. That work was first put on public display at the 1971 National Association of Home Builders convention in Houston, Texas, as part of the Westinghouse Consumer Products Division display. The stand-alone single-burner range was named the Cool Top Induction Range. It used paralleled Delco Electronics transistors developed for automotive electronic ignition systems to drive the 25 kHz current.

Westinghouse decided to make a few hundred production units to develop the market. Those were named Cool Top 2 (CT2) Induction ranges. The development work was done at the same R&D location, by a team led by Bill Moreland and Terry Malarkey. The ranges were priced at \$1,500, including a set of

high quality cookware made of Quadra ply, a laminate of stainless steel, carbon steel, aluminum and another layer of stainless steel (outside to inside).

Production took place in 1973 through to 1975 and stopped, coincidentally, with the sale of Westinghouse Consumer Products Division to White Consolidated Industries Inc.

CT2 had four burners of about 1,600 watts each. The range top was a PyroCeram ceramic sheet surrounded by a stainless-steel bezel, upon which four magnetic sliders adjusted four corresponding potentiometers set below. That design, using no through-holes, made the range proof against spills. The electronic section was made in four identical modules cooled by fans.

In each of the electronics modules, the 240V, 60 Hz domestic line power was converted to between 20V to 200V of continuously variable DC by a phase-controlled rectifier. That DC power was in turn converted to 27 kHz 30 A (peak) AC by two arrays of six paralleled Motorola automotive-ignition transistors in a half-bridge configuration driving a series-resonant LC oscillator, of which the inductor component was the induction-heating coil and its load, the cooking pan. The circuit design, largely by Ray Mackenzie, successfully dealt with certain bothersome overload problems.

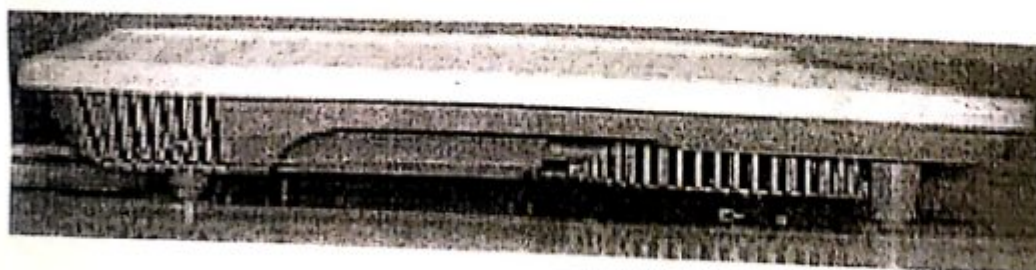
Control electronics included functions such as protection against over-heated cook-pans and overloads. Provision was made to reduce radiated electrical and magnetic fields. There was also magnetic pan detection.

CT2 was UL Listed and received Federal Communications Commission (FCC) approval, both firsts. Numerous patents were also issued. CT2 won several awards, including Industrial Research Magazine's IR-100 1972 best-product award and a citation from the United States Steel Association. Raymond Baxter demonstrated the CT2 on the BBC series *Tomorrow's World*. He showed how the CT2 could cook through a slab of ice.

Sears Kenmore sold a free-standing oven/stove with four induction-cooking surfaces in the mid-1980s (Model Number 103.9647910). The unit also featured a self-cleaning oven, solid-state kitchen timer and capacitive-touch control buttons (advanced for its time). The units were more expensive than standard cook tops.

2.3 DESIGN OF INDUCTION STOVE:

Inside view of an induction cooker: the large copper coil forms the magnetic field, a cooling fan is visible below it, and main and auxiliary power supplies surround the coil



2.3(1) SIDE VIEW OF AN INDUCTION STOVE:

An induction cooker transfers electrical energy by induction from a coil of wire into a pot made of material which must be electrically conductive and ferromagnetic. The heat generated is analogous to the unwanted heat dissipated in an electric transformer; most of the heat is due to resistive heating like a transformer's copper losses and eddy currents and the rest is analogous to a transformer's other iron losses.

A coil of wire is mounted under the cooking surface, and a large alternating current is passed through it. The current creates a changing magnetic field. When an electrically conductive pot is brought close to the cooking surface, the magnetic field induces an electrical current, called an "eddy current", in the pot. The eddy current, flowing through the electrical resistance, causes electrical power to be dissipated as heat; the pot gets hot and heats its contents by heat conduction.

The cooking vessel is made with stainless steel or iron. The increased magnetic permeability of the material decreases the skin depth, concentrating the current near the surface of the metal, and so the electrical resistance will be further increased. Some energy will be dissipated wastefully by the current flowing through the resistance of the coil. To reduce the skin effect and consequent heat generation in the coil, it is made from litz wire, which is a bundle of many smaller

insulated wires in parallel. The coil has many turns, while the bottom of the pot effectively forms a single shorted turn. This forms a transformer that steps down the voltage and steps up the current. The resistance of the pot, as viewed from the primary coil, appears larger. That, in turn, means that most of the energy becomes heat in the high-resistance steel, while the driving coil stays cool.

The cooking surface is made of a glass-ceramic material which is a poor heat conductor, so only minimal heat is transferred from the pot to the cooking surface (and thus wasted). In normal operation the cooking surface stays cool enough to touch without injury after the cooking vessel is removed.

Units may have two, three, four or five induction zones, but four (normally in a 30-inch-wide unit) is the most common in the US and Europe. Two coils are most common in Hong Kong and three are most common in Japan. Some have touch-sensitive controls. Some induction stoves have a memory setting, one per element, to control the time that heat is applied.

Small stand-alone portable induction cookers are relatively inexpensive, priced from around US\$20.

2.3 (2) COOKWARE:

Cookware may carry a symbol that identifies it as compatible with an induction cooktop.

The cookware that can be used on an induction hob will be generally the same as those that can be used on a conventional electric or gas hob. Some manufacturers mark the cookware or packaging with symbols to indicate compatibility with induction, gas, or electric heat. Induction hobs work well with any pans with a high ferrous metal content at the base. Cast iron pans and any black metal or iron pans will work on an induction hob. Stainless steel pans will often work on an induction hob provided the sole of the pan is a grade of stainless steel that is magnetic. If a magnet sticks well to the sole of the pan, it will work on an induction hob.

For frying on an induction hob, a pan with a base that is a good heat conductor is needed to spread the heat quickly and evenly. The sole of the pan will be either a steel plate pressed into the aluminum, or a layer of stainless steel over the aluminum. The high thermal conductivity of aluminum pans makes the temperature more uniform across the pan. Stainless frying pans with an aluminum base will not have the same temperature at their sides as an aluminum sided pan will have. Cast iron frying pans work well with induction hobs but the material is not as good a thermal conductor as aluminum.

When boiling water, the water spreads the heat and prevents hot spots. For products such as sauces, it is important that at least the base of the pan incorporates a good heat conducting material such as aluminum to spread the heat evenly across the base. For really delicate products such as thick sauces, a pan with aluminum throughout is better, since the heat flows up the sides through the aluminum, allowing the chef to heat the sauce rapidly but evenly.

The reason aluminum or copper does not work on an induction stove is because of the materials' magnetic and electrical properties, its permeability and resistivity.^[2] Aluminum or copper cookware is more conductive than steel, and the skin depth in these materials is larger since they are non-magnetic. The current flows in a thicker layer in the metal and so encounters less resistance and produces less heat. The induction cooker will not work efficiently with such pots.

Household foil is much thinner than the skin depth in aluminum at the frequencies used by an induction cooker. Here the foil has melted where it was exposed to the air after steam formed under it. Cook top manufacturers prohibit the use of aluminum foil in contact with an induction cook top

The heat that can be produced in a pot is a function of the surface resistance. A higher surface resistance produces more heat for similar currents. This is a "figure of merit" that can be used to rank the suitability of a material for induction heating. The surface resistance in a thick metal conductor is proportional to the

resistivity divided by the skin depth. Where the thickness is less than the skin depth, the actual thickness can be used to calculate surface resistance.^[2] Some common materials are listed in this table.

2.4 USES OR INDUCTION STOVE:

Induction equipment may be a built-in hob, part of a range, or a standalone hob unit. Built-in and range top units typically have multiple elements, the equivalent of separate burners on a gas-fueled range. Stand-alone induction modules are usually single-element, or sometimes have dual elements. All such elements share a basic design: an electromagnet sealed beneath a heat-resisting glass-ceramic sheet that is easily cleaned. The pot is placed on the ceramic glass surface and begins to heat up, along with its contents.

In Japan, some models of rice cookers are powered by induction. In Hong Kong, power companies list a number of models.^[11] Asian manufacturers have taken the lead in producing inexpensive single-induction-zone hobs; efficient, low-waste-heat units are advantageous in densely populated cities with little living space per family, as many Asian cities are. Induction cookers are less frequently used in other parts of the world.

Induction ranges may be applicable in commercial restaurant kitchens. Electric cooking avoids the cost of natural gas piping and in some jurisdictions

may allow simpler ventilation and fire suppression equipment to be installed. Drawbacks for commercial use include higher initial cost and the requirement for magnetic cookware.

2.5 BENEFITS OF INDUCTION STOVE:

An induction cooks top boiling water through several thicknesses of newsprint. The paper is undamaged since heat is produced only in the bottom of the pot

This form of flameless cooking has certain advantages over conventional gas flame and electric cookers, as it provides rapid heating, improved thermal efficiency, and greater heat consistency, yet with precise control similar to gas. In situations in which a hotplate would typically be dangerous or illegal, an induction plate is ideal, as it creates no heat itself.

The high efficiency of power transfer into the cooking vessel makes heating food faster on an induction cook top than on other electric cook tops. Because of the high efficiency, an induction element has heating performance comparable to a typical consumer-type gas element, even though the gas burner would have a much higher power input.

Induction cookers are safer to use than conventional cookers because there are no open flames. The surface below the cooking vessel is no hotter than the

vessel; only the pan generates heat. The control system shuts down the element if a pot is not present or not large enough. Induction cookers are easy to clean because the cooking surface is flat and smooth, even though it may have several heating zones. Since the cooking surface is not directly heated, spilled food does not burn on the surface.

Because the cook top is shallow compared to a gas-fired or electrical coil cook top, wheelchair access can be improved; the user's legs can be below the counter height and the user's arms can reach over the top.

2.6 LIMITATIONS OF INDUCTION STOVE:

Cookware must be compatible with induction heating; glass and ceramics are unusable, as are solid copper or solid aluminum cookware. Cookware must have a flat bottom since the magnetic field drops rapidly with distance from the surface. (Special and costly hobs are available for use with round-bottom woks.) Induction rings are a metal plate that heat up a non-ferrous pot by contact, but these sacrifice much of the power and efficiency of direct use of induction in a compatible cooking vessel.

Manufacturers advise consumers that the glass ceramic top can be damaged by impact, although cooktops are required to meet minimal product safety standards for impact. Aluminum foil can melt onto the top and cause permanent

damage or cracking of the top. Damage by impact also relates to sliding pans across the cooktop, which users are advised against.

A small amount of noise is generated by an internal cooling fan. Audible noise (a hum or buzz) may be produced by cookware exposed to high magnetic fields, especially at high power or if the cookware has loose parts. Some users may detect a whistle or whine sound from the cookware, or from the power electronic devices. Some cooking techniques available when cooking over a flame are not applicable. Persons with implanted cardiac pacemakers or other electronic medical implants may be advised by their doctors to avoid proximity to induction cooktops and other sources of magnetic fields. Radio receivers near the unit may pick up some electromagnetic interference.

As with other electric ceramic cook tops there may be a maximum pan size allowed by the manufacturer.

2.7 EFFICIENCY AND ENVIRONMENTAL IMPACT:

This section needs additional citations for verification. Please help improve this article by adding citations to reliable sources. Unsourced material may be challenged and removed.

According to the U.S. Department of Energy, the efficiency of energy transfer for an induction hob is 84%, versus 74% for a smooth-top non-induction electrical unit, for an approximate 12% saving in energy for the same amount of heat transfer.

Energy efficiency is the ratio between energy delivered to the food and that consumed by the cooker, considered from the "customer side" of the energy meter. Cooking with gas has an energy efficiency of about 40% at the customer's meter (energy purchased vs. energy deposited into the food) and can be raised only by using very special pots, so the DOE efficiency value will be used.

When comparing consumption of energies of different kinds, in this case natural gas and electricity, the method used by the US Environmental Protection Agency refers to source (also called primary) energies. They are the energies of the raw fuels that are consumed to produce the energies delivered on site.^[18] The conversion to source energies is done by multiplying site energies by appropriate source-site ratios. Unless there are good reasons to use custom source-site ratios (for example for non US residents), EPA states that "it is most equitable to employ national-level ratios". These ratios amount to 3.34 for electricity purchased from the grid and 1.047 for natural gas. This latter figure is slightly greater than 1 and mainly accounts for distribution losses. The energy efficiencies for cooking given above (84% for induction and 40% for gas) are in terms of site energies at the

customer's meters. The (US averaged) efficiencies recalculated relative to source fuels energies are hence 25% for induction hobs, and 38% for gas hobs.

Source-site ratios are not formalized yet in Western Europe. A common consensus should arise on unified European ratios in view of the extension of the Energy Label to domestic water heaters. Unofficial figures for European source-site ratios are about 2.2 for electricity and 1.02 for natural gas, thus giving overall (referred to source energy) efficiencies of 38% for induction hobs and 39% for gas hobs.

These provisional figures need to be somehow adjusted due to the higher gas hob efficiency, allowed in Europe by a less stringent limit on carbon monoxide emission at the hob. European and US standards differ in test conditions. The US ANSI Z21.1 standard allows a lower concentration of carbon monoxide (0.08%), compared to the European standard EN 30-1-1 which allows 0.2%.^{[20][21]} The minimum gas hob efficiency required in the EU by EN 30-2-1 is 52%,^[21] higher than the average 40% efficiency measured in US by DOE. The difference is mainly due to the weaker CO emission limit in EU, that allows more efficient burners, but also due to different ways in which the efficiency measurements are performed.

Whenever local electricity emits less than 435 grams of CO₂ per kWh, the greenhouse effect of an induction cooker will be lower than that of a gas cooker. This again comes from the relative efficiencies (84% and 40%) of the two hobs

and from the standard 200 (± 5) grams CO₂/kWh emission factor for combustion of natural gas at its net (low) calorific value.

2.8 VENDORS:

This section does not cite any references or sources. Please help improve this section by adding citations to reliable sources. Outsourced material may be challenged and removed.

The market for induction stoves is dominated by German manufacturers, such as AEG, Bosch, Fissler, Miele and Siemens. The Spanish company Fagor, Italian firm Smog and Sweden's Electrolux are also key players in the European market. Prices range from about GB£250 to 1,000 within the United Kingdom. In 2006, Stoves launched the UK's first domestic induction hob (cook top) on a range cooker at a slightly lower cost than those imported.

The European induction cooking market for hotels, restaurants and other caterers is primarily satisfied by smaller specialist commercial induction catering equipment manufacturers such as Advents of France, Control Induction and Target Catering Equipment of the UK and Scholl of Germany.

Taiwanese and Japanese electronics companies are the dominant players in induction cooking for East Asia. After aggressive promotions by utilities in HK like Power HK Ltd, many local brands like UNIVERSAL, icMagIC, Zanussi,

Lighting, German Pool also emerged. Their power and ratings are high, more than 2,800 watts. They are multiple zone and capable of performing better than their gas counterpart. The efficiency is as high as 90% and saves a lot of energy and is environmentally friendly. Their use by local Chinese for wok cooking is becoming popular. Some of these companies have also started marketing in the West. However, the product range sold in Western markets is a subset of that in their domestic market; some Japanese electronics manufacturers only sell domestically.

A decorative border of black butterflies is arranged in a rectangular frame around the central text. The butterflies are small and stylized, with their wings spread. The top and bottom edges of the border are solid lines of butterflies, while the left and right edges are composed of individual butterfly icons spaced out vertically.

CONSUMER PREFERENCE

CHAPTER-III

CONSUMER PREFERENCE

3.1 CONSUMER-INTRODUCTION:

Consumer is the king and it is the consumer who determines what a business is. Therefore a sound marketing program should start with a careful analysis of the debits, attitudes, motives and needs of consumers. In particular a marketer should find answer to the following question.

1. What are the products they buy?
2. Why they buy them?
3. How they buy them?
4. Where they buy them?
5. How often they buy them?

For instance if you intend to manufacture a new variety of tooth paste, you should analyses the nature of individual consumption behavior as to why consumer uses tooth paste (to whiten the teeth/prevent tooth decay). Why he buys it (because he believes that it will whiten his teeth better than competing brands). How he buys it (Cash/Credit). When he buys it (monthly/weekly): where he buys it (retail or super market); How often he buys it (Frequency of buying, say every for night) and how much he buys it (100 gram/200 gram) It must also be noted that the behavior is

likely to show variation from individual to individual, from product to and from an individual of one region to an individual of another region. Thus, analysis the consumer behavior is a perquisite though the process is highly complicated. At the same time a firm's ability to establish and maintain satisfying exchange relationships depends on the level of understanding or buying behavior. Thus, buying behavior is the decision process and acts of people involved in buying and products.

3.2 RIGHTS OF CONSUMER:

1. Rights of Safety:

It means right to be protected against the marketing of goods which are hazardous to life and property. The purchased goods should not only meet their requirements but also fulfill Long-term interests.

2. Rights to be informed:

It means right to be informed about the quality, quantity, potency, purity, standard and price of goods. So, protect the consumer against unfair trade practices. Unfair trade practices means false and misleading descriptions about the nature and quality of the goods and exaggerated statements about their power and potency. In all cases of unfair trade practices the consumer would have the option of either applying to the monopolies commission under the monopolies and Restrictive

3. Right to choose:

It means rights to be assured whatever possible of access to variety of goods at competitive price. In case of monopolies it means right to be assured of satisfactory quality and services at a fair price. The central council constituted under consumer protection Act 1986 has been charged with the responsibility of bringing about the organization of markets and market practices of goods for the benefit of consumer and that the goods with a variety are being offered at competitive prices. It is only they that the consumers will have access to variety and will be able to enjoy the benefit of competitive prices.

4. Right to be heard:

It means the consumers interest received due consideration at appropriate forms. The central council is charged with the responsibility of assuring the consumers that they would be heard as of right of the appropriate forums and the consumer will receive due attention and consideration from forums.

5. Right to seek Redressed:

It means right to seek redressed against unfair trade practices or inscriptions exploitations of consumer. It also includes rights to fair settlement of the genuine

grievances of the consumers. Three redressed agencies have been establishing to provide simple and speedy reprisal to consumer disputes. Three agencies have been empowering to give reliefs of specific nature and to award compensation to consumers. They will observe the principles of nature justice.

6. Rights to consumer education:

It means the right to acquire the knowledge and skill to be an informed thought life. People's awareness is likely to prove a better tool for putting the trade on some level of

Discipline than dons of Government controls.

3.3 CONSUMER BEHAVIOR

Everybody of us is a consumer. We need a variety of goods and services right from our have what we need. Marketing is a process through which both the buyer and seller give something (For Ex: Goods, services, money etc.) to each other maximum possible satisfaction. Besides education and social status, income is one of the influencing factors on the consumption habits of consumers. In addition caste religion, occupation and gender are influencing factors in rural areas.

The needs and attitudes of the consumers and their buying behaviour differ greatly depending upon factors like their income, location, sex, social status,

psychology etc. There is a need for identifying the characteristics of consumers. Classifying them into suitable segments of homogenous nature depending on their behavior. Consumer is the principal a priority of business. The efficiency with which a free market system of enterprise operates is, in the last analysis, dependent upon the extent of consumer understanding possessed by the business community. The term consumer behavior is often used rather loosely. Consumer behavior may be defined as that behavior exhibited by people in planning, purchasing and using economic goods and services. Consumer behavior and cannot be separated from it. In fact the consumer behavior is a subset of human behavior. This does not mean that all human behavior refers to the total process by which individual interacts with their environment.

Various marketing practices are designed to convert needs into wants, and thereby to create a potential customer. But needs are essentially psychological and instinctive in nature. It is these psychological factors that create an undertaking for the manufacturer in predicting the market for his product. To overcome this difficulty marketer usually groups those buyer consumers who show identical characteristics.

The membership in such group often modifies the behavioral responses of an individual. These modifications in turn are caused by factors such

as psycho-sociological and or socio-psychological. Study of these influences has created a whole new field of marketing usually referred to is, "consumer Behavior"

However it should be noted that buying process need not always be complicated. Buying becomes difficult and complicated when expensive and infrequently bought items like car Refrigerator, Induction stove etc, are purchased. Specifically these items fall under category of shopping and specialty goods.

As the term implies, the differentiation between products and services is created on the basis of the customer involvement level in product selection. This is based on the extent to which the customer perceives the product as representing his or her personality and life style.

3.4 CONSUMER BUYING DECISION PROCESS:

"Nothing is more difficult and therefore more precious, than to be able to decide", is quoted to be the world of napoleon. This is amply true in the case of consumer too. It is for this reason that the marketers are bound to have a full knowledge of the consumer-buying decision process.

As we have seen earlier, the objective of marketing, effort is to make the exchange process complete. In essence, it is the matching of two decision processes; the decision of the marketer and the decision of the consumer.

Marketing implications of consumers decision process:

It was during 1960s that a number of theories to explain the consumers decision process started appearing. The three leading theories were Howard-sheth, Engel-Kollat-Blackwell and Niosia. Since then a considerable research on the marketing implication of the process has been developed tested the applications of many elements of marketing.

Many of the marketing strategies if effectively used will go long way in initiation and developing consumer attitudes in favour of the products.

3.5 BUYING MOTIVES:

In essence, modern marketing concept lies in the fact that the business should consumer. The adoption of consumer focus is the real difference between the traditional concept of selling and the modern concept of marketing. Thus, modern marketing requires a thorough understanding of consumer behavior and buying motivations.

A consumer buys a particular product because he is influenced by certain motives. Motive is a strong feeling, urge, instinct, desire or emotion that makes the buyer to react in the form of a decision to buy. For that matter, every human activity is motivated and is not spontaneous. Consumers, for example, are goal-seekers who gratify their needs by purchase and consumption. In other words,

needs are the motivational elements behind purchase. The needs were classified by Abraham H. Maslow, in pyramid form known as "Hierarchy of Needs"

Satisfaction proceeds through each of the five stages, mostly in their successive stages. When one need is satisfied, the customer will seek higher goals and thus proceeds up the hierarchy. It seems that distinction between needs and wants is necessary here. Needs are general in nature and common to all people.

For example, need for safety is common. But all needs may not become demands. Only when need becomes specific and is consciously felt, it would turn to be a want. For instance, crash helmet is a safety device for automobile drivers. Here, the need for safety becomes specific and hence it is a want. It is this want; marketing managers need to produce a product and to create a market for the product. Marketing managers always try to generate wants and also see that products introduced easily match such wants.

Influence on consumer preference:

3.6 SOCIAL OR CULTURAL INFLUENCES:

External or interpersonal influences on buyer behavior are

1. Family
2. Reference Group
3. Social class
4. Culture

1. Family:

Most consumers belong to family group, the family can exact considerable influence in shaping the pattern of consumption and indicating the decision making

roles personal values, attitudes and buying habits have been shaped by family influences, once can notice that brands used by a women in her kitchen are similar to those favourable by her mother. The members of the family play different roles such as influences, decider, purchaser and user in the buying process. The women may act as a mediator (gate keeper) of products that satisfy wants and desires of the children. Marketer in interested in four questions relating to family purchase.

1. Who influences buying?
2. Who is buyer in the family?
3. Who tasks the buying decision?
4. Who used the product?

There may be four different people or only one member of the family may do all four activities. For most of the products women(in all cities) is the main buying agent for provisions and grocery articles. Marketing policies regarding product, promotion and channels of distribution are influenced by the family members making actual purchase. If teenagers and children are decision makers, the marketing programmers will provide special attention like premium with the determined by men, women or children acting as the real decision makers in family purchase. Family life cycle also influences consumer expenditure patterns. In the development of family we have several important stages: marriage, birth of

children, married children leaving home, older couple with no children living at home and so on. For example, the proportion of family's budget spent on food and clothing will generally increase when children arrive in a newly and family, on food items, influence of house-wife is always dominating luxury times, both husband and wife can exert joint influence.

2. Reference Group:

The concept of reference group is borrowed from sociology and psychology. Buyer behavior is influenced by the small groups to which the buyer belongs. Reference groups are the social, economic or professional groups and a buyer used to evaluate his or her opinions and beliefs. Buyer can get advice or guidance in his or her own thoughts and actions from such small groups. Reference group is useful for self-evaluation and attitude formation. A human being is considered as a social animal, spending much of his or her life in group situations. Consumers accept information provided by their peer groups on the quality of a product on its performance, style etc. which is hard to evaluate objectively. Group influence is seen in brand preference and brand choices. A family, a circle of friends, a local club, an athletic team, college living groups are examples of small references groups in which member have face-to-face interaction. Word of mouth communication is the process by which message are passed within a group from member to member. It is often a critical factor in

determining who buys what product and brand opinion leader can act as effective agencies of communication on behalf of marketing management. Marketing effort may be directed to provide such opinion leaders.

3. Social class:

Sociology points out the relationship between social class and consumption patterns. As a predictor consumption patterns, marketing management is familiar with social classes. Consumer buying behavior is determined by the social class to which they belong or to which they aspire, rather than by their income alone. Broadly speaking we have three distinct social classes. Consumer belonging to middle classes usually stress rationality prohibit greater sense of choice making where as consumers of lower classes have essentially non-traditional purchases and show limited sense of choice-making. The three social classes will have differences in the stores they patronize the magazines they read and clothing and furniture they select. Social classes may act as criterion for market segmentation. T.V usage by different social classes was investigated in the U.S.A and it showed that working class embraced television. The lower middle class accommodated it, and the upper class actually protected in 1962 survey in Chicago upper class consumers want products and brands that are clear symbol of their social status. Middle class consumers shop carefully and read advertisement and compare prices before they buy. They are highly amenable to

pre selling through mass media. Lower class consumers buy on impulse should be influenced by point of purchase materials. They do not care to read much. Hence the broadcast media like radio are of great importance in communication with them.

Psychographic or life style analysis combines behavior reasons both person-centered and situation centered for purchasing and consuming goods. The idea of social class is now elaborated further into a new concept called psychographics which can indicate better evaluation of consumer behaviour.

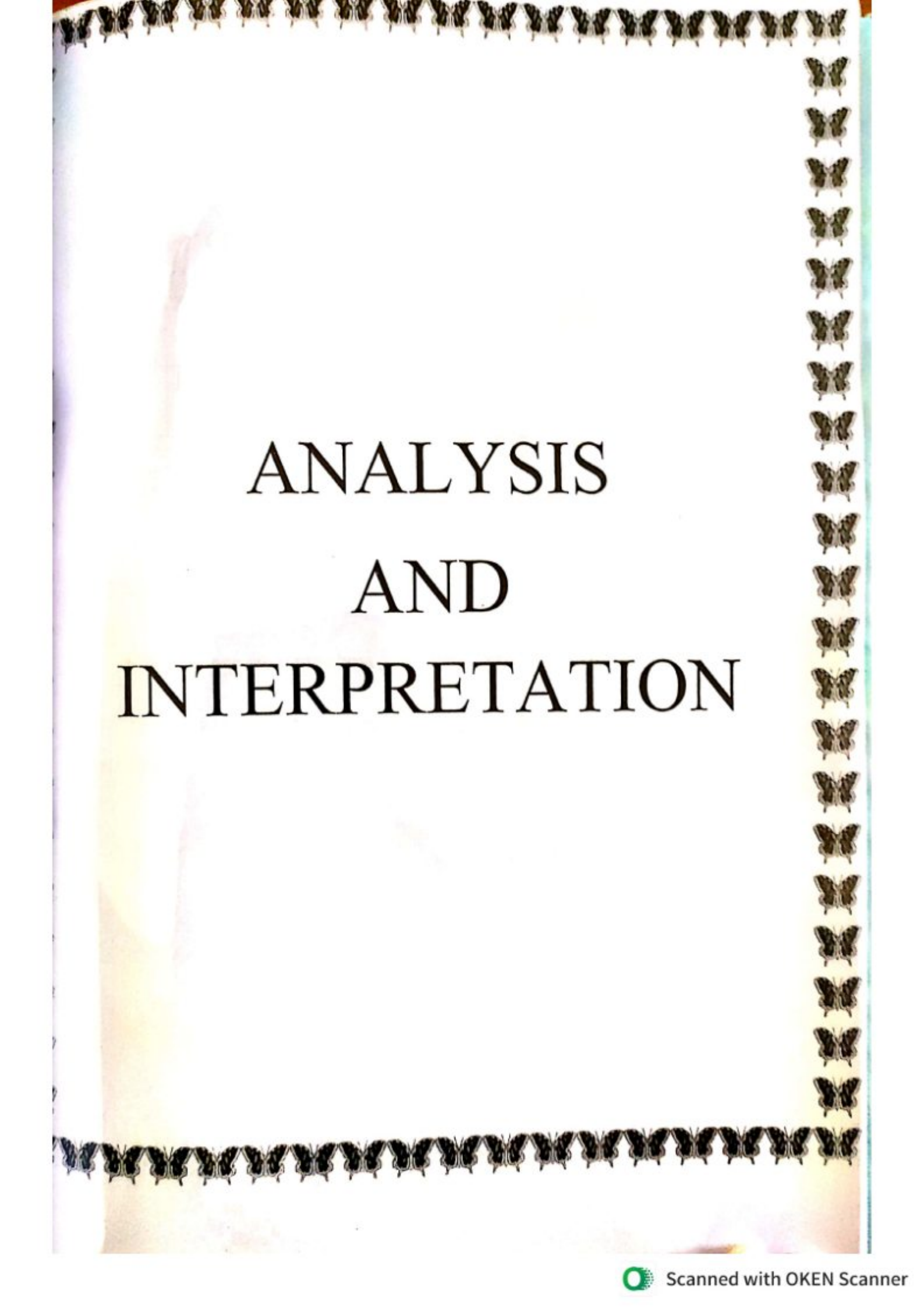
4.Culture:

Culture represents on overall social heritage, a distinctive form of environmental adaption by a whole society of people. It includes a set learned beliefs values,attitudes,morals,customer's habits and forms of behaviour that are shared by a society and transmitted from generation to generation within that society. Please note that culture is alive moving and ever changing. It reacts to internal and external pressure causing inters cultural conflicts. Culture influence is a force shaping both patterns of consumption and patterns of decision making from infancy. Much of our behaviour is determined by culture. Our cultural institutions (family,schools,temples,language, traditions, etc) provided guidelines to marketers.Technologies advances may influences as culture changes . Education and travel can have considerable influence as culture. Marketing strategies can be

developed for each culture separately. Market segmentation can be based on culture as a determinant. Such cultural exist with the dominant culture with its own set of values, beliefs, attitudes, habits and behaviour patterns. In Indian culture we have some important basis of sub culture such as caste, religion, and region. Thus the patterns of behaviour would vary between north and south India, Brahmins, vaishyas, Muslims and Jains.

3.7 Conclusion:

Analysis the consumer behavior is a perquisite though the process is highly complicated. At the same time a firm's ability to establish and maintain satisfying exchange relationships depends on the level of understanding or buying behavior. Thus, buying behavior is the decision process and acts of people involved in buying and products.

A decorative border of small, black and white butterfly illustrations runs along the top, bottom, and right edges of the page. The butterflies are arranged in a repeating pattern, with some larger butterflies interspersed along the right edge.

ANALYSIS AND INTERPRETATION

ANALYSIS AND INTERPRETATION

Table No. 4.1

CLASSIFICATION OF RESPONDENTS BYSEX

S.NO.	Gender	No. of respondents	Percentage (%)
1	Male	–	–
2	Female	50	100
	Total	50	100

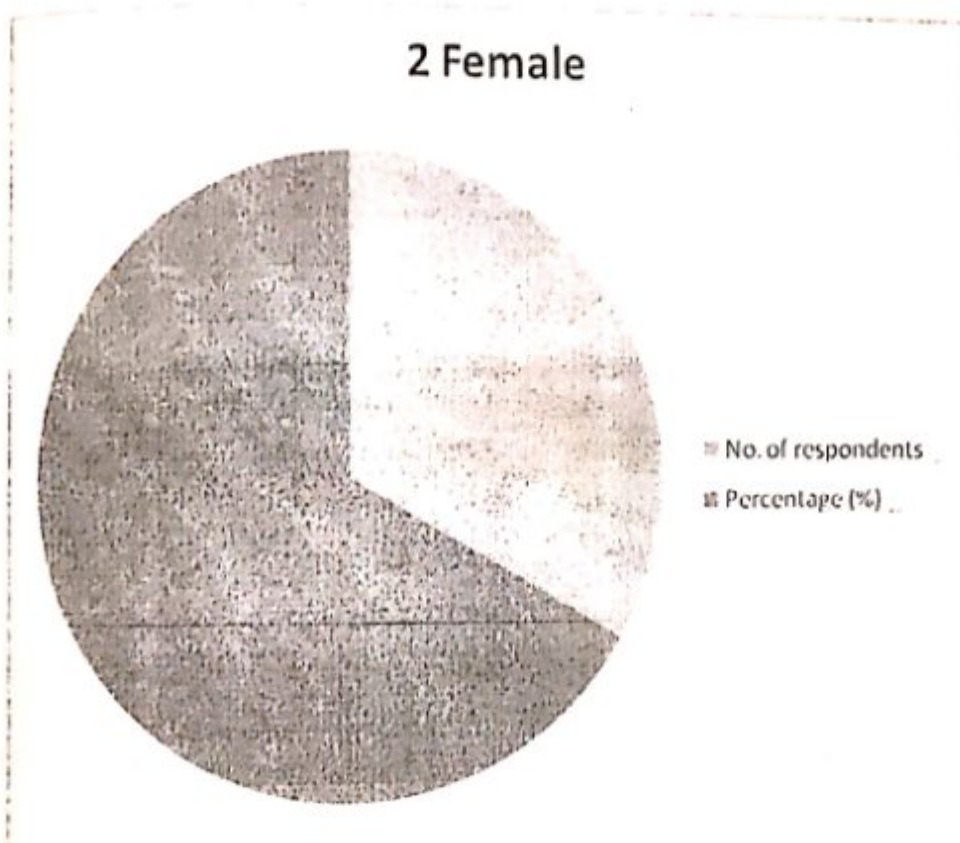
SOURCE: Primary Data

It is evidence from the above table that 100% of respondents were female.

The following pie diagram exhibits the sex wise classification of the respondents.

Diagram 4.1 (1)

THE BELOW PIE CHART SHOWS THE SEX OF THE RESPONDENTS



CLASSIFICATION OF RESPONDENTS BY AGE

S.NO.	Age	No. of respondents	Percentage (%)
1	21 - 30	25	50
2	31-40	10	20
3	41 -50	13	26
4	51 - 60	2	4
5	Above 60	-	-
	Total	50	100

SOURCE: Primary Data

From the above it is clear that 50% of respondents belong to the age group of 21-30, 20% of respondents belong to the age group of 31-40, 26% of the respondents belong to the age group of 41-50 and Remaining 4% of the respondents belong to the age group of 51-60.

The majority of the respondents belong to the age group of 21-30 years.

The following pie diagram depicts the age wise classification of the respondents.

Diagram 4.2 (2)

THE BELOW PIE CHART SHOWS THE AGE GROUP OF THE RESPONDENTS

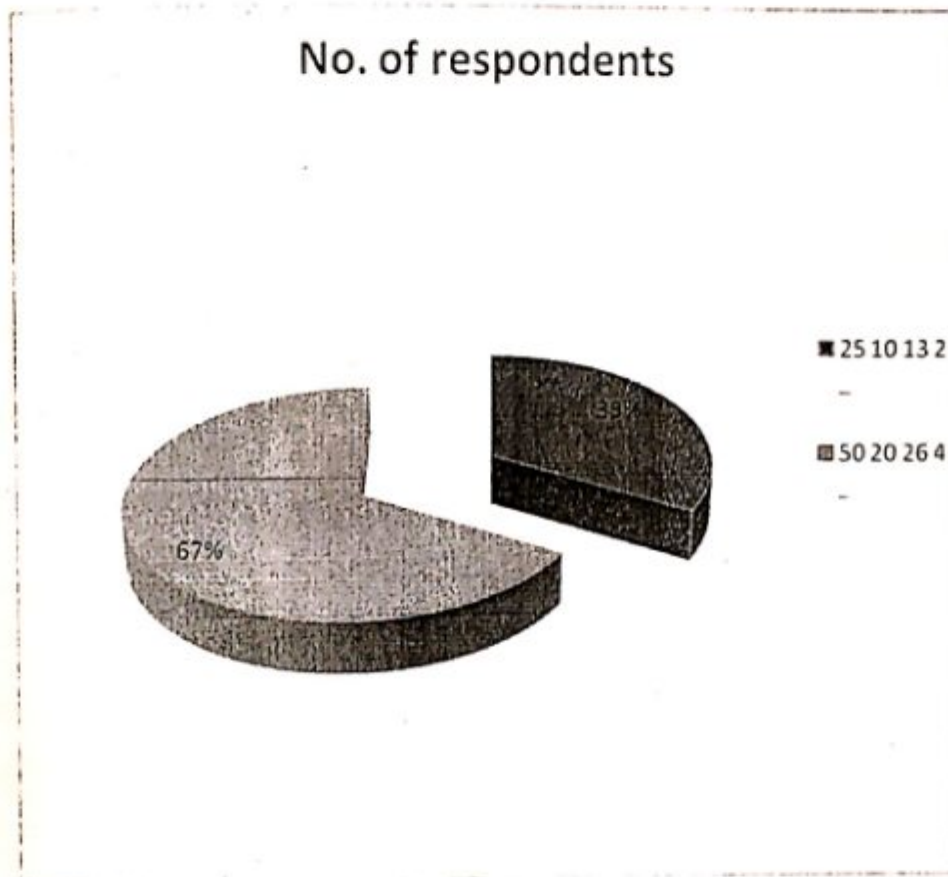


Table No. – 4.3

CLASSIFICATION OF MARITAL STATUS OF THE RESPONDENTS

S.NO.	Marital status	No. of respondents	Percentage (%)
1	Married	35	70
2	Unmarried	15	30
	Total	50	100

SOURCE: Primary Data

The above table reveals that 70% of the respondents are married and 30% of the respondents unmarried.

Thus majority of respondents were married.

The following bar diagram exhibits the marital status of the respondents.

Diagram 4.3 (3)

THE BELOW BAR CHART SHOWS THE MARITAL STATUS OF THE RESPONDENTS

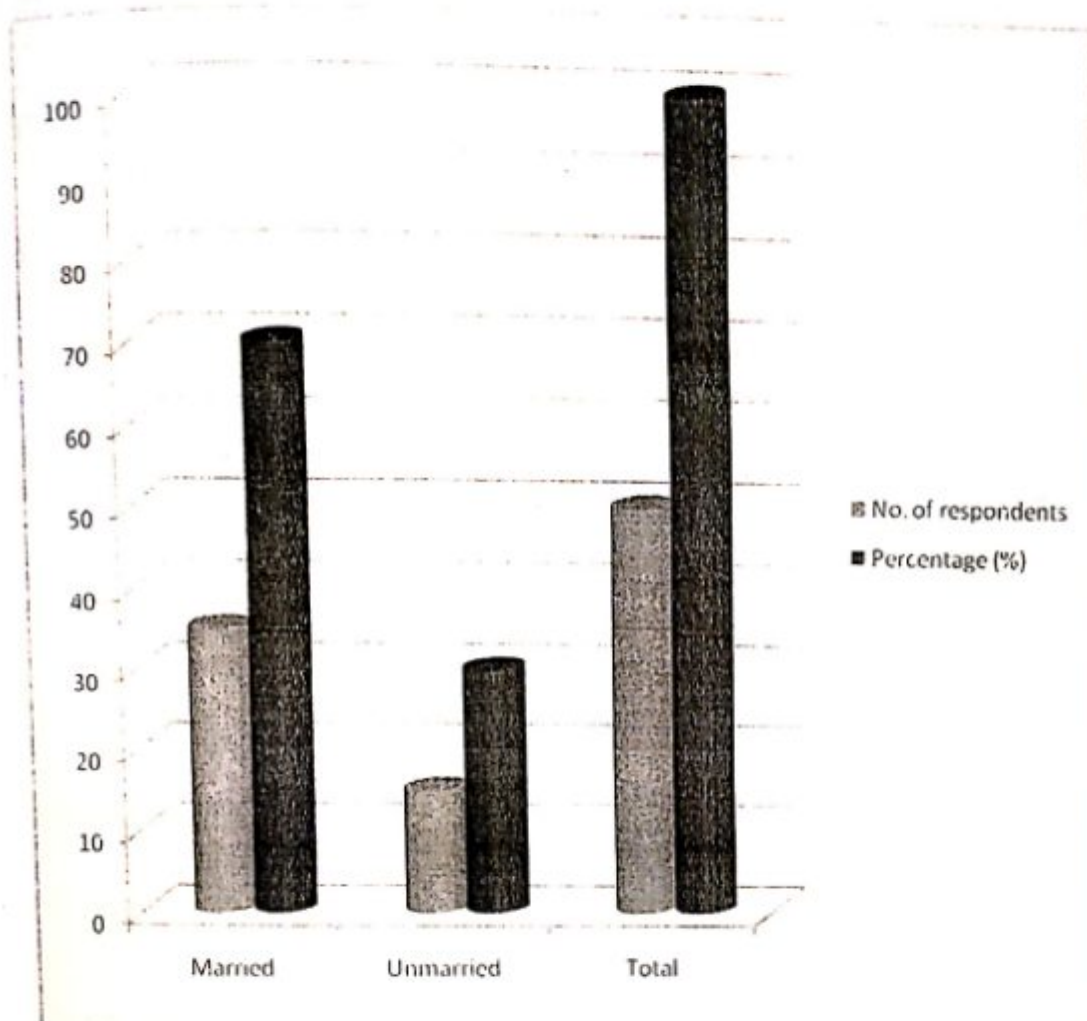


Table No. - 4,4

CLASSIFICATION OF RESPONDENTS BY OCCUPATION

S.NO.	Occupation	No. of respondents	Percentage (%)
1	Student	9	18
2	Professional	12	24
3	Business	-	-
4	House wife	26	52
5	Others	3	6
	Total	50	100

SOURCE: Primary Data

From the above table, it is clear that 52% of the respondents are house wife. 24% and 18% of the respondents are professional and students respectively. The remaining 6% of the respondents are other category.

Thus, majority of the respondents are house wife.

The following pie diagram exhibits the occupational status of the respondents.

Diagram 4.4 (4)

THE PIE CHART SHOWS THE OCCUPATIONAL STATUS OF THE RESPONDENTS

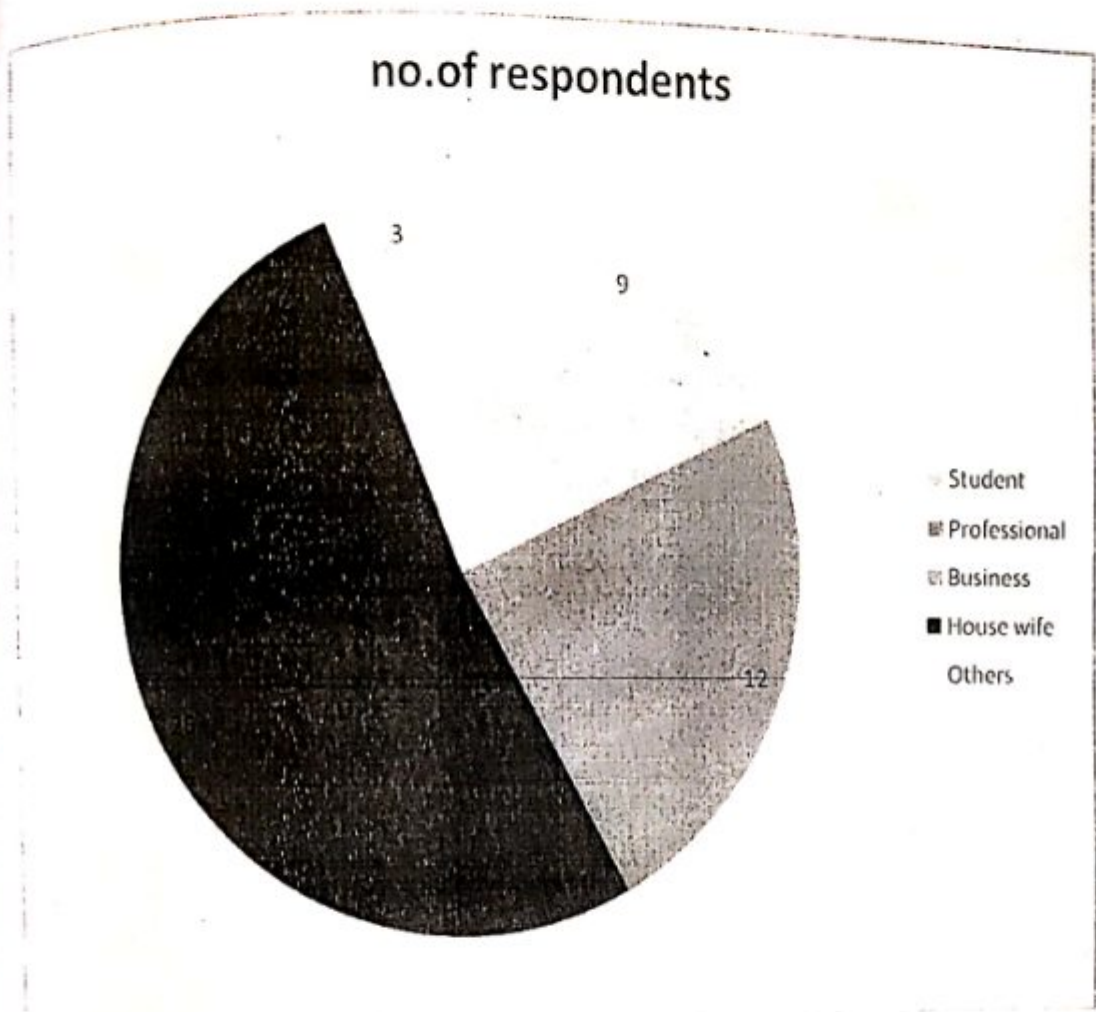


Table No. 4.5

**CLASSIFICATION OF RESPONDENTS ACCORDING TO FAMILY
INCOME LEVEL**

S.NO.	Monthly income	No. of respondents	Percentage (%)
1	Up to Rs.50000	9	18
2	50000 - 100000	20	40
3	100000 - 150000	19	38
4	150000 - 200000	1	2
5	Above 200000	1	2
	Total	50	100

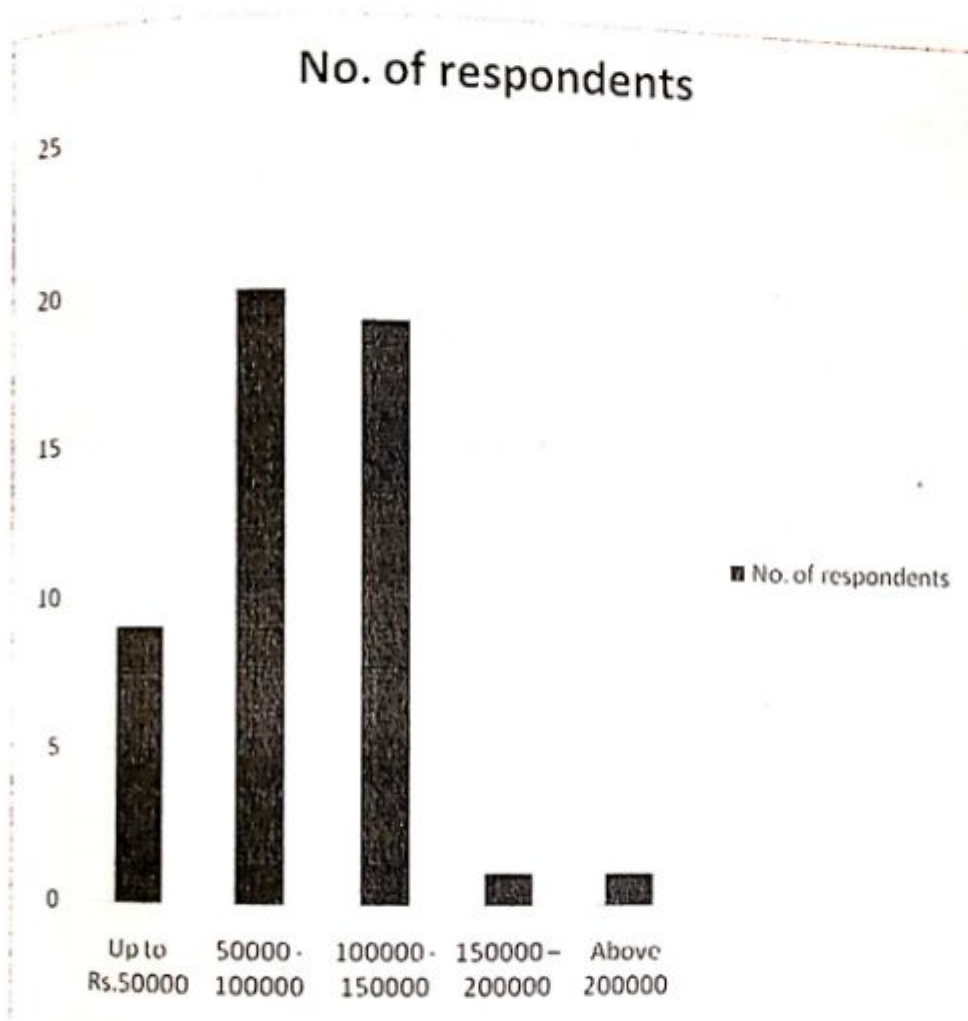
SOURCE: Primary Data

From the above table, it is clear that 40% of the respondents earn an income of Rs.50000 to Rs.100000, 38% of the respondents are earn an income of Rs.100000 to Rs.150000, 18% of the respondents are earn an income of up to Rs.50000, 2% of the respondents are earn an income of Rs.150000 to Rs.200000 and remaining 2% of the respondents are earn an income of above Rs.200000.

The following bar diagram depicts the monthly income of the respondents.

Diagram 4.5 (5)

THE BELOW BAR CHART TABLE SHOWING THE MONTHLY INCOME OF THE RESPONDENTS



CLASSIFICATION OF FAMILY SIZE OF THE RESPONDENTS

S.NO.	Family size	No. of respondents	Percentage (%)
1	1 to 2	18	36
2	4 to 6	29	58
3	above 6	3	6
	Total	50	100

SOURCE: Primary Data

The above table reveals that the family sizes of 58% of the respondents are 4-6 members, whereas, 36% of the respondents are 1-3 members, 6% of the respondents have above 6 members in their family.

Table No. – 4.7

CLASSIFICATION OF RESPONDENTS USING INDUCTION STOVE

S.NO.	Satisfied with the products	No. of respondents	Percentage (%)
1	Yes	50	100
2	No	–	–
	Total	50	100

SOURCE: Primary Data

The above table reveals that 100% of the respondents prefer induction stove.

Table No. 4.8

CLASSIFICATION BRAND PREFERENCE FOR INDUCTION STOVE

S.NO.	Education qualification	No. of respondents	Percentage (%)
1	Prestige	13	26
2	Butterfly	14	28
3	Premier	11	22
4	Preethi	11	22
5	Others mention	1	2
	Total	50	100

SOURCE: Primary Data

It is evidence from the above table, that 28% of the respondents have stated that they prefer butterfly, 26% of the respondents have stated Prestige, 22% of the respondents have stated premier and preethi, and 2% of the respondents have stated other brand or product.

Majority of the respondents have stated that purchasing butterfly brand of induction stove.

The following bar diagram exhibits the brand preference of the respondents.

Diagram 4.8 (6)

THE BELOW BAR CHART TABLE SHOWING THE BRAND PREFERENCE OF THE RESPONDENTS

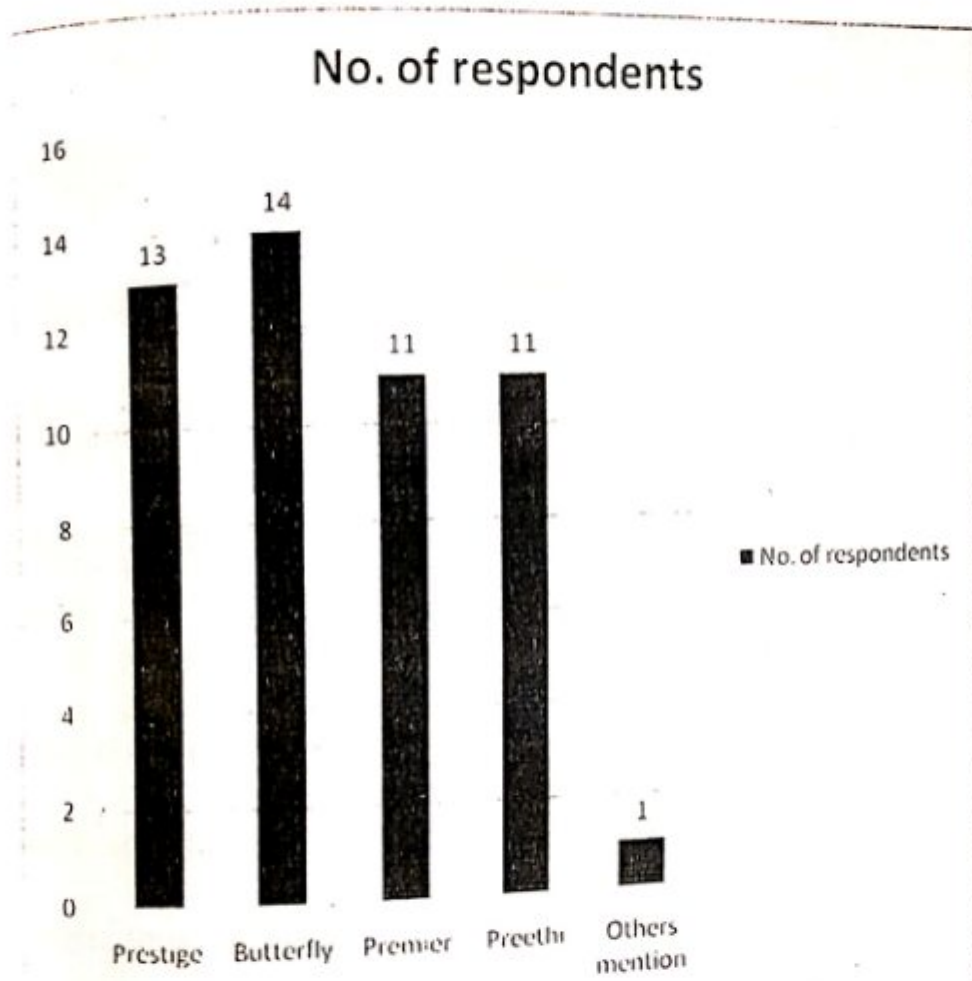


Table No. 4.9

**CLASSIFICATION OF THE AWARENESS CREATION OF
INDUCTION STOVE**

S.NO.	Source	No. of respondents	Percentage (%)
1	Word of mouth	7	14
2	Advertisement	38	76
3	Sales promotion	2	4
4	Point of purchase	2	4
5	Retailer	1	2
	Total	50	100

SOURCE: Primary Data

It is clear from the above table, that 76% of the respondents have come to know the brand through advertisement. 14% of the respondents have come to know the brand through word of mouth, 4% of the respondents have come to know the brand through sales promotion and point of purchase and remaining 2% of the respondents have come to know the brand through retailers.

Thus, 76% of the respondents have been influenced by advertisement in purchase of induction stove.

Table No. - 4.10

CLASSIFICATION OF SOURCE OF INFORMATION

S.NO.	Source of information	No. of respondents	Percentage(%)
1	Television	34	89
2	Internet	1	3
3	News paper / Magazine	2	5
4	Banner	1	3
5	Radio	-	-
	Total	38	100

SOURCE: Primary Data

The above table that media influenced in purchasing product, 89% of the respondents were influenced by television, 5% of the respondents were influenced by new paper/magazine and 3% of the respondents were influenced by internet and banner.

Thus television is the more powerful media influence the purchase of induction stove.

The following bar diagram exhibits the sources of information of the respondents.

THE BELOW BAR CHART TABLE SHOWING THE SOURCES OF INFORMATION OF THE RESPONDENTS

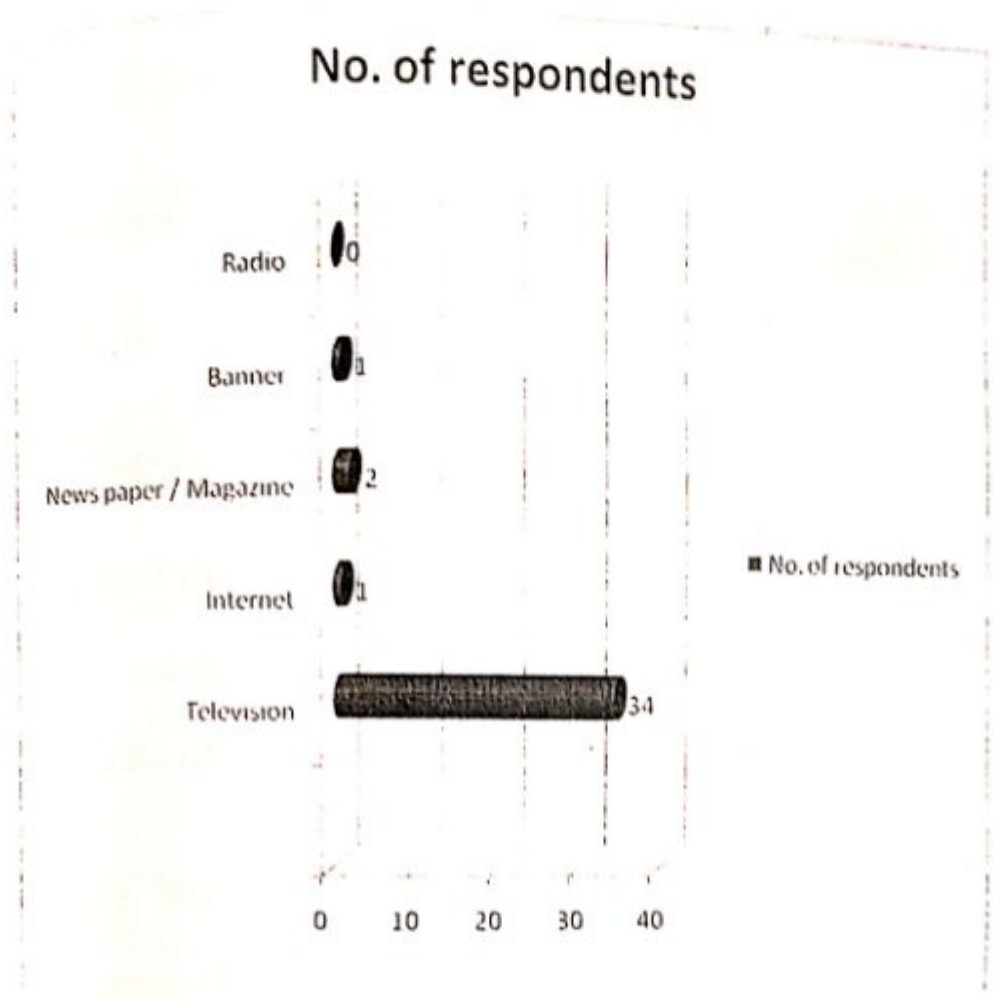


Table No. – 4.11

CLASSIFICATION OF REASON FOR BUYING INDUCTION STOVE

S.NO.	Reason for purchase	No. of respondents	Percentage (%)
1	Convenience	9	18
2	Time saving	36	72
3	Heating food	5	10
	Total	50	100

SOURCE: Primary Data

This is clear from the above table that 72% of the respondents purchased induction stove for time consumption, 18% of the respondents purchased for convenience a 10% of the respondents purchased for heating food.

Table No. 4.12

CLASSIFICATION OF MODE OF PURCHASE

S.NO.	Mode of purchase	No. of respondents	Percentage (%)
1	Cash	36	72
2	Installment	14	28
3	Credit card	—	—
	Total	50	100

SOURCE: Primary Data

The above table reveals that 72% of the respondents purchased on cash basis as against 28% of the respondents purchased on installment basis.

CLASSIFICATION ACCORDING TO PURCHASE OF INDUCTION
STOVE

S.NO.	Dealer	No. of respondents	Percentage (%)
1	Multi brand dealer	28	56
2	Exclusive dealers	22	44
	Total	50	100

SOURCE: Primary Data

The above table reveals that 56% of the respondents buy brand from multi-brand dealers whereas 44% of buy from exclusive dealers.

Table No. 4.14

CLASSIFICATION OF FACTORS INFLUENCING BUYING DECISION

S.NO.	Factors	No. of respondents	Percentage (%)
1	Price	30	60
2	Quality	10	20
3	Brand name	10	20
4	Customer services	—	—
5	After sales service	—	—
	Total	50	100

SOURCE: Primary Data

The table shows that 60% of the respondents use induction stove because of its price whereas, 20% of the respondents use it because of quality and remaining 20% of the respondents use induction stove because of its brand name.

Table No. 4.15

**CLASSIFICATION OF RESPONDENTS OPINION ABOUT
INDUCTION STOVE**

S.NO.	Particulars	No. of respondents	Percentage (%)
1	Highly satisfied	5	10
2	Satisfied	43	86
3	Dissatisfied	-	-
4	No opinion	2	4
5	Highly dissatisfied	-	-
	Total	50	100

SOURCE: Primary Data

The above table shows the 86% of the respondents are satisfied, 10% of the respondents have stated as fully satisfied and 4% of the respondents have stated as no opinion with regard to induction stove.

Majority of the respondents have stated as they are satisfied with regard to induction stove.

Table No. – 4.16

CLASSIFICATION OF PROVIDED WITH GUARANTEE

S.NO.	Particulars	No. of respondents	Percentage (%)
1	Yes	50	100
2	No	–	–
	Total	50	100

SOURCE: Primary Data

The above table reveals that 100% of the respondents provided with guarantee.

Table No. - 4.17

**CLASSIFICATION OF BENEFIT AVAILED DURING
THE GUARANTEE PERIOD**

S.NO.	Period	No. of respondents	Percentage (%)
1	1 year	37	74
2	2 year	13	26
	Total	50	100

SOURCE: Primary Data

The above table indicated that 74 of the respondents provided with 1 year guarantee period and 26% of the respondents provided with 2 year guarantee period.

Table No. – 4.18

CLASSIFICATION OF SWITCHOVER THE BRAND

S.NO.	Particulars	No. of respondents	Percentage (%)
1	Yes	5	10
2	No	45	90
	Total	50	100

SOURCE: Primary Data

From the above table shows 10% of the respondents have switched over to other product due to offer provided in the market, and 90% of the respondents are not switched over to other product.

Table No. 4.19

CLASSIFICATION OF RESPONDENTS IPINION ABOUT QUALITY OF INDUCTION STOVE

S.NO.	Quality	No. of respondents	Percentage (%)
1	Very good	2	4
2	Good	21	42
3	Perfect	8	16
4	Satisfied	19	38
5	Unsatisfied	-	-
	Total	50	100

SOURCE: Primary Data

The table shows the opinion on quality of induction stove 4% of the respondents have stated quality as very good. 42% of the respondents have stated as good, 16% of the respondents have stated as perfect, and 38% of the respondents are satisfied with quality of induction stove.

Majority 42% of the respondents are good and have appreciated the quality induction stove.

Table No. – 4.20

CLASSIFICATION OF RESPONDENTS CHECKS FOR THE ISI MARK

S.NO.	Particulars	No. of respondents	Percentage (%)
1	Yes	40	80
2	No	–	–
3	Sometimes	10	20
	Total	50	100

SOURCE: Primary Data

It is evident from the above table that 80% of the respondents check ISI before purchasing, and 20% of the respondents sometimes check the ISI mark before purchasing induction stove.

Majority of the respondents have the habit of checking ISI mark on their purchase of induction stove.

Table No. 4.21

REASONABLE OPION ABOUT PRICE OF INDUCTION STOVE

S.NO.	Price of product	No. of respondents	Percentage (%)
1	Low	-	-
2	Very reasonable	4	8
3	Reasonable	36	72
4	High	10	20
5	Very high	-	-
	Total	50	100

SOURCE: Primary Data

The table shows the opinion on pricing of induction stove. 72% of the respondents stated as reasonable, 20% of the respondents have stated as highly priced and 8% of the respondents have stated as very reasonable price of induction stove.

Majority of the respondents have stated pricing of the induction stove is reasonable as compared to quality.

Table No. – 4.22

**REASONABLE OPINION ABOUT REGARD TO LIFE OF
INDUCTIONSTOVE**

S.NO.	Life	No. of respondents	Percentage (%)
1	Long life	18	36
2	Short life	32	64
	Total	50	100

SOURCE: Primary Data

The table shows the opinion with regard to life of induction stove. 64% of the respondents stated that induction stove have short life, while 36% of the respondents stated that the induction stove have long life.

Majority of the respondents stated that the induction stove have short life.

HYPOTHESIS TESTING

INTRODUCTION:

This chapter deals with the factors influencing consumer preferences among the respondents of Induction Stove brand of products, factors namely Age and Income have been identified to find out whether they influence brand references. In order to the whether there is any relationship between these factors Chi-square test has been applied.

TABLE NO. 4.23

Relationship between age and brand preference

Brand Name	Age					Total
	21-30	31-40	41-50	51-60	Above 60	
Prestige	6	3	3	1	-	13
Butterfly	6	2	6	-	-	14
Premier	8	2	1	-	-	11
Preethi	5	3	3	-	-	11
Others	-	-	-	1	-	1
Total	25	10	13	2	-	50

TESTING OF HYPOTHESIS:

There is no relationship between age and brand preferences

Table 4.24
Chi-Square Test

O	E	(O-E)	(O-E) ²	(O-E) ² /E
6	6.5	0.5	0.25	0.038
6	7	1	1	0.143
8	5.5	2.5	6.25	1.136
5	5.5	0.5	0.25	0.045
0	0.5	0.5	0.25	0.5
3	2.6	0.4	0.16	0.061
2	2.8	0.8	0.64	0.23
2	2.2	0.2	0.04	0.02
3	2.2	0.8	0.64	0.29
0	0.2	0.2	0.04	0.2
3	3.38	0.38	0.14	0.04
6	3.64	2.36	5.57	1.53
1	2.86	1.86	3.46	1.21
3	2.86	0.14	0.02	0.007
0	0.26	0.26	0.007	0.02
1	0.56	0.48	0.23	0.44
0	0.44	0.44	0.194	0.44
0	0.44	0.44	0.194	0.44

1	0.04	0.96	0.92	23
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-
0	-	-	-	-
Total				30.35

$$\text{Degree of freedom} = (C-1)(R-1)$$

$$= (5-1)(5-1)$$

$$= (4)(4)$$

$$= 16$$

$$\text{Calculated value} = 30.35$$

Table value of @ 5% level = 26.296

Since the calculated value is more than the table value the hypothesis is rejected. So there is a relationship between Age and Brand Preferences of Induction stove.

Table 4.25

Relationship between the income and brand preference

Brand	Income					Total
	Below 50000	50000- 100000	100000- 150000	150000- 200000	Above 200000	
Prestige	3	3	6	-	1	13
Butterfly	2	5	7	-	-	14
Premier	1	7	2	1	-	11
Preethi	2	5	4	-	-	11
Others	1	-	-	-	-	1
Total	9	20	19	1	1	50

TESTING OF HYPOTHESIS:

There is no relationship between income and brand preference

Table 4.26
Chi-Square Test

O	E	(O-E)	(O-E) ²	(O-E) ² /E
3	2.34	0.66	0.436	0.186
2	2.52	0.52	0.27	0.107
1	1.98	0.98	0.96	0.48
2	1.98	0.02	0.0004	0.0002
1	0.18	0.82	0.672	3.73
3	5.2	2.2	4.84	0.93
5	5.6	0.6	0.36	0.06
7	4.4	2.6	6.76	1.54
5	4.4	0.6	0.36	0.08
-	0.4	60.4	0.16	0.4
6	4.94	1.06	1.124	0.23
7	5.32	1.68	2.822	6.53
2	4.18	2.18	4.75	1.137
4	4.18	0.18	0.032	0.0032
-	0.38	0.38	0.144	0.38
-	0.26	0.26	0.068	0.26
-	0.28	0.28	0.078	0.28
1	0.22	0.78	0.608	2.76
-	0.22	0.22	0.048	0.22
-	0.02	0.02	0.0004	0.02
1	0.26	0.74	0.547	2.106

-	0.28	0.28	0.078	0.28
-	0.22	0.22	0.048	0.22
-	0.22	0.22	0.048	0.22
-	0.02	0.02	0.0004	0.02
Total				16.1842

Degree of freedom = (C-1) (R-1)

= (5-1) (5-1)

= (4) (4)

= 16

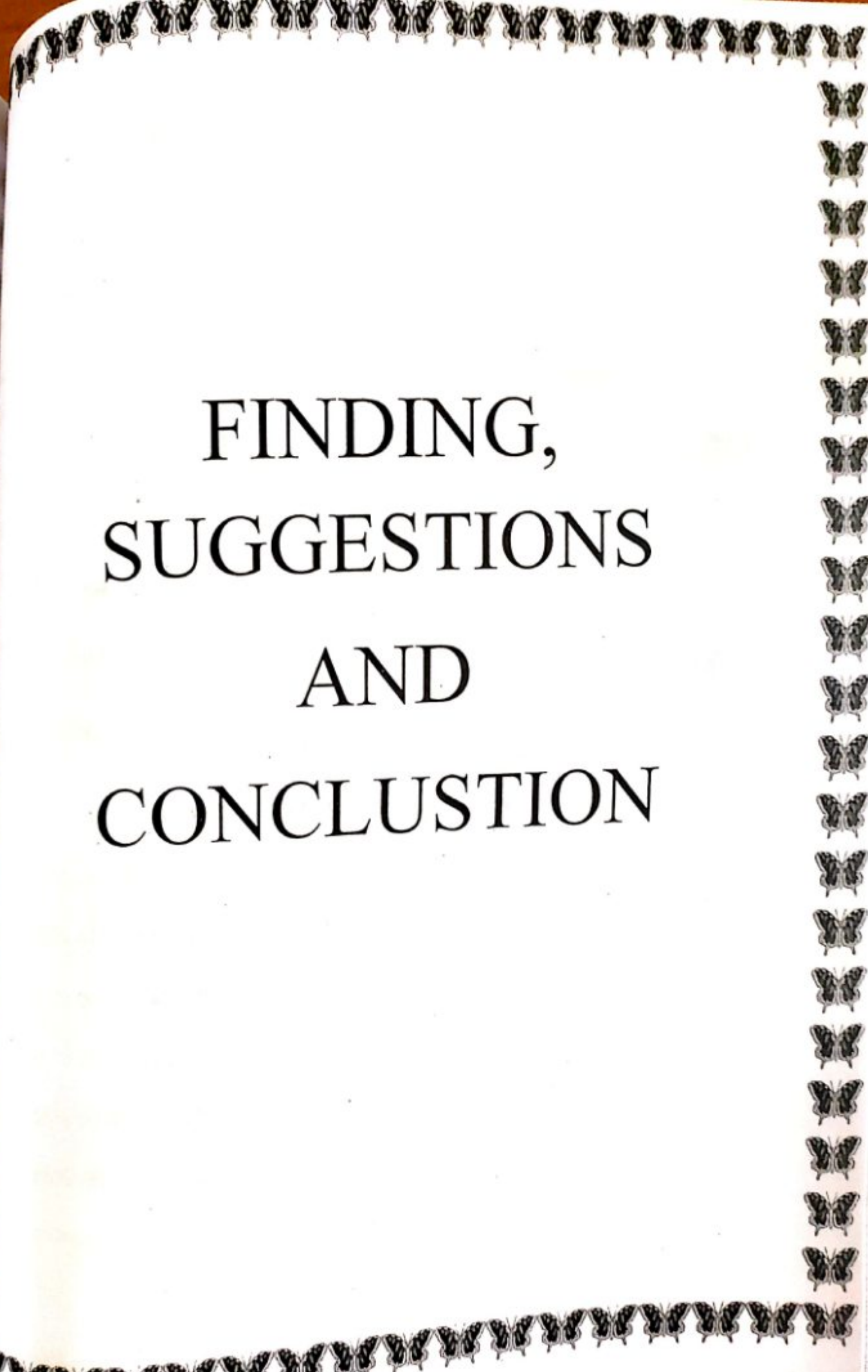
Calculated value = 16.1842

Table value of @ 5% level = 26.296

Since the calculated value is less than the table value the hypothesis is accepted. There is no relationship between Income and Brand Preferences of Induction stove.

Summary:

The analysis reveals that the Income of the respondents has not influenced the brand preference and age of the respondents influence the brand preferences.



FINDING,
SUGGESTIONS
AND
CONCLUSION

FINDINGS, SUGGESTION AND CONCLUSION

5.1 INTRODUCTION:

The present study is on consumer brand preference towards Induction Stove has received a lot of attention. The main objective for which the present study was undertaken was to find out the factors influencing the preference of Induction Stove.

From the detailed analysis mode in the previous chapter the researcher has been able to arrive at the following

5.2 FINDINGS:

- 100% of the respondents are female in this study.
- 50% of the respondents belong to the age group of 21-30 year.
- 70% of respondents are married.
- 52% of the respondents are housewife.
- 40% of the respondents are in the income group of rs.50000-100000.
- 58% of the respondents are 4-6 members.
- 28% of the respondents have stated that purchasing butterfly brand of induction stove.

- 76% of the respondents have been influenced by advertisement in purchase of induction stove.
- 89% of the respondents were influenced by television because it is the more powerful media in purchasing "Induction Stove".
- 72% of the respondents purchased induction stove for time consumption.
- 72% of the respondents purchased induction stove from cash basis.
- 56% of the respondents are buy the induction stove for multi-brand dealers.
- 60% of the respondents prefer induction stove because of the low price.
- 86% of the respondents have stated that they are satisfied with the induction stove.
- 74% of the respondents provided with guarantee period of one year.
- 42% of the respondents are good and have appreciated the quality induction stove.
- 80% of the respondents have the habit of checking ISI mark on their purchase of induction stove.
- 72% of the respondents have stated pricing of the induction stove is seasonal as compared to quality.
- 64% of the respondents stated that the induction stove have short life.
- There is a relationship between age and Brand preference.
- There is no relationship between income and brand preference

5.3 SUGGESTIONS:

- Companies have to increase the awareness level in buyers through television advertisement since it is, one of the main sources of awareness.
- Even till date, majority of the Indian housewives feelings that the Induction stove is not a necessary product, so companies have try to explain the necessity of the Induction Stove to trigger primary demand.
- Quality and brand name are two important factors, which are considered while purchasing a home appliance product, Hence companies have to provide quality products and they have try to build brand name.
- Word-of-mouth can be generated by keeping the existing customers.

5.4 CONCLUSION:

A can be seen, the respondents seems to have a thorough knowledge of the market of can be seen in the way they select the brand, which in itself is a tedious mental task. The producer/manufacturer must therefore pay attention to the quality, since the customer have a wide range of brands to select from and hence business would be ruined of quality is not maintained. The study has provided an insight into the dependence of customers on the "Durability", and "Quality" of the Induction Stove besides the advertisement for the same.



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BIBLIOGRAPHY

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WEBSITE

www.google.com

[http://en.wikipedia.org/wiki/induction stove](http://en.wikipedia.org/wiki/induction_stove)

www.yahoo.com



QUESTIONNAIRE

INTERVIEW SCHEDULE

A STUDY ON CONSUMER PREFERENCE TOWARDS INDUCTION STOVE IN PONNAMARAVATHY TALUK

1. Name:

2. Sex:

Male Female

3. Age :

21-30 31-40 41-50 51-60 above 60

4. Marital Status:

Married Unmarried

5. Occupation:

Students Professional Business
 Housewife Other

6. Family annual income (Rs)

up to Rs.50,000 Rs.50,000-1,00,000 Rs.1,00,000-1,50,000
 Rs.1,50,000-2,00,000 above Rs.2,00,000

Family size:

1-3

4-6

above 6

Are you using induction stove?

Yes

No

If yes, mention the brand name

Prestige

Butterfly

Premier

Preethi

Others

10. State the source through which you came to know about the Induction Stove.

Words of mouth

Advertisements

Sales promotion

Point of purchase

Retailer

11. If Advertisement, state the media

Television

Internet

News Papers/ Magazine

Banner

Radio

12. What are the reasons for buying Induction Stove

Convenience

Time saving

Heating food

13. What is the mode of purchase of Induction Stove?

Cash

Installment

Credit Card

4. From whom do you buy?

Multi-brand dealer

Exclusive dealers

5. State the factors influencing you to prefer the Induction Stove

Price

Quality

Brand Name

Customer Service

After Sales Service

6. State whether you are satisfied with usage of Induction Stove

Highly satisfied

Satisfied

Dissatisfied

No opinion

Highly dissatisfied

7. Have you been provided with guarantee?

Yes

No

8. If yes what is the guarantee period

1 Year

2 Years

9. Do you switch over to any other product?

Yes

No

20. If yes, what reason and which product

What is your opinion with regard to the quality of Induction Stove

- Very good Good Perfect
 Satisfied Unsatisfied

Do you check for the ISI mark before buying a Induction Stove?

- Yes No Sometimes

How do you think the price of Induction Stove?

- Low Reasonable Very Reasonable
 High Very high

What is your opinion regard to life of Induction Stove?

- Long life Short life

Any other suggestion mention:



C509

C. Sree
8/4/19

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**NUMERICAL SOLUTION OF FUZZY DIFFERENTIAL
EQUATION BY USING RUNGE KUTTA METHOD OF ORDER
FIVE DISSERTATION**

*Submitted in partial fulfillment of the
Requirement for the degree
Of*

**MASTER OF SCIENCE IN MATHEMATICS
Of
BHARATHIDASAN UNIVERSITY**

Submitted by

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April-2019**

SOME CONNECTIVITY CONCEPTS IN BIPOLAR FUZZY GRAPHS

*Submitted in partial fulfillment of the
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FUZZY HYPERVECTOR SPACES

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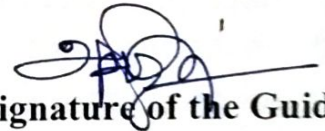
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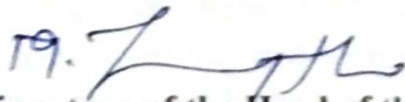
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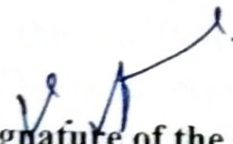
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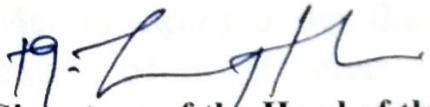

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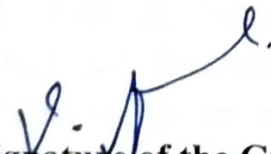


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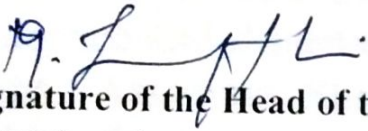
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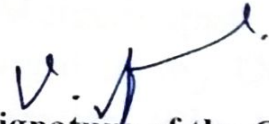
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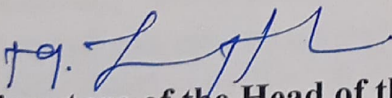


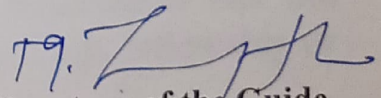
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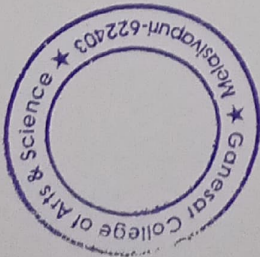
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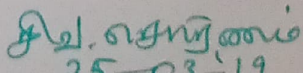
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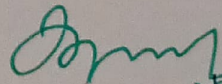
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DECLARATION

I hereby declare that the dissertation entitled, "**GRAPH PRODUCT OF RIGHT CANCELLATIVE MONOID**" submitted to the Ganesar college of Arts & Science is a partial fulfillment of the requirements for the award of the degree of master of science in mathematics is a record of work by me during the period **2018-2019** of my study in the Department of Mathematics, Ganesar College of Arts & Science, Melaisivapuri under the guidance and dissertation has not formed the award of my Degree, Diploma, Associate Ship, fellowship or other similar title to the candidate of university.

Place: Melaisivapuri

Date: 25.03.2019

M. Rojabanu .
Signature of the candidate

ACKNOWLEDGEMENT

My ultimate thanks goes to God almighty for giving me the strength and making the completion of this thesis possible.

I express my immense pleasure to thank our principal Dr. **SV.SORNAM** for this kind permission and motivation to do this project work.

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M.JEYANTHI M.Sc., M.phil., Assistant Professor in Mathematics, Ganesar college of Arts & Science has valuable guidance for the successful completion of the project along with the languages.

I feel happy to thank all the faculty members of our Department and my friends for their timely help extended during the course of Project.

I express my sweet thanks to my friends. I whole heartedly thank my parents and the almighty showering the blessing on me to do this project work successfully.

INDEX

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INTRODUCTION

In this Thesis we are interested in graph products of right cancellative monoids. Free products and restricted direct products are special cases of graph products and a free or restricted direct product of right cancellative monoid is again right cancellative. In chapter II in our first main result we generalize these observations to obtain a corresponding result for graph products. We then concentrate on right cancellative monoids in which the intersection of two principal left ideals is either principal or empty. Following the terminology from ring theory we call these monoids left LCM monoids. A useful concept in the study of these monoids is the notion of the inverse hull of a right cancellative monoids. In chapter III after generalities on inverse hulls we give several known characterizations of inverse hulls of left LCM monoids and use them to show that a graph product of left LCM monoids is itself left LCM. We then consider presentations for inverse hulls of graph products of left LCM monoids.

CHAPTER: I

DEFINITION: 1.1

A graph G consists of a pair $(V(G), X(G))$ where $V(G)$ is a non empty finite set whose elements are called points or vertices and $X(G)$ is a set of unordered pairs of distinct elements of $V(G)$. The element of $X(G)$ are called lines or edges of the graph G .

If $x = \{u, v\} \in X(G)$ the line x is said to join u and v . We write $x = uv$ and we say that the point's u and v are adjacent. We also say that the point u and the line x are incident with each other.

If two distinct lines x and y are incident with the common point then they are called adjacent lines. A graph with p points and q lines is called a (p, q) graph.

DEFINITION: 1.2

Two non parallel edges are said to be *adjacent* if they are incident on a common vertex.

DEFINITION: 1.3

Two graphs $G_1 = (V_1, X_1)$ and $G_2 = (V_2, X_2)$ are said to be isomorphic if there exists a bijection $f: V_1 \rightarrow V_2$ such that u, v are adjacent in G_1 if and only if $f(u), f(v)$ are adjacent in G_2 .

If G_1 is isomorphic to G_2 we write $G_1 \cong G_2$. The map f is called an *isomorphism* from G_1 to G_2 .

DEFINITION: 1.4

The definition of the graph does not allow more than one line joining two points. It also does not allow any line joining a point to itself such a line joining a point to itself is called a *Loop*.

DEFINITION: 1.5

A graph is said to be *embedded* in a surface S when it is drawn on S so that no two edges intersect ("Meeting" of edges at a vertex is not considered an intersection).

DEFINITION: 1.6

Let $x = uv$ be an edge of a graph G . Line x is said to be subdivided when a new point w is adjoined to G and the line x is replaced by the lines uw and wv . This process is also called an elementary subdivision of the edge x .

Two graphs are called *homeomorphic* if both can be obtained from the same graph by a sequence of subdivision of the lines.

EXAMPLE:

Any two cycles are *homeomorphic*.

DEFINITION: 1.7

The *product* $G_1 \times G_2$ is having $V = V_1 \times V_2$ and $u = (u_1, u_2)$ and $v = (v_1, v_2)$ are adjacent if $u_1 = v_1$ and u_2 is adjacent to v_2 in G_2 or u_1 is adjacent to v_1 in G_1 and $u_2 = v_2$.

CHAPTER: II

DEFINITION: 2.1

If a semigroup $\{M, *\}$ has an identity element with respect to the operation $*$, Then $\{M, *\}$ is called a monoid.

If for any $a, b, c \in M$, $(a*b)*c = a*(b*c)$ and if there exists an element $e \in M$ such that for any $a \in M$, $e*a = a*e = a$, then the algebraic system $\{M, *\}$ is called a *monoid*.

DEFINITION: 2.2

A *submonoid* of a monoid (M, \cdot) is a subset N of M that is closed under the monoid operation and contains the identity element e of M . Symbolically N is a submonoid of M in $N \subseteq M$, $X, Y \in N$ whenever $X, Y \in N$ and $e \in N$. N is thus a monoid under the binary operation inherited from M .

DEFINITION: 2.3

The set of all finite strings over some fixed alphabet Σ forms a monoid with string concatenation as the operation the empty string serves as the identity element this monoid is denoted Σ^* and is called the *free monoid* over Σ .

DEFINITION: 2.4

An inverse monoid is a monoid where for every a in M , then there exists a unique a^{-1} in M such that $a = a.a^{-1}.a$ and $a^{-1} = a^{-1}.a.a^{-1}$ if an *inverse monoid* is cancellation that it is a group.

DEFINITION: 2.5

A monoid for which the operation is *commutative* for some but not all elements is *trace monoid*. Trace monoids commonly occur in the theory of congruent computation.

DEFINITION: 2.6

The *artin monoid* associated with a coxeter matrix M is a monoid presented by

$$G_M^+ = \langle a_i (i \in I) \mid \langle a_i a_j \rangle^{m_{ij}} = \langle a_j a_i \rangle^{m_{ji}} (i, j \in I) \rangle^+,$$

Where we mean by the right hand side a quotient of the free monoid A^* by an equivalence relation on A^* defined as follows.

- (i) Two positive words $\omega, \omega' \in A^*$ are elementary equivalent if there are positive words $u, v \in A^*$ and indices $i, j \in I$ such that

$$\omega = u \langle a_i a_j \rangle^{m,j} v \text{ and } \omega' = u \langle a_i a_j \rangle^{m,j} v$$

(ii) Two words $\omega, \omega' \in A^*$ are equivalent if there is a sequence

$$\omega_0 = \omega, \omega_1, \dots, \omega_k = \omega'$$

for some $k \in \mathbb{Z}_{\geq 0}$ such that ω_i is elementary equivalent to ω_{i+1} for

$$i = 0, 1, \dots, k-1.$$

DEFINITION: 2.7

Let S be a semigroup. If every element in S is both left cancellative and right cancellative then S is called a *cancellative semigroup*.

DEFINITION: 2.8

Let S be semigroup. An element a in S is right cancellative ((or), is right cancellable (or) has the cancellation property) if $ba = ca$ implies $b = c$ for all b and c in S . If every element in S is right cancellative then S is called a *right cancellative semigroup*.

DEFINITION: 2.9

Let S be a semigroup. An element a in S left cancellative ((or), is left cancellable (or) has the left cancellation property) if $ab = ac$ implies that $b = c$ for

all b and c in S . If every element in S is left cancellative then S is called a *left cancellative semigroup*.

DEFINITION: 2.10

The set of non negative integers under addition is cancellative monoids. The set positive integer under multiplication is cancellative monoid. In such a semigroup there is no element which is either *left cancellative and right cancellative monoid*.

GRAPH PRODUCTS:

Consider a graph $\Gamma = (V, E)$ is a set V of *vertices* together with an irreflexive symmetric relation $E \subseteq V \times V$ whose elements are called *edges*. In particular Γ is loop free u and v are *adjacent* in Γ if $(u, v) \in E$. For each $v \in V$ Let M_v be a monoid; whenever necessary, without loss of generality assume the monoids M_v are disjoint.

Denote the free product of the M_v by $\coprod * M_v$ and write $x.y$ for the product of $x, y \in \coprod * M_v$. Define the *graph product* $\Gamma_{\text{rel}} M_v$ of the M_v to be the quotient of $\coprod * M_v$ factored by the congruence generated by the relation

$$R_\Gamma = \{(m \bullet n, n \bullet m) : m \in M_u, n \in M_v \text{ and } u, v \text{ are adjacent in } \Gamma\}.$$

Alternatively, if for each M_v we have a presentation $\langle A_v | R_v \rangle$, then

$\Gamma_{v \in V} M_v$ is the monoid with presentation $\langle A | R \rangle$ where and

$$A = \bigcup_{v \in V} A_v \text{ and } R = \bigcup_{(u,v) \in E} \{ab = ba : a \in A_u, b \in A_v\} \cup \bigcup_{v \in V} R_v.$$

Let $M = \Gamma_{v \in V} M_v$. The M_v are called the *components* of M , multiplication in both M and its components is denoted by concatenation. If the graph has no edges, M is the free product of the M_v , and at the other extreme, if the graph is complete, M is their restricted direct product.

A special case of interest is when all the M_v are isomorphic to the additive monoid of non-negative integers. The graph product is then called a *graph monoid* and denoted by $M(\Gamma)$. Graph monoids are also known variously as *free partially commutative monoids*, *right-angled Artin monoids*, and *trace monoids*. These monoids and the corresponding groups have been extensively investigated.

Now let X be the disjoint union of the $M_v \setminus \{1\}$, and for $m \in M_v \setminus \{1\}$ write $C(m) = v$. Denote the product in the free monoid X^* by $x \circ y$ to distinguish it from the products in M and the M_v . Clearly there is a canonical surjective homomorphism $\sigma : X^* \rightarrow M$ so that each element a of M can be represented by an element of X^* , called an *expression* for a .

THEOREM If $x_1 \circ x_2 \circ \dots \circ x_n \in X^*$ is an expression for $a \in M$, the x_i are the *components* of the expression, and if $C(x_i) = v$, then x_i is a v -component. If x_i and x_{i+1} are both v -components, then we may obtain a shorter expression for a by joining *amalgamating* x_i and x_{i+1} : if $x_i, x_{i+1} \in M_v$ and $x_i x_{i+1} = 1$ delete $x_i \circ x_{i+1}$; otherwise replace it by the single element y_i of M_v where $y_i = x_i x_{i+1}$ in M_v .

If $(C(x_j), C(x_{j+1})) \in E$ for some j , then we may obtain a different expression for a by replacing $x_j \circ x_{j+1}$ by $x_{j+1} \circ x_j$. Such a move is called a *shuffle*. Two expressions are *shuffle equivalent* if one can be obtained from the other by a sequence of shuffles.

COROLLARY A *reduced expression* is an element $x_1 \circ x_2 \circ \dots \circ x_n \in X^*$ which satisfies

- (i) Whenever $i < j$ and $C(x_i) = C(x_j)$, there exist k with $i < k < j$ and

$$(C(x_i), C(x_k)) \notin E.$$

DEFINITION: 2.1

A subset U of a monoid M is *right unitary* in M if for all element $m \in M$ & $u \in U$ we have $m \in U$ if $mu \in U$. There is a dual notion of *left unitary*, and U is *unitary* in M if it is both right and left unitary.

THEOREM: 2.1.1

Every element of M is represented by a reduced expression. Two reduced expressions represent the same element of M if and only if they are shuffle equivalent.

PROOF:

The length of an expression is its length as an element of the free monoid X^* ; it is clear that shuffle equivalent expressions have the same length, and so, in view of the theorem, all reduced expressions representing a given element of M have the same length.

COROLLARY: 2.1.2

Each M_v is a *unitary submonoid* of M .

PROOF:

If $c \in M_v$, $a \in M$ and $ac \in M_v$, then ac must have length 1 (or zero) and it follows that $a \in M_v$. Thus M_v is right unitary in M , and similarly, it is left unitary.

DEFINITION: 2.2

Let $a, a' \in M$, $v \in V$ and $c \in M_v \setminus \{1\}$. We say that a has a *final v -Component* c and *final v -complement* a' if a admits a reduced expression

$a_1 \circ a_2 \circ \dots \circ a_m \circ c$ such that $a_1 a_2 \dots a_m = a'$. We say that a has *final v-component* 1 and final v-complement a if a reduced expression $a_1 \circ a_2 \circ \dots \circ a_m$ such that either

(i) $C(a_j) \neq v$ for all j ; or

(ii) There exists k with $(C(a_k), v) \in E$ and $C(a_j) \neq v$ for all $j \geq k$.

PROPOSITION: 2.1.3

For each vertex v each element of M has exactly one final v -component and exactly one final v - complement.

PROOF:

Suppose $x \in M$ and let $a_1 \circ \dots \circ a_m$ be a reduced expression for x . If condition

(i) $C(a_j) \neq v$ for all j ; or

(ii) There exists k with $(C(a_k), v) \in E$ and $C(a_j) \neq v$ for all $j \geq k$.

Apply then by definition x has final v - component 1 and final v - complement

x . Otherwise There is a largest integer j with $C(a_j) = v$.

If $(C(a_k), v) \in E$ for some $k > j$, then condition (ii) holds. Hence $(C(a_k), v) \in E$

for all $k > j$, and it follows easily that one can shuffle a_j to the end to obtain a

reduced expression $a = a_1 \circ \dots \circ a_{j-1} \circ a_{j+1} \circ \dots \circ a_m \circ a_j$.

So that x has final v -component a_j and final v -complement $a_1 \dots a_{j-1} a_{j+1} \dots a_m$. For uniqueness suppose first for a contradiction that x has distinct final v -complements 1 and $d \neq 1$. Then x has reduced expression $a = a_1 \circ \dots \circ a_m$ and $b = b_1 \circ \dots \circ b_n \circ d$ where either

- (i) $C(a_j) \neq v$ for all j ; or
- (ii) There exists k with $(C(a_k), v) \notin E$ and $C(a_j) \neq v$ for all $j > k$.

By theorem 2.1.1, b can be obtained from a by a sequence of shuffles. But clearly in has (i) Such a shuffle can never introduce a v -component while in has (ii) no such shuffle can change the fact that there exists a_k with $(C(a_k), v) \notin E$ and $C(a_j) \neq v$ for all $j > k$.

Since b does not satisfy either of the conditions (i) or (ii), this gives a contradiction. Suppose now that x has reduced expression $a = a_1 \circ \dots \circ a_m \circ c$ and $b = b_1 \circ \dots \circ b_n \circ d$ where $c, d \in M_v$, $c \neq 1, d \neq 1$. By theorem 1.1, b can be obtained from a by a sequence of shuffles. It is clear that no such shuffle can change the value of the last v -component, we have $c = d$.

We have to prove that final v - complements are unique. If the unique final v -component of x is 1 then we have that x is the unique final v - complement of itself, so there is nothing to prove. So suppose x has final v -component $c \neq 1$, and that there are reduced expressions $a = a_1 \circ \dots \circ a_m \circ c$ and $b = b_1 \circ \dots \circ b_m \circ c$ for x .

Now by Theorem 2.1.1, there is a sequence of shuffles which takes a to b . Which involve the final V -component c of the word, we obtain a sequence of shuffles which can be applied to $a_1 \circ \dots \circ a_m$ to yield $b_1 \circ \dots \circ b_m$.

Since these expressions are reduced follows by Theorem 1.1 again that $a_1 \circ \dots \circ a_m$ and $b_1 \circ \dots \circ b_m$ represent the same element. Thus, x has exactly one final v -complement.

LEMMA: 2.1.4

Let $a \in M$ and $c \in M$ suppose a has final v -component d and final v -complement a' . Then ac has final v -component dc and final. v -complement a' .

PROOF:

Suppose first that a has final v -component $d \neq 1$. Then a has a reduced expression of the form $a_1 \circ a_2 \circ \dots \circ a_m \circ d$ where $a_1 \circ a_2 \circ \dots \circ a_m$ is a reduced expression for

a' . If $dc \neq 1$ then clearly $a_1 \circ a_2 \circ \dots \circ a_m \circ (dc)$ is a reduced expression for ac , from which the required result is obtained.

On the other hand if $dc = 1$ then $a_1 \circ a_2 \circ \dots \circ a_m$ is reduced expression for $ac = a'$, $dc = a'$. It follows easily from the fact that (1) is reduced that either this expression contains no v -component or there exists k such that $(C(a_k), v) \notin E$ and $a_j \notin v$ for all $j \geq k$.

Thus ac has final v -component 1 and final v -complement a' as required. Now consider the case in which a has final v -component $d = 1$. Then a has a reduced expression $a_1 \circ a_2 \circ \dots \circ a_m$ where $a = a' = a_1 a_2 \dots a_m$ and either

(i) $C(a_j) \neq v$ for all j ; or

(ii) There exists k with $(C(a_k), v) \notin E$ and $C(a_j) \neq v$ for all $j \geq k$.

In both cases it is easy to check that $a_1 \circ a_2 \circ \dots \circ a_m \circ c$ is a reduced expression for ac from which it follows that ac has final v -component $dc = c$ and final v -component $a = a'$ as required.

THEOREM: 2.1.5

A graph product of right [respectively left, two-sided] cancellative monoids is right [respectively left, two-sided] cancellative.

PROOF:

We prove the result for right cancellative monoids. The corresponding result for left cancellative monoid is proved similarly using initial v -components and complements and the result for cancellative monoids is an immediate consequence of the one-sided results.

Since the graph product monoid is generated by elements from the embedded components it suffices to show that element of the embedded components are right cancellable that is that $ac = bc$ implies $a = b$ whenever c belongs M_v , for some $v \in V$.

Suppose that a and b have unique final v -components d and e respectively and unique final v -components a' and b' respectively. Then by the preceding lemma ac has a final v -component dc and final v -complement a' while bc has final v -component ec and final v -complement b' .

PROPOSITION: Since $ac = bc$ we deduce from theorem 2.1.3 that $dc = ec$ and $a' = b'$.
 But d, e and c lie in M_v , which by assumption is right cancellative, so we deduce that
 $d = e$ and hence that $a = a', d = b', e = b$.

PROPOSITION: 2.1.6

Let N be a monoid and suppose that for each $v \in V$ There is a homomorphism there $\varphi_v : M_v \rightarrow N$ such that $(x\varphi_v)(y\varphi_u) = (y\varphi_u)(x\varphi_v)$ for all $(u, v) \in E$ and all $x \in M_v, y \in M_u$. Put $M = \Gamma_{v \in V} M_v$. Then there is a unique homomorphism $\varphi : M \rightarrow N$ such that $x\varphi = x\varphi_v$ for all $x \in M_v$ and all $v \in V$.

PROOF:

For each $v \in V$, let $\langle A_v | R_v \rangle$ be a presentation for M_v and let $\langle A | R \rangle$ be the presentation for M as at the beginning of the section. Let $\theta : A \rightarrow N$ be the function given by $a\theta = a\varphi_v$, where M_v is the unique monoid containing a .

Since each φ_v is a homomorphism, θ respects the relations in each R_v and by hypothesis θ also respects all the other relations in R . Hence there is a unique homomorphism $\varphi : M \rightarrow N$ which restricts to θ on A and hence to φ_v on each M_v .

PROPOSITION: 2.1.7

Let Γ be a graph V its set of vertices and $\{M_v\}_{v \in V}, \{N_v\}_{v \in V}$ families of monoids. Let $M = \prod_{v \in V} M_v$ and $N = \prod_{v \in V} N_v$. Then given homomorphism $\varphi_v : M_v \rightarrow N_v$ for each $v \in V$ there is a unique homomorphism $\varphi : M \rightarrow N$ such that $m_v \varphi = m_v \varphi_v$ for all $v \in V$. Moreover if each φ_v is injective then so is φ .

PROOF:

By the above theorem. Let $a, b \in M$ with $a\varphi = b\varphi$ and suppose that a, b have reduced expressions $a_1 \circ \dots \circ a_m$ and $b_1 \circ \dots \circ b_n$ respectively where $a_i \in M_{u_i}$ and $b_j \in M_{v_j}$. Then $(a_1 \varphi_{u_1}) \dots (a_m \varphi_{u_m}) = a\varphi = b\varphi = (b_1 \varphi_{v_1}) \dots (b_n \varphi_{v_n})$ and since the φ_v are injective, we have that both $(a_1 \varphi_{u_1}) \circ \dots \circ (a_m \varphi_{u_m})$ and $(b_1 \varphi_{v_1}) \circ \dots \circ (b_n \varphi_{v_n})$ are reduced expressions for $a\varphi$. Hence they are shuffle equivalent so that $m = n$ and for some permutation σ we have $a_i \varphi_{u_i} = b_{i\sigma} \varphi_{u_{i\sigma}}$ for all i .

Since $\text{im } \varphi_v \subseteq N_v$ for all v , we see that $u_i = v_{i\sigma}$ for each i , and so $a_i = b_{i\sigma}$ since φ_{u_i} is injective. Clear that $a_1 \circ \dots \circ a_m$ and $b_1 \circ \dots \circ b_n$ are shuffle equivalent so that $a = b$ and hence φ is injective.

COROLLARY: 2.1.8

Let Γ be a graph with vertex set V . If for each $v \in V$ the monoid M_v is embeddable in a group G_v , then the graph product ΓM_v is embeddable in the group ΓG_v .

DEFINITION: 2.3

Right cancellative monoids which satisfy the condition that the intersection of two principal left ideals is either principal or empty. A right cancellative monoid satisfying this condition is called a *left LCM monoid*. A graph product of left LCM monoids is again a left LCM monoid.

DEFINITION: 2.4

For a right cancellative monoid C and $a, b \in C$, we say that a is *left multiple* of b (and that b is a *right factor or divisor of a*) if $a = cb$ for some $c \in C$. If m is a left multiple of both b and d , we say it is a *common left multiple* of these elements, and such a common left multiple m is a *least common left multiple (LCLM)* of b and d if every common left multiple of b and d is a left multiple of m . Equivalently, m is an LCLM of b and d if and only if $Cb \cap Cd = Cm$.

NOTE: 1

Least common left multiples are sometimes known as left least common multiples. We note that a left LCM monoid is a right cancellative monoid in which any two elements having a common left multiple have an LCLM.

DEFINITION: 2.5

In ring theory an integral domain (not necessarily commutative) is called a *left LCM domain* if the intersection of any two principal left ideals is principal. An integral domain R is left LCM domain if and only if the cancellative monoid of its non-zero elements is a left LCM monoid.

DEFINITION: 2.6

Highest common right factors (HCRF). An element d of C is an HCRF of a and b in C if and only if Cd is the least upper bound of Ca and Cb in the partially ordered set of principal left ideals of C .

REMARK: 1

LCLMs and HCRFs are not uniquely determined in general being defined only up to left multiplication by a unit. If C is actually cancellative, *common right multiple*, *common left factor*, LCRM and HCLF are defined symmetrically.

CHAPTER: III

INVERSE HULLS:

An **inverse monoid** is a monoid M such that for all $a \in M$ there is a unique $b \in M$ such that $aba = a$ and $bab = b$. The element b is the **inverse** of a and is denoted by a^{-1} . It is worth noting that $(a^{-1})^{-1} = a$ and $(ab)^{-1} = b^{-1}a^{-1}$ for all $a, b \in M$.

The set of idempotent $E(M)$ of M forms a commutative submonoid referred to as the **semilattice of idempotent** of M . In fact a monoid M is an inverse monoid if and only if $E(M)$ is a commutative submonoid and for every $a \in M$ there is an element $b \in M$ such that $aba = a$ (that is M is regular).

An **inverse submonoid** of an inverse monoid M is simply a submonoid N closed under taking inverses. For a non empty set X **partial permutation** is a bijection $\sigma: Y \rightarrow Z$ for some subsets Y, Z of X . We allow Y and Z to be empty so that that empty function is regarded as a partial permutation.

The set of all partial permutations of X is made into a monoid by using the usual rule for composition of partial functions; it is called the **symmetric inverse monoid** on X and denoted by J_X . That it is an inverse monoid follows

from the fact that if σ is partial permutation of X then so is its inverse as a function σ^{-1} and this is the inverse of σ in \mathcal{J}_X in the sense above.

The idempotent of \mathcal{J}_X are the *partial identities* ε_Y for all subsets Y of X where ε_Y is the identity map on the subset Y . It is clear that for $Y, Z \subset X$, we have $\varepsilon_Y \varepsilon_Z = \varepsilon_{Y \cap Z}$ and hence that $E(\mathcal{J}_X)$ is isomorphic to the Boolean algebra of all subsets of X .

The concept of an inverse hull was introduced Rees [28] to give an iterative proof of Ore's theorem about the existence of a group of fractions of a left or right Ore cancellative monoid C . The name was introduced in [7], where the inverse hull of a right cancellative semigroup C is defined.

A detailed study of the inverse hull is carried out in [5] where the authors use a definition slightly different from that in [7]. However the two definitions coincide in the case of inverse hulls right cancellative monoids the only case that we consider.

GENERALITIES ABOUT INVERSE HULLS:

Let C be a right cancellative monoid. For an element a of C the mapping ρ_a with domain C defined by $x\rho_a = xa$ is the *inner right translation* of C determined by a . It is injective since C is right cancellative and so it can be

regarded as a member of \mathcal{J}_C .

The inverse submonoid of \mathcal{J}_C generated by all the inner right translations of C is the *inverse hull* $IH(C)$. The inverse of ρ_a is of course the partial map $\rho_a^{-1}: C_a \rightarrow C$ so if C not a group then $IH(C)$ contains maps which are not total.

The mapping $\eta: C \rightarrow IH(C)$ given by $a\eta = \rho_a$ is an embedding of C into $IH(C)$. Moreover $C\eta$ is the right unit subsemigroup of $IH(C)$ that is it consists of those elements $\rho \in IH(C)$ for which there is an element τ with $\rho\tau = 1_C$.

The group of units of $IH(C)$ is $G\eta$ where G is the group of units of C . The left unit submonoid L of $IH(C)$ consists of an elements ρ_c^{-1} for $c \in C$. For notational convenience we introduce a left cancellative monoid C^{-1} containing G as its group of units and such that there is an anti-isomorphism $c \mapsto c^{-1}$ from C to C^{-1} .

Here if $c \in G$ then c^{-1} is its inverse in G and if $c \notin G$ then c^{-1} is a new symbol. We can now extend η from G to an isomorphism also denoted by η from C^{-1} to L , given by $c^{-1}\eta = \rho_c^{-1}$. We remark that if C is a group then every inner right translation is a permutation of C and η is just the Cayley representation of C .

The empty mapping \emptyset is sometimes a member of $IH(C)$. When it is the zero of $IH(C)$. For case of expression of some results we often state them in terms of $IH^0(C)$ where we define $IH(C)$ to be the submonoid $IH(C) \cup \{\emptyset\}$ of J_C .

Clearly if $a_1, \dots, a_n, b_1, \dots, b_n$ are elements of C then $\rho = \rho_{a_1} \rho_{b_1}^{-1} \dots \rho_{a_n} \rho_{b_n}^{-1}$ is a member of $IH(C)$. It is easy to verify that every element of $IH(C)$ can be expressed in this way (see [5, Theorem 3.1.4]) using the fact that if $a, b \in C$ then $\rho_a \rho_b = \rho_{ab}$ and $\rho_a^{-1} \rho_b^{-1} = \rho_{ba}^{-1}$.

Thus every element can be written in the form $(a_1 \eta)(b_1^{-1} \eta) \dots (a_n \eta)(b_n^{-1} \eta)$. It is noted in [7] that the inverse hull of an infinite cyclic monoid $\{x\}^*$ is the bicyclic monoid.

They give several characterizations of polycyclic monoids and in particular show that the Polycyclic monoid P_X on a set X with more than one element has the following presentation as a monoid with zero:

$$\langle X \cup X^{-1} \mid xx^{-1} = 1, xy^{-1} = 0 \text{ for } x \neq y (x, y \in X) \rangle.$$

LEMMA: 3.1.1

Let C be a right cancellative monoid and let $a, b, c, d \in C$. Then in $IH(C)$, $\rho_a^{-1}\rho_b \leq \rho_c^{-1}\rho_d$ if and only if $a = xc$ and $b = xd$ for some $x \in C$.

PROOF:

$\rho_a^{-1}\rho_b \leq \rho_c^{-1}\rho_d$ then $a \in \text{dom}\rho_a^{-1}\rho_b$, so $a \in \text{dom}\rho_c^{-1}\rho_d$ that is $a \in Cc$ say

$$a = xc. \text{ Then } b = a\rho_a^{-1}\rho_b = a\rho_c^{-1}\rho_d = xd.$$

Conversely,

$$\rho_a^{-1}\rho_b = \rho_c^{-1}\rho_x^{-1}\rho_x\rho_d \leq \rho_c^{-1}\rho_d.$$

COROLLARY: 3.1.2

Let C be a right cancellative monoid and let $a, b, c, d \in C$. Then in $IH(C)$, $\rho_a^{-1}\rho_b = \rho_c^{-1}\rho_d$ if and only if $a = uc$ & $b = ud$ for some unit $u \in C$.

PROOF:

By theorem 3.1.1 there are elements $x, y \in C$ such that $a = xc, b = xd, c = ya$ & $d = yb$. Hence $a = xya$ and by right cancellation, $1 = xy$. It follows that x and y are units.

NOTE: 1

In any monoid M , Green's relation \mathfrak{R} is defined by the rule that $a\mathfrak{R}b$ if and only if $aM=bM$. The relation \mathcal{L} is the left-right dual of \mathfrak{R} ; we define $\mathcal{H}=\mathfrak{R}\cap\mathcal{L}$ and $\mathcal{D}=\mathfrak{R}\vee\mathcal{L}$. In fact, by [16, Proposition 2.1.3], $\mathcal{D}=\mathfrak{R}\circ\mathcal{L}=\mathcal{L}\circ\mathfrak{R}$. Finally $a\mathcal{J}b$ if and only if $MaM=MbM$. In inverse monoid $a\mathfrak{R}b$ if and only if $aa^{-1}=bb^{-1}$ and similarly $a\mathcal{L}b$ if and only if $a^{-1}a=b^{-1}b$. In \mathcal{J}_x we have $\rho\mathfrak{R}\sigma$ if and only if $\text{dom}\rho=\text{dom}\sigma$, and $\rho\mathcal{L}\sigma$ if and only if $\text{im}\rho=\text{im}\sigma$.

PROPOSITION: 3.1.3

The following are equivalent for a right cancellative monoid C :

- (1) $I\mathcal{H}^0(C)$ is 0- bisimple,
- (2) The domain of each non zero element of $I\mathcal{H}^0(C)$ is a principal left ideal,
- (3) C is a left LCM monoid,
- (4) Every non zero element of $I\mathcal{H}^0(C)$ can be written in the form $\rho_c^{-1}\rho d$ for some $c, d \in C$.

PROOF:

Suppose that (1) holds and let ρ be a non zero element of $I\mathcal{H}^0(C)$. Then

ρ is \mathfrak{D} -related to the identity and so \mathfrak{R} -related to an element σ of the left unit submonoid. Hence $\text{dom } \rho = \text{dom } \sigma$ and since $\sigma = \rho_a^{-1}$ for some $a \in C$ we have $\text{dom } \rho = Ca$ so that (2) holds and $a, b \in C$, then since $Ca \cap Cb$ is the domain of $\rho_a^{-1} \rho_a \rho_b^{-1} \rho b$ we see that $Ca \cap Cb$ is either principal or empty. Thus (3) holds.

Now suppose that (3) holds and let ρ be a non zero element of $IH^0(C)$. We have noted that $\rho = \rho_{a_1} \rho_{b_1}^{-1} \dots \rho_{a_n} \rho_{b_n}^{-1}$ for some $a_i, b_i \in C$ and so it is enough to show that if $c, d \in C$ and $\rho_c \rho_d^{-1}$ is non zero then for some $a, b \in C$ we have $\rho_c \rho_d^{-1} = \rho_a^{-1} \rho b$. Now the domain of $\rho_c \rho_d^{-1}$ is $(Cc \cap Cd) \rho_c^{-1}$ and by assumption $(Cc \cap Cd) = Cs$ for some $s \in C$. Thus $s = rc = td$ for some $r, t \in C$ and an easy calculation shows that $\rho_c \rho_d^{-1} = \rho_r^{-1} \rho t$. Finally, if (4) holds, let $\rho = \rho_a^{-1} \rho b$ be a non zero element of $IH^0(C)$.

Now ρ_a^{-1} is \mathcal{L} -related to the identity, and since \mathcal{L} is a right congruence we get $\rho \mathcal{L} \rho b$. But $\rho b \mathfrak{R} 1$, so ρ is \mathfrak{D} -related to the identity and (1) follows.

LEMMA: 3.1.4

Let $\Gamma = (V, E)$ be a graph and for each $v \in V$, let C_v be a right cancellative monoid and $C = \prod_{v \in V} C_v$. Let c, d be non units in C_v, C_u respectively where $(u, v) \in E$. Then $Cc \cap Cd = Ccd$.

PROOF:

Since $(u, v) \in E$ we have $cd = dc$ so that $Ccd \subseteq Cc \cap Cd$. Now suppose that $a \in Cc \cap Cd$ so that $a = sc = td$ for some $s, t \in C$ by theorem 1.4, a has final v -component $c'e$ and final u component $d'd$ where c' is the final v -component of s & d' is the final u -component of t .

Neither $c'e$ nor $d'd$ can be 1 since c, d are not units. Thus a has reduced expression $x_1 \circ \dots \circ x_n \circ (c'e)$ and $y_1 \circ \dots \circ y_m \circ (d'd)$ which by theorem 2.1.1 must be shuffle equivalent. Hence one of the x_i , say x_j must be $d'd$ and one can shuffle it to the end

to obtain a reduced expression $x_1 \circ \dots \circ x_{j-1} \circ x_{j+1} \circ \dots \circ x_n \circ (c'e) \circ (d'd)$.

For a . Hence $a = x_1 \dots x_{j-1} x_{j+1} \dots x_n (c'e)(d'd)$, and since $c \in C_v, d' \in C_u$ so that $cd' = d'c$ ($(u, v) \in E$) we have $a = x_1 \dots x_{j-1} x_{j+1} \dots x_n c'd'ed \in Ccd$.

THEOREM: 3.1.5

Let $\Gamma = (V, E)$ be a graph and for each $v \in V$, let C_v be a left LCM monoid. Then the graph product $C = \Gamma_{v \in V} C_v$ is also a left LCM monoid.

PROOF:

By a theorem C is right cancellative monoid. To prove that C is a left LCM monoid, we show that every non zero element of $IH^0(C)$ can be written in the form $\rho_a^{-1} \rho b$ for some $a, b \in C$.

We claim that if $c, d \in C$ and $\tau = \rho c \rho_d^{-1}$ is non zero then $\tau = \rho_a^{-1} \rho b$ for some $a, b \in C$. The result follows from this claim and our earlier observation that every non zero element of $IH^0(C)$ can be written in the form $\rho_{a_1} \rho_{b_1}^{-1} \dots \rho_{a_n} \rho_{b_n}^{-1}$.

We note that the claim is true if one of c, d is a unit: if $r = c^{-1}$ exists then $\tau = \rho_{r^{-1}} \rho_d^{-1} = \rho_r^{-1} \rho_d^{-1} = \rho_{dr}^{-1} = \rho_{dr}^{-1} \rho 1$,

And if d is a unit then $\rho_c \rho_d^{-1} = \rho c \rho_{d^{-1}} = \rho_{cd^{-1}} = \rho_1^{-1} \rho_{cd^{-1}}$.

We now assume that c, d are both non units and continue by proving the claim in the case when c has length 1, that is, $c \in C_v$ for some $v \in V$. Suppose that d has length 1. If $d \in C_v$, then $\tau = \rho_a^{-1} \rho b$ since C_v is a left LCM monoid.

Let $d \in C_u$ with $u \neq v$. If $(u, v) \notin E$; then no reduced expression ending in c is shuffle equivalent to one ending in d and it follows that $Cc \cap Cd = \emptyset$. Thus $\tau = \emptyset$, a contradiction. Hence $(u, v) \in E$ so that $cd = dc$. By theorem 3.1.4 $Cc \cap Cd = Ccd$.

It follows that $\text{dom } \rho_c \rho_d^{-1} = Cd = \text{dom } \rho_d^{-1} \rho_c$ and it easily verified that $\rho_c \rho_d^{-1} = \rho_d^{-1} \rho_c$. Hence the claim holds for all c and d of length 1; in fact, we have $\rho_c \rho_d^{-1} = \rho_a^{-1} \rho_b$ where a and b also have length 1. Let $c, d \in C$ have reduced expressions $c_1 \circ \dots \circ c_n$ and $d_1 \circ \dots \circ d_k$ so that $\rho_c \rho_d^{-1} = \rho_{c_1} \dots \rho_{c_n} \rho_{d_1}^{-1} \dots \rho_{d_k}^{-1}$. Now apply the case for $n=1$ repeatedly.

LEMMA: 3.1.6

Let $\Gamma = (V, E)$ be a graph and for each $v \in V$, let C_v be a left LCM monoid and let $C = \Gamma_{v \in V} C_v$. If $x, y \in C_v$ for some $v \in V$, then $C_v x \cap C_v y = \emptyset$ if and only if $Cx \cap Cy = \emptyset$. Moreover, if $C_v x \cap C_v y = C_v z$, then $Cx \cap Cy = Cz$.

PROOF:

Clearly, if $Cx \cap Cy = \emptyset$, then $C_v x \cap C_v y = \emptyset$. Conversely, suppose that $ax = by$ for some $a, b \in C$. Let a and b have final v -components c and d respectively. Then by theorem 2.1.4, ax has final v -components ax and by has final v -component dy .

But $ax = by$, so by theorem 2.1.3, $cx = by \in C_v x \cap C_v y$. Suppose that $C_v x \cap C_v y = C_v z$; then certainly, $Cz \subseteq Cx \cap Cy$. If $r = ax = by$ for some $a, b \in C$, then applying theorem 1.4, and theorem 1.3, again we see that r has final v -component $cx = dy$ where c and d are the final v -components of a and b respectively.

Thus $cx \in C_v x \cap C_v y$ so $cx = mz$ for some $m \in C_v$ and if r' is the final v -complement of r , then $r = r'mz \in Cz$ as required.

PROPOSITION: 3.1.7

If C is the graph product $\Gamma_{v \in V} C_v$ of left LCM monoids C_v , then, for each $v \in V$, The inverse hull $IH^0(C_v)$ is embedded in $IH^0(C)$.

PROOF:

For $x \in C_v$ denote the inner right translations of C_v and C determined by x by ρ_x and δ_x respectively. Non zero elements of $IH^0(C_v)$ have the form $\rho_x^{-1} \rho y$ and so we can define $\theta: IH^0(C_v) \rightarrow IH^0(C)$ by $0\theta = 0$ and $(\rho_x^{-1} \rho y)\theta = \delta_x^{-1} \delta y$.

To see that θ is well defined, suppose that $\rho_x^{-1} \rho y = \rho_z^{-1} \rho t$. Then $x = uz$ & $y = ut$ for some unit u of C_v . Certainly u is a unit of C so we have $\delta_x^{-1} \delta y = \delta_z^{-1} \delta t$, as required. To see that θ is injective, suppose that $\delta_x^{-1} \delta y = \delta_z^{-1} \delta t$

where $x, y, z, t \in C_v$. Then by theorem 3.1.2 we have $x = qz$ and $y = qt$ for some unit q of C .

By theorem 2.1.2, C_v is unitary in C , and since $q, t \in C_v$, we have $q \in C_v$. It is easy to see that q^{-1} is also in C_v , so that q is a unit of C_v and so $\rho_x^{-1}\rho_y = \rho_z^{-1}\rho_t$ as required. Finally, we show that θ is a homomorphism. Let $\rho_x^{-1}\rho_y, \rho_z^{-1}\rho_t$ be elements of $IH^0(C_v)$. If $C_v \cap C_w = \emptyset$, then $C_y \cap C_z = \emptyset$.

We have $(\rho_x^{-1}\rho_y)(\rho_z^{-1}\rho_t) = 0$, and since C is a left LCM, we also have $(\delta_x^{-1}\delta_y)(\delta_z^{-1}\delta_t) = 0$. If $C_v \cap C_w \neq \emptyset$, then since C_v is an LCM monoid we have $C_y \cap C_z = C_v a$ for some $a \in C_v$, say $a = ry = sz$ where $r, s \in C_v$. We have $C_y \cap C_z = Ca$ and so by the rule for multiplication we see that $(\rho_x^{-1}\rho_y)(\rho_z^{-1}\rho_t) = \rho_{rx}^{-1}\rho_{st}^{-1}$ and $(\delta_x^{-1}\delta_y)(\delta_z^{-1}\delta_t) = \delta_{rx}^{-1}\delta_{st}^{-1}$. It follows that θ is a homomorphism as required.

INVERSE HULLS OF GRAPH PRODUCTS OF LEFT LCM MONOIDS:

Let $\Gamma = (V, E)$ be a graph and $\{C_v\}_{v \in V}$ be a family of left LCM monoids. Let $C = \Gamma_{v \in V} C_v$ be the graph product of the C_v ; We have just proved that C is also a left LCM monoid. Let D be any right cancellative monoid with group of units G

and Y be a symmetric set of monoid generators for G . That is $y \in Y$ if and only if $y^{-1} \in Y$. We assume that $1 \notin Y$ and take Y to be empty if $G = \{1\}$.

Let X be a set non units in D such that $X \cup Y$ generates D . Let $X^{-1} = \{x^{-1} : x \in X\}$ be a set disjoint from X such that $x \mapsto x^{-1}$ is a bijection, and $X^{-1} \cup Y$ generates the left cancellative monoid D^{-1} anti-isomorphic to D .

Since any element of $IH(D)$ can be written in the form $\rho_{a_1} \rho_{b_1}^{-1} \dots \rho_{a_n} \rho_{b_n}^{-1}$, it follows that there is a homomorphism from the free monoid $(X \cup X^{-1} \cup Y)^*$ onto $IH(D)$ which sends x to ρ_x , y to ρ_y and x^{-1} to ρ_x^{-1} .

Thus $IH(D)$ has a presentation of the form $\langle X \cup X^{-1} \cup Y \mid R \rangle$ for some set of relations R . We can also regard $\langle X \cup X^{-1} \cup Y \mid R \rangle$ as a presentation for $IH^0(D)$ in the class of monoids with zero.

Since $\rho_x \rho_x^{-1} = 1$ for all $x \in X$. We can assume that $xx^{-1} = 1$ is a relation in R for every $x \in X$. Similarly, since ρ_y is a unit for all $y \in Y$, we can assume that we have relations $yy^{-1} = 1 = y^{-1}y$ in R for all $y \in Y$.

Let $C^{-1} = \Gamma_{v \in V} C_v^{-1}$ be the graph product of the right cancellative monoid C_v^{-1} . The common group of units of C_v and C_v^{-1} is $G = \Gamma_{v \in V} G_v$. Now put $S_v = IH^0(C_v)$ for each $v \in V$, and let $\langle X_v \cup X_v^{-1} \cup Y_v \mid R_v \rangle$ be a presentation for S_v . x_v, y_v denote the

element of $X_v \cup Y_v$ and z_v denotes the any element of $Z_v = X_v \cup X_v^{-1} \cup Y_v$.

Now we put $X = \bigcup_{v \in V} X_v, X_v^{-1} = \bigcup_{v \in V} X_v^{-1}, Y = \bigcup_{v \in V} Y_v$, and $Z = X \cup X^{-1} \cup Y$.

Denote \diamond as product of free monoid in Z^* . Next we introduce several sets of relations amongst words over $X \cup X^{-1} \cup Y$ (and zero) as follows:

$$(1) R = \bigcup_{v \in V} R_v;$$

$$(2) N = \{x_v \diamond y_{u_1} \diamond \dots \diamond y_{u_m} \diamond x_w^{-1} = 0 : m \geq 0, \text{ for all } x_v \in X_v, x_w \in X_w, y_{u_i} \in Y_{u_i} \text{ with}$$

$$(u, v) \notin E \text{ \& } v \neq w\};$$

$$(3) Com = \{z_u \diamond z_v = z_v \diamond z_u : z_u \in Z_u, z_v \in Z_v \text{ with } (u, v) \in E\}.$$

DEFINITION: 3.1

The *polygraph product* of the S_v is defined to be the monoid $PG = PG_{\bigcup_{v \in V} S_v}$ Given by the presentation $\langle Z | R \cup N \cup Com \rangle$. There is true a surjective homomorphism $\zeta : Z^* \rightarrow PG$. For each $v \in V$, the generator and relations of $IH^0(C_v)$ are among those for PG and there is a monoid homomorphism ψ_v from $IH^0(C_v)$ into PG determined by $\rho_{t_v} \psi_v = t_v \zeta$ and $\rho_{x_v}^{-1} \psi_v = x_v^{-1} \zeta$ for $t_v \in X_v \cup Y_v$ and $x_v \in X_v$.

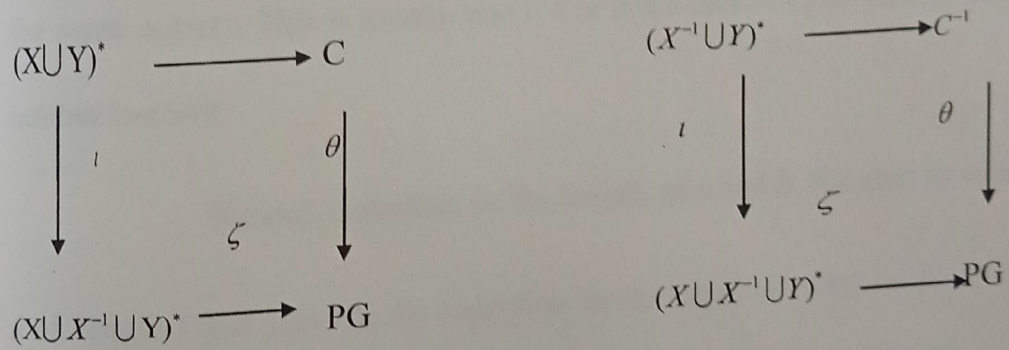
The right unit submonoid of $IH^0(C_v)$ is isomorphic to C_v via the map $\eta_v : C_v \rightarrow IH^0(C_v)$ given by $c \eta_v = \rho_c$. Composing η_v with the restriction of ψ_v first to

the right unit submonoid of $I\mathcal{H}^0(C_v)$, then to the left unit submonoid, we obtained monoid homomorphism from C_v and C_v^{-1} into PG both of which we denote by θ_v .

If $c_v = t_1 \dots t_n$ where $t_i \in X \cup Y$ then

$$c_v \theta_v = (t_1 \eta_v \psi_v) \dots (t_n \eta_v \psi_v) = \rho_{t_1} \psi_v \dots \rho_{t_n} \psi_v = t_1 \zeta \dots t_n \zeta = (t_1 \delta \dots \delta t_n) \zeta \quad \text{and}$$

$c_v^{-1} \theta_v = (t_n^{-1} \dots t_1^{-1}) \theta_v = \rho_{t_n}^{-1} \psi_v \dots \rho_{t_1}^{-1} \psi_v = t_n^{-1} \zeta \dots t_1^{-1} \zeta = (t_n^{-1} \delta \dots \delta t_1^{-1}) \zeta$ We have that the squares



Are commutative where ι is the inclusion map. It follows that every non zero element of PG can be written in the form $(a_1 \theta)(b_1^{-1} \theta) \dots (a_k \theta)(b_k^{-1} \theta)$ where $a_i, b_i \in C$.

LEMMA: 3.1.8

Every non zero element of $PG = PG_{v \in V'}(S_v)$ can be written in the form $(a^{-1}\theta)(b\theta)$ where $a, b \in C$.

PROOF:

To show that if $c, d \in C$, then either $(c\theta)(d^{-1}\theta) = 0$ or $(c\theta)(d^{-1}\theta) = (a^{-1}\theta)(b\theta)$ for some $a, b \in C$. This is clearly true if c or d is a unit of C , so we may assume that neither is a unit.

We use induction on the length, of c and d . We start by considering d of length 1 and proving by induction on the length of c that for any $c \in \bar{C}$, either $(c\theta)(d^{-1}\theta) = 0$ or $(c\theta)(d^{-1}\theta) = (a^{-1}\theta)(b\theta)$ for some $a, b \in C$ with a of length 1.

Suppose that c has length 1. Then $c \in C_u, d \in C_v$ for some u, v . If $u = v$, then $(c\theta)(d^{-1}\theta) = (c\theta_u)(d^{-1}\theta_u) = (\rho_c \psi_u)(\rho_d^{-1} \psi_u) = (\rho_c \rho_d^{-1}) \psi_u$. Since C_u is the left LCM, we have $\rho_c \rho_d^{-1}$ is either zero or equal to $\rho_a^{-1} \rho_b$ for some $a, b \in C_u$. Hence, if non zero,

$$(c\theta)(d^{-1}\theta) = (\rho_c \rho_d^{-1}) \psi_u = (\rho_a^{-1} \rho_b) \psi_u = (\rho_a^{-1} \psi_u)(\rho_b \psi_u) = (a^{-1}\theta)(b\theta).$$

If $u \neq v$, let $c = t'_1 \dots t'_m$ and $d = t_1 \dots t_n$ where $t'_i \in X_u \cup Y_u$. If $(u, v) \in E$, then

$t'_i \diamond t_j = t_j \diamond t'_i$ is a relation in Com for all i, j and it follows that $(c\theta)(d^{-1}\theta) = (d^{-1}\theta)(c\theta)$.

Suppose that $(u, v) \notin E$. Since c, d are non units not all the t_i' are units and not all the t_j are units. Let h and k be the largest integers such t_h' and t_k are non units. Then we can write x_h' for t_h' and x_k for t_k , and similarly, we can write y_i' for t_i' when $i > h$ and y_j for t_j when $j > k$.

Consider $(x_h' \diamond y_{h+1}^{-1} \diamond \dots \diamond y_m' \diamond y_n^{-1} \diamond \dots \diamond y_{k+1}^{-1} \diamond x_{k+1}^{-1}) \zeta$. This element is zero (by virtue of the relations in N) and so $(c\theta)(d^{-1}\theta) = 0$. Thus our claim is true for all c and d of length 1. Now suppose that for any $c, d \in C$ with c of length less than m and d of length 1, we have $(c\theta)(d^{-1}\theta) = 0$ or $(c\theta)(d^{-1}\theta) = (a^{-1}\theta)(b\theta)$ for some $a, b \in C$ with a of length 1.

Now let $c \in C$ have length m say $c_1 \circ \dots \circ c_m$ is a reduced expression for c , and let $d \in C$. By current induction assumption, $(c_2 \dots c_m \theta)(d^{-1}\theta)$ is either zero or can be written in the form $(a^{-1}\theta)(b\theta)$ with a of length 1. In the former case, it is clear that $(c\theta)(d^{-1}\theta) = 0$. In the latter case, if $(c\theta)(d^{-1}\theta)$ is non zero we have

$$\begin{aligned} (c\theta)(d^{-1}\theta) &= ((c_1 \dots c_m)\theta)(d^{-1}\theta) = (c_1\theta)((c_2 \dots c_m)\theta)(d^{-1}\theta) \\ &= (c_1\theta)(a^{-1}\theta)(b\theta) \\ &= (a^{-1}\theta)(b_1\theta)(b\theta) = (a_1^{-1}\theta)((b_1b)\theta) \end{aligned}$$

Where a_1 has length 1, using the fact that c_1 and a both have length 1.
 Claim for any $c, d \in C$ with d of length 1, either $(c\theta)(d^{-1}\theta) = 0$ or $(c\theta)(d^{-1}\theta) = (a^{-1}\theta)(b\theta)$
 for some $a, b \in C$ with a of length 1. Now assume inductively that for any $c \in C$
 and any $d \in C$ of length $n-1$ if $(c\theta)(d^{-1}\theta) \neq 0$ then $(c\theta)(d^{-1}\theta) = (a^{-1}\theta)(b\theta)$ for some
 $a, b \in C$. Let $d \in C$ have a reduced expression

$d_1 \circ \dots \circ d_n$ so that

$$\begin{aligned} (c\theta)(d^{-1}\theta) &= (c\theta)(d_n^{-1})((d_{n-1}^{-1} \dots d_1^{-1})\theta) \\ &= (a_1^{-1}\theta)(b_1\theta)((d_{n-1}^{-1} \dots d_1^{-1})\theta) \text{ for some } a_1, b_1 \in C \end{aligned}$$

(by the case for $n=1$).

$$\begin{aligned} &= (a_1^{-1}\theta)((b_1\theta)(d_{n-1}^{-1} \dots d_1^{-1})\theta) \\ &= (a_1^{-1}\theta)(a_2^{-1}\theta)(b_2\theta) \text{ for some } a_2, b_2 \in C \end{aligned}$$

(by the induction assumption).

$$\begin{aligned} &= (a_1^{-1}a_2^{-1})\theta(b_2\theta) \\ &= (a^{-1}\theta)(b\theta) \text{ where } a = a_2a_1 \text{ and } b = b_2. \end{aligned}$$

NOTE: 2

Consider $IH^0(C_v)$ we remind the reader that (as a monoid with zero) each $IH^0(C_v)$ is generated by $\{\rho_{x_v}, \rho_{x_v}^{-1}, \rho_{y_v} : x_v \in X_v, y_v \in Y_v\}$ and that $IH^0(C)$ is generated by $Q = \{\rho_x, \rho_x^{-1}, \rho_y : x \in X, y \in Y\}$ where $X = \bigcup_{v \in V} X_v$, $X^{-1} = \bigcup_{v \in V} X_v^{-1}$ and $Y = \bigcup_{v \in V} Y_v$. As before we also assume that R_v is a set of defining relations for $IH^0(C_v)$ and put $R = \bigcup_{v \in V} R_v$.

LEMMA: 3.1.9

With respect to the generating set Q , the relations in R are satisfied by $IH^0(C)$.

PROOF:

Let $IH^0(C_v)$ is embedded in $IH^0(C)$ for all $v \in V$. The relations in R are relations in R_v for some v , so hold in $IH^0(C_v)$ and hence in $IH^0(C)$.

LEMMA: 3.1.10

With respect to the generating set Q , the relations in N are satisfied by $IH^0(C)$.

PROOF:

Suppose that $x_v \hat{\diamond} y_{u_1} \hat{\diamond} \dots \hat{\diamond} y_{u_m} \hat{\diamond} x_w^{-1} = 0$ is a relation in N so that $(u, w) \notin E$ and $u \neq w$. Then in $IH^0(C)$ we have

$$\text{dom} \rho_{x_v} \rho_{y_{u_1}} \dots \rho_{y_{u_m}} \rho_{x_w}^{-1} = (Cx_v y_{u_1} \dots y_{u_m} \cap Cx_w) (\rho_{x_v} \rho_{y_{u_1}} \dots \rho_{y_{u_m}})^{-1}.$$

Since x_v is not a unit and $(u, w) \notin E$, in an expression for an element a of $Cx_v y_{u_1} \dots y_{u_m}$ any amalgamation involving x_v produces a non unit of C_v , so a non unit of C_v cannot be shuffled to the end of the expression. Hence the final w -component of a is a unit.

But the final w -component of an element of Cx_w must be a left multiple of x_w and hence be a unit. It follows that

$$Cx_v y_{u_1} \dots y_{u_m} \cap Cx_w = \emptyset \quad \text{and so} \quad \rho_{x_v} \rho_{y_{u_1}} \dots \rho_{y_{u_m}} \rho_{x_w}^{-1} = 0.$$

LEMMA: 3.1.11

With respect to the generating set Q , the relations in Com are satisfied by $IH^0(C)$.

PROOF:

Following our condition that t_u, x_u denote arbitrary element of $X_u \cup X_u^*$ and x_v respectively, relations in Com have one of the forms:

$$(1) t_u \diamond t_v = t_v \diamond t_u;$$

$$(2) x_u \diamond x_v^{-1} = x_v^{-1} \diamond x_u;$$

$$(3) x_u^{-1} \diamond x_v^{-1} = x_v^{-1} \diamond x_u^{-1}$$

Where $(u, v) \in E$. Relations of the form (1) are satisfied in $IH^0(C)$ since

$$\rho_u \rho_v = \rho_u t_v = \rho_v t_u = \rho_v t_u.$$

Consider a relation as in (2). We have $Cx_u \cap Cx_v = Cx_u x_v$ and since $x_u x_v = x_v x_u$ in C , we have

$$\text{dom } \rho_{x_u} \rho_{x_v}^{-1} = (\text{im } \rho_{x_u} \cap \text{dom } \rho_{x_v}^{-1}) \rho_{x_u}^{-1} = (Cx_u x_v) \rho_{x_u}^{-1} = Cx_v.$$

Similarly, we calculate $\text{im } \rho_{x_u} \rho_{x_v}^{-1} = Cx_u$. Since $\text{im } \rho_{x_v}^{-1} = C = \text{dom } \rho_{x_u}$, it is easy to see that we also have $\text{dom } \rho_{x_v}^{-1} \rho_{x_u} = Cx_u$ and $\text{im } \rho_{x_v}^{-1} \rho_{x_u} = Cx_u$, and it follows that $\rho_{x_u} \rho_{x_v}^{-1} = \rho_{x_v}^{-1} \rho_{x_u}$. Since $(u, v) \in E$, we also have that $x_u \diamond x_v = x_v \diamond x_u$ is a relation in Com .

Hence $\rho_{x_u} \rho_{x_v} = \rho_{x_v} \rho_{x_u}$ follows by (1), and since $IH^0(C)$ is an inverse monoid,

$$\rho_{x_u}^{-1} \rho_{x_v}^{-1} = (\rho_{x_v} \rho_{x_u})^{-1} = (\rho_{x_u} \rho_{x_v})^{-1} = \rho_{x_v}^{-1} \rho_{x_u}^{-1}.$$

THEOREM: 3.1.12

The monoid $PG_{\text{vel}}(S_v)$ and $IH^0(C)$ are isomorphic.

PROOF:

Consider the function $\beta: X \cup X^{-1} \cup Y \rightarrow IH^0(C)$ given by

$$x\beta = \rho_x, x^{-1}\beta = \rho_x^{-1} \text{ \& } y\beta = \rho_y.$$

It follows that β extends to a homomorphism again denoted by β from PG to $IH^0(C)$. Since the latter is generated by Q , the homomorphism is surjective.

Let $r, s \in PG$ and suppose that $r\beta = s\beta$. Now $r = (a^{-1}\theta)(b\theta)$ and $s = (c^{-1}\theta)(d\theta)$ for some $a, b, c, d \in C$.

Hence $((a^{-1}\theta)(b\theta))\beta = ((c^{-1}\theta)(d\theta))\beta$ so that $\rho_a^{-1}\rho_b = \rho_c^{-1}\rho_d$ and hence there is a unit e of C such that $c = ea$ and $d = eb$. If $m, n \in C$, then there are corresponding elements m^{-1}, n^{-1} in C^{-1} and $(mn)^{-1} = n^{-1}m^{-1}$. Thus, using the fact that e is unit in C ,

$$\begin{aligned} s &= (c^{-1}\theta)(d\theta) \\ &= ((ea)^{-1}\theta)((eb)\theta) \\ &= (a^{-1}e^{-1}\theta)(eb)\theta \\ &= (a^{-1}\theta)(e^{-1}\theta)(e\theta)(b\theta) \\ &= (a^{-1}\theta)((e^{-1}e)\theta)(b\theta) \\ &= (a^{-1}\theta)(b\theta) = r \end{aligned}$$

Thus β is an isomorphism.

CONCLUSION

In this project we proved that a graph product of right cancellative monoids is itself right cancellative monoid and intersection of two principal left ideals is either principal or empty then so does the graph product of also we proved that a graph product of left LCM monoids is itself left LCM and discussed about the inverse hulls of graph products of left LCM.

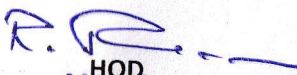
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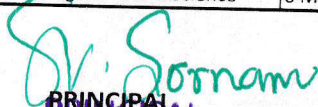
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GANESAR COLLEGE OF ARTS AND SCIENCE, MELASIVAPURI
DEPARTMENT OF COMPUTER SCIENCE
STUDENTS UNDERTAKING FPROJECTS(Group Project) -APRIL 2019

S. No	Reg.No	Student Name	Name of the mentor	sub.code	Specify Projectwork/ field work	Title of the project/Field work	Place of work done	Duration
1	CB16S175211	M.NAGAPRIYA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Cafeteria For South India Foods	Ganesar College of Arts & Science	6 Months
2	CB16S175212	P.NALLAZHAKI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Cafeteria For South India Foods	Ganesar College of Arts & Science	6 Months
3	CB16S175188	S.ALAGUMEENAL	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Employee Tracker System	Ganesar College of Arts & Science	6 Months
4	CB16S175195	M.BHARATHIMEENA	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Employee Tracker System	Ganesar College of Arts & Science	6 Months
5	CB16S175217	S.ROSHINI	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Customer Relationship Management System	Ganesar College of Arts & Science	6 Months
6	CB16S175228	M.YOGESHWARI	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Customer Relationship Management System	Ganesar College of Arts & Science	6 Months
7	CB16S175193	P.AZHAGESHWARI	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Geo Spatial Info Tech Solution	Ganesar College of Arts & Science	6 Months
8	CB16S175198	A.DHANALAKSHMI	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Geo Spatial Info Tech Solution	Ganesar College of Arts & Science	6 Months
9	CB16S175202	S.KALEESWARAN	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Recursive URL Download Manager	Ganesar College of Arts & Science	6 Months
10	CB16S175204	A.KARTHIKA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Recursive URL Download Manager	Ganesar College of Arts & Science	6 Months
11	CB16S175187	R.ABINAYA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Privacy-Preserving Public Auditing For Data Storage Security In Cloud Computing	Ganesar College of Arts & Science	6 Months
12	CB16S175194	C.BANUPRIYA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Privacy-Preserving Public Auditing For Data Storage Security In Cloud Computing	Ganesar College of Arts & Science	6 Months
13	CB16S175201	V.DHIVYA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Student And Staff Interaction Software	Ganesar College of Arts & Science	6 Months
14	CB16S175229	A.YUVARANI	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Student And Staff Interaction Software	Ganesar College of Arts & Science	6 Months
15	CB16S175206	M.KOWSALYA	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Courier Information	Ganesar College of Arts & Science	6 Months
16	CB16S175226	K.THENMOZHI	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Courier Information	Ganesar College of Arts & Science	6 Months
17	CB16S175197	A.DEEPALAKSHMI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Walk Around Concealed Buildings For Internal Floor Plan Structure	Ganesar College of Arts & Science	6 Months
18	CB16S175227	C.VIDHYA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Walk Around Concealed Buildings For Internal Floor Plan Structure	Ganesar College of Arts & Science	6 Months
19	CB16S175186	P.SUTHEA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Online Bug Tracking And Customer Support System	Ganesar College of Arts & Science	6 Months
20	CB16S175213	N.NITHYA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Online Bug Tracking And Customer Support System	Ganesar College of Arts & Science	6 Months
21	CB16S175208	E.MAHESHWARAN	Miss K.KAYALVIZHI	16SMBECPW	PROJECTWORK	Secure Data Sharing In Cloud Computing Using Revocable-Storage Identity-Based Encryption	Ganesar College of Arts & Science	6 Months
22	CB16S175203	M.KANIMOZHI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Secure Distributed Deduplication System	Ganesar College of Arts & Science	6 Months
23	CB16S175215	G.PREMA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Secure Distributed Deduplication System	Ganesar College of Arts & Science	6 Months
24	CB16S175200	R.DANALAKSNMI	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Steganography	Ganesar College of Arts & Science	6 Months
25	CB16S175221	S.SARATHAPRIYA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Steganography	Ganesar College of Arts & Science	6 Months
26	CB16S175192	K.ARUNKUMAR	Mr R.RAJA	16SMBECPW	PROJECTWORK	Spiritual Tourism	Ganesar College of Arts & Science	6 Months
27	CB16S175209	M.MATHAN	Mr R.RAJA	16SMBECPW	PROJECTWORK	Spiritual Tourism	Ganesar College of Arts & Science	6 Months
28	CB16S175190	P.AMSAVALLI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Kurinji Gifts	Ganesar College of Arts & Science	6 Months
29	CB16S175207	M.KRISHNAVENI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Kurinji Gifts	Ganesar College of Arts & Science	6 Months
30	CB16S175219	D.SANTHIYA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Taxation Information System	Ganesar College of Arts & Science	6 Months
31	CB16S175224	S.TAMILARASI	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Taxation Information System	Ganesar College of Arts & Science	6 Months
32	CB16S175218	P.SANGEETHA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Techno Task Manager	Ganesar College of Arts & Science	6 Months
33	CB16S175222	K.SANTHINI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Techno Task Manager	Ganesar College of Arts & Science	6 Months
34	CB16S175210	A.MUTHAIAH	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Smart Jobs	Ganesar College of Arts & Science	6 Months
35	CB16S175214	K.PANDIYARAJAN	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Smart Jobs	Ganesar College of Arts & Science	6 Months
36	CB16S175199	M.DANALAKSHMI	Mr R.RAJA	16SMBECPW	PROJECTWORK	Client Server Based Live Meeting	Ganesar College of Arts & Science	6 Months
37	CB16S175223	P.SNEKA	Mr R.RAJA	16SMBECPW	PROJECTWORK	Client Server Based Live Meeting	Ganesar College of Arts & Science	6 Months
38	CB16S175191	S.ARTHIKA	Miss PL.SUDHA	16SMBECPW	PROJECTWORK	Construction Plus	Ganesar College of Arts & Science	6 Months
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STUDENT AND STAFF INTERACTION SOFTWARE

A Project
Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

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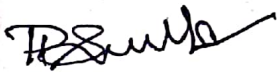
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This is to certify that the project work entitled "Student and Staff Interaction Software" is a bonafide record done by V.DHIVYA (Reg No: CB16S175201) & A.YUVARANI (Reg No: CB16S175229) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.



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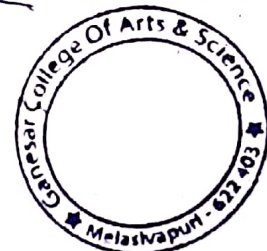


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1. 

2. 



**WALK AROUND CONCEALED BUILDINGS FOR
INTERNAL FLOOR PLAN STRUCTURE**

A Project
Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

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This is to certify that the project work entitled "WALK AROUND CONCEALED BUILDINGS FOR INTERNAL FLOOR PLAN STRUCTURE" is a bonafide record done by A.DEEPALAKSHMI (Reg No: CB16S175197) & C.VIDHYA (Reg No: CB16S175227) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018– 2019.



The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.

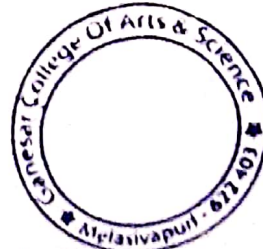

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GEO SPATIAL INFO-TECH SOLUTION

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The Viva-voice examination was conducted on 22-08-2019 at Ganesar College of Arts and science , Melaisivapuri.

K. Kayalvizhi
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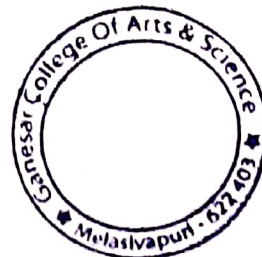
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CUSTOMER RELATIONSHIP MANAGEMENT SYSTEM

A Project
Submitted to the Bharathidasan University
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for the award of the Degree of

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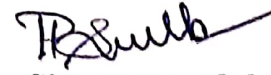
This is to certify that the project work entitled "Customer Relationship Management System " is a bonafide record done by S.ROSHINI (Reg No: CB16S175217)& M.YOGESHWARI(Reg No: CB16S175228) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.



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1. 

2. 



TECHNO TASK MANAGER

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

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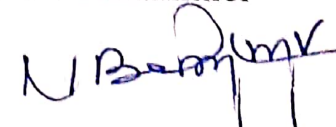

This is to certify that the project work entitled "TECHNO TASK MANAGER" is a bonafide record done by P.SANGEETHA (Reg No: CB16S175218) & K.SANTHINI (Reg No: CB16S175222) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 22.03.19 at Ganesar College of Arts and science , Melasivapuri.


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SMART JOBS

A Project
Submitted to the Bharathidasan University
in partial fulfillment of the requirements
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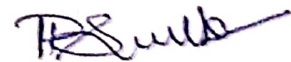
This is to certify that the project work entitled "SMART JOBS " is a bonafide record done by **A.MUTHAIAH (Reg No: CB16S175210)& K.PANDIYARAJAN (Reg No: CB16S175214)** in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.



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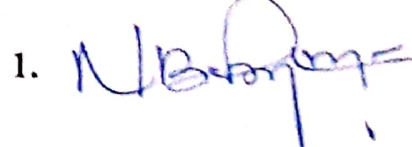
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1. 

2. 



CLIENT SERVER BASED LIVE MEETING

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
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This is to certify that the project work entitled "CLIENT SERVER BASED LIVE MEETING" is a bonafide record done by M.DHANALAKSHMI (Reg No: CB16S175199) & P. SNEKA(Reg No: CB16S175223) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.


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STEGANOGRAPHY

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

By

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Under the Guidance of

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APRIL-2019



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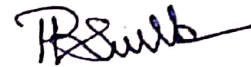
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Head of the department

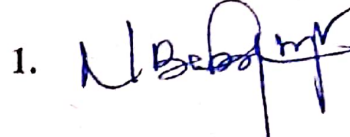
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EMPLOYEE TRACKER SYSTEM

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

By

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The Viva-voice examination was conducted on 22.3.2019 at Ganesar College of Arts and science , Melasivapuri.

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CAFETERIA FOR SOUTH INDIAN FOODS

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

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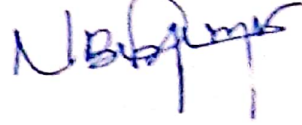

The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.


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**SECURE DATA SHARING IN CLOUD COMPUTING
USING REVOCABLE- STORAGE IDENTITY
BASED ENCRYPTION**

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

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By

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This is to certify that the project work entitled "SECURE DATA SHARING IN CLOUD COMPUTING USING REVOCABLE- STORAGE IDENTITY-BASED ENCRYPTION" is a bonafide record done by E. MAHESHWARAN (Reg No: CB16S175208) in partial fulfillment of the year 2018-2019.

The Viva-voice examination was conducted on 22-02-2019 at Ganesar College of Arts and science , Melaisivapuri.

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SECURE DISTRIBUTED DEDUPLICATION SYSTEM

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

By

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The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.



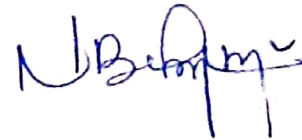
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ONLINE BUG TRACKING AND CUSTOMER SUPPORT SYSTEM

A Project
Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

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Reg No: CB16S175186

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APRIL-2019

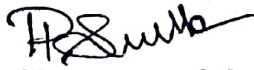



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This is to certify that the project work entitled "Online Bug Tracking And Customer Support System " is a bonafide record done by P.SUTHESA (Reg No: CB16S175186) & N.NITHYA (Reg No: CB16S175213) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melasivapuri.

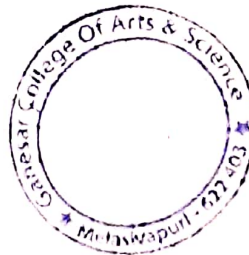

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SPIRITUAL TOURISM

A Project

Submitted to the Bharathidasan University

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for the award of the Degree of

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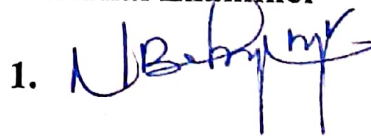


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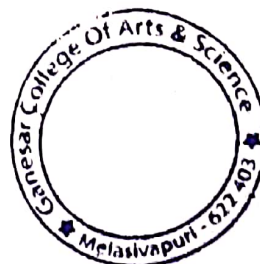
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CONSTRUCTION PLUS

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

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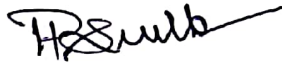


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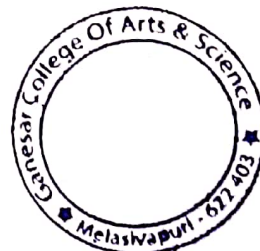


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COURIER INFORMATION

A Project

Submitted to the Bharathidasan University
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RECURSIVE URL DOWNLOAD MANAGER

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Submitted to the Bharathidasan University
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By

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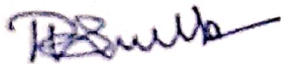


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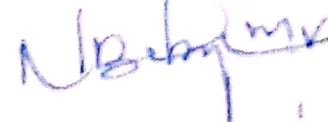
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Ganesar College of Arts and Science
Melasivapuri, Ponnamaravathi
Pudukkottai - 6224..



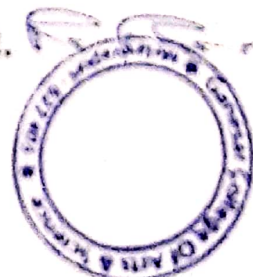
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KURINJI GIFTS

A Project

Submitted to the Bharathidasan University
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Reg No: CB16S175190

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Reg No: CB16S175207

Under the Guidance of

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The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melasivapuri.



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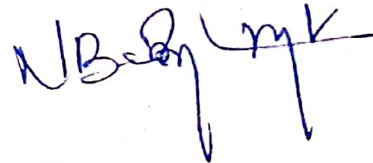
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TAX INFORMATION SYSTEM

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

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By

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Reg No: CB16S175219

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S.TAMILARASI

Reg No: CB16S175224

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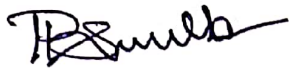


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This is to certify that the project work entitled "Tax Information System" is a bonafide record done by D.SANTHIYA (Reg No: CB16S175219) & S.TAMILARASI (Reg No: CB16S175224) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 28.03.2019 at Ganesar College of Arts and science , Melaisivapuri.



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**PRIVACY-PRESERVING PUBLIC AUDITING FOR DATA
STORAGE SECURITY IN CLOUD COMPUTING**

A Project

Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

By

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Reg No: CB16S175187

&

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Reg No: CB16S175194

Under the Guidance of

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This is to certify that the project work entitled "PRIVACY-PRESERVING PUBLIC AUDITING FOR DATA STORAGE SECURITY IN CLOUD COMPUTING" is a bonafide record done by R.ABINAYA (Reg No: CB16S175187) & C.BANUPRIYA (Reg No: CB16S175194) in partial fulfillment of the requirements for the award of the degree of Bachelor of Computer Science, during the academic year 2018- 2019.

The Viva-voice examination was conducted on 22.09.2019 at Ganesar College of Arts and science , Melaisivapuri.


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**WALK AROUND CONCEALED BUILDINGS FOR
INTERNAL FLOOR PLAN STRUCTURE**

A Project
Submitted to the Bharathidasan University
in partial fulfillment of the requirements
for the award of the Degree of

BACHELOR OF COMPUTER SCIENCE

By

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The Viva-voice examination was conducted on 22.03.2019 at Ganesar College of Arts and science , Melaisivapuri.

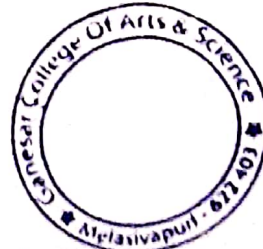

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ACKNOWLEDGEMENT

First I thank Almighty god and my beloved parents for helping me in my studies and their blessing for finishing my project work.

I express my thankful to our principal **Dr.SV.SORNAM M.A., M.Phil., Ph.D.,** for the all the assistance and encouragement rendered to me during my project work.

I express Sincere thank to my guide **Mr R. RAJA** Head, Department of Computer Science Ganesar College of Arts and Science, who have given us a valuable advice throughout my project work.

I express my thanks and gratitude to my **Parents , staff members and all my friends** who have helped me to complete this project successfully.

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INTRODUCTION

CHAPTER 1

INTRODUCTION

A building floor plan succinctly illustrates spatial correlations of rooms, hallways and other features of the architecture from a top-down view over a floor. It plays an essential role in many indoor mobile applications, such as localization and navigation. However, unlike outdoor environment, acquiring digital indoor floor plan information is very challenging. The state-of-the-art Google Indoor Maps only have 10,000 locations available on-line, which is not in a position to compete with the total number of indoor environments around the world. The complexity of the indoor environment is the major obstacle to achieve ubiquitous coverage. Existing centralized collection and on-site calibration techniques demand professional devices and multi-party coordination, which are time consuming, inconvenient and costly.

Recently, the wide availability of smartphones and wearable devices (e.g. googleglasses) equipped with built-in visual and inertial sensors makes the crowd easier than ever to devote themselves to crowdsourcing. Following this trend, there have been several studies trying to explore the possibility of using crowdsourced data to generate an indoor floor plan automatically. Among others, Crowd Inside first utilizes crowdsourced inertial sensory data to automatically construct user motion traces, and then aggregate the information to reconstruct indoor pathways.

However, current crowdsourcing floor plan reconstruction systems are not able to produce accurate enough results. This is partially due to the fact that most of existing indoor floor plan reconstruction systems heavily rely on sensory data which is only able to provide users moving information for an unknown indoor space. For instance, Crowd Inside, Walkie-Markie, Jigsaw and the work in all primarily depend on aggregated user motion traces derived from inertial data to determine the shape of hallway and room. The premise of their work is that users would be able to move across all edges and corners in an indoor environment. Due to the fact that the edge of an indoor scene is usually blocked by furniture or other objects, that assumption, however, may not be realistic in practice when reconstructing a complex indoor environment like rooms.

Moreover, some restricted areas in an indoor environment are also inaccessible for most of the users, which may lead to some significant errors for the crowd sourced results. Unlike the sensory information, visual information should preserve more context information for an unknown indoor environment, such as the geometric information, color information, lighting conditions and text information. Therefore, visual information based approaches may provide more accurate geometric (shape, coordinates and orientations) information compared with the sensor-only approaches.

Mobile computing simply defined, use of a wireless network infrastructure to provide anytime, anywhere communications and access to information. There are many aspects of mobile computing and, sometimes, different terms are used to refer to them. This chapter gives an overview of what mobile computing has to offer and how it improves the quality of our lives. Later chapters discuss the underlying wireless networks and technologies that make mobile computing applications possible.

Instead of computers that sit passively on desks, ubiquitous computers are aware of their surroundings and locations. They come in different sizes, each tailored to a specific task. At the Xerox Lab, Weiser and his colleagues developed a tab that is analogous to a Post-it® note, a pad that is analogous to a sheet of paper, and a board that is analogous to a yard-scale display. An office may contain hundreds of tabs, tens of pads, and one or two boards. These devices are not personal computers, but are a pervasive part of everyday life, with users often having many units in simultaneous operation.

Unlike a laptop or a notebook, which is associated with a particular user, tabs and pads can be grabbed and used anywhere-they have no individualized identity and importance. You may have a few pads on your desk, each dedicated to a particular task in the same way that you spread papers on your desk.

1.1 OVERVIEW OF THE PROJECT

In this project, we propose Crowd Map, an accurate indoor floor plan reconstruction system based on sensor-rich videos. Crowd Map generates indoor floor plans by cross-fuse visual, inertial (gyroscope, accelerometer and compass) and spatial (geo-location) information crowd sourced from the users.

We jointly utilize computer vision and mobile techniques in a complementary way to manage the noisy crowd sourced data. The key idea of our system is to leverage the sequential relationship between each consecutive frame of the crowd sourced video. We employ advanced computer vision algorithms, which are able to furnish the consistent video frame relation to generate accurate spatial information of the indoor environment. Compared with uncorrelated images, CrowdMap shows that the spatiotemporal continuous video frames are able to provide more valuable information with the same amount of data in an indoor crowd sourced setting.

We solve two challenges in the design of CrowdMap. First, the sensor-rich videos uploaded by the crowd are usually not captured with floor plan generation in mind, since we cannot assume that every user is professionally trained to our crowdsourcing task. We solve this challenge by utilizing inertial sensor and visual data to track the position of the smartphone's camera and designing a multi-layer system based on the "divide and conquer" method to gradually filter out unqualified data. Second, existing crowdsourcing based floor plan reconstruction approaches are unable to provide room layout with a good quality. We solve this challenge by leveraging the consecutiveness in the sensor-rich video data to generate 360° room panorama. Then, we process the panorama to generate room layout with a high accuracy.

CrowdMap leverages crowd sourced sensor-rich videos to reconstruct accurate indoor digital floor plans without any building information known as a priori. The system consists of two components based on client-cloud platform structure. The first component is mobile front-end which allows user to contribute the spatial, video and inertial data by capturing sensor-rich videos.

*SYSTEM
ANALYSIS*

CHAPTER 2

SYSTEM ANALYSIS

2.1 EXISTING SYSTEM

Deficiency of an accurate and low-cost method to reconstruct indoor maps is the main reason overdue the current convenience of digital building floor plans. The conventional approach using professional equipment is very costly and only available in the most popular areas. Moreover, some restricted areas in an indoor environment are also inaccessible for most of the users, which may lead to some significant errors for the crowd sourced results. The complexity of the indoor environment is the major obstacle to achieve ubiquitous coverage. Existing centralized collection and on-site calibration techniques demand professional devices and multi-party coordination, which are time consuming, inconvenient and costly

DEMERITS

- Causes Signal attenuation, is the dropping of signal power as a signal travels from its source to the receiver through free space.
- Interference and Noise in signal causes performance degradation.
- Lack of accuracy in estimating the position.
- High cost and susceptible to failure in tracking location.

2.2 PROPOSED SYSTEM

In our system we demonstrate CrowdMap, a crowdsourcing system utilizing sensor-rich video data from mobile users for indoor floor plan reconstruction with low-cost. CrowdMap generates indoor floor plans by cross-fuse visual, inertial and spatial information crowd sourced from the users. We jointly utilize computer vision and mobile techniques in a complementary way to manage the noisy crowdsourced data. The key idea of our system is to leverage the sequential relationship between each consecutive frame of the crowdsourced video.

MERITS

- We design crowdsourcing data collecting tasks to collect several forms of geo-spatial, visual and inertial data from the crowd.
- We select suitable computer vision techniques to exploit the sequential relationship from the video data.
- Consequently improve the quality of the result.
- We develop a prototype CrowdMap system and evaluate it on a real-world scenario.
- Low cost and high accuracy.

2.3 USER INTERFACE REQUIREMENTS

User Interface Designing tool : Visual Studio 2015

User Interface implementation Language : ASP.Net

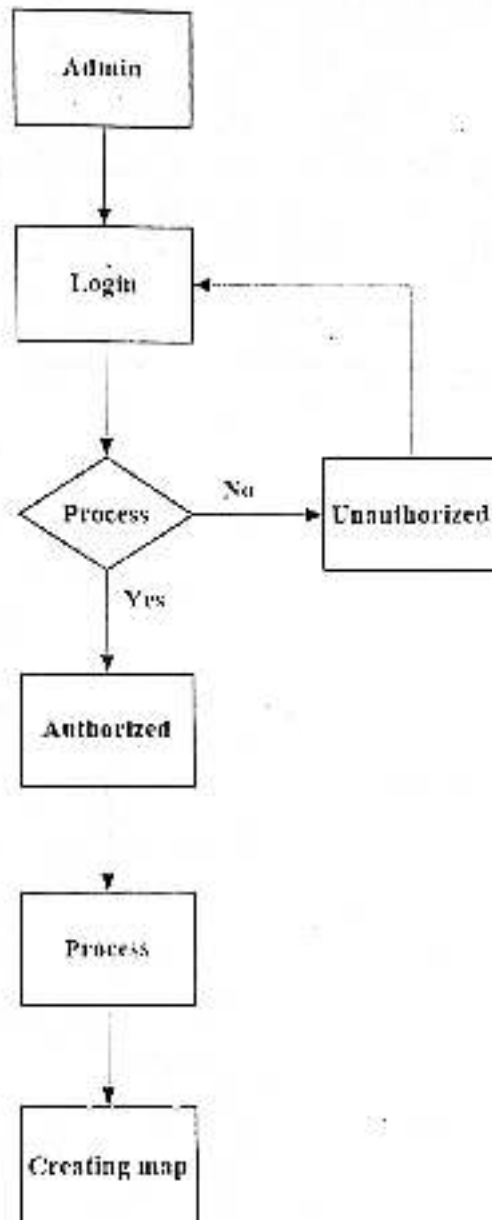
The user is expected to have basic understanding of the domain of the project. User should know about the issue facing in the existing ideas and how the new proposed ideology will help to solve or give solutions to the issue. User should able to refer all the articles related to the proposed concept in order to prove his/her concept will provide better outcomes than existing one. User should have good knowledge in project implementation language and databases used for the project.

2.4 MODULES DESCRIPTION

- Login for admin and map creation
- Login for client
- Searching location
- Using CrowdMap
- Map displayed

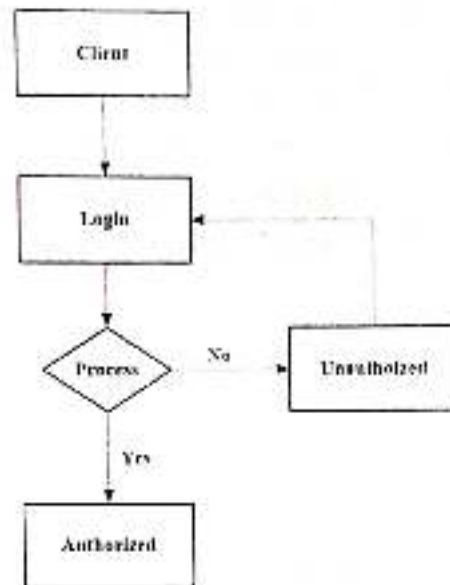
LOGIN FOR ADMIN AND MAP CREATION

In this module admin can login with the system. If the admin will be authorized they can accessing the system. If they are unauthorized they can't accessing the system. The main process for the admin is map creation. They create the map for the client.



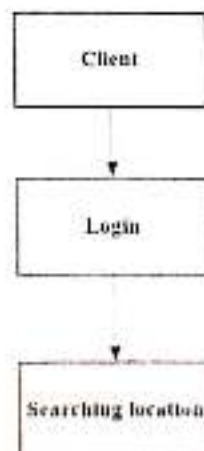
LOGIN FOR CLIENT

In this second module client will be login for the system. In this process only authorized clients will be accessing the system. If they are unauthorized they can't accessing the system.



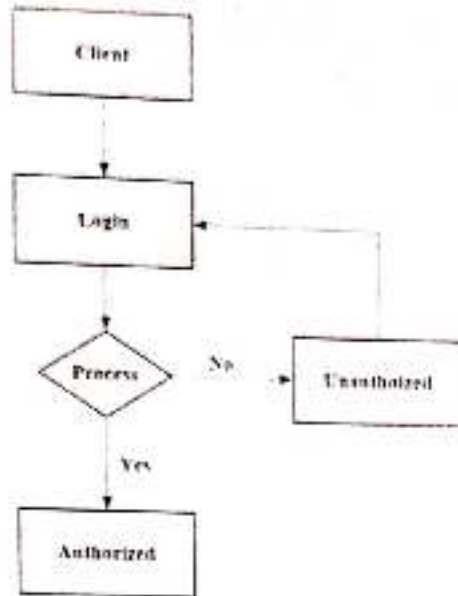
SEARCHING LOCATION

Client will searching for the location in this module. First client enter into this process. And they search for the required location.



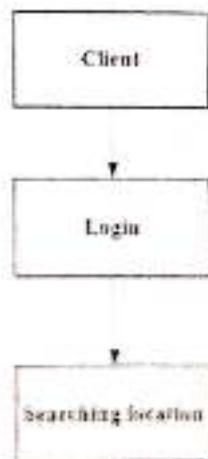
LOGIN FOR CLIENT

In this second module client will be login for the system. In this process only authorized clients will be accessing the system. If they are unauthorized they can't accessing the system.



SEARCHING LOCATION

Client will searching for the location in this module. First client enter into this process. And they search for the required location.



*SYSTEM
DEVELOPMENT*

CHAPTER 3

SYSTEM DEVELOPMENT ENVIRONMENT

3.1 HARDWARE REQUIREMENTS SPECIFICATION

Hard disk	:	250GB
RAM	:	2GB
Processor	:	Dual Core
Monitor	:	17" Color Monitor

3.2 SOFTWARE REQUIREMENTS SPECIFICATION

Front-End	:	Visual Studio 2015
Coding Language	:	ASP .Net
Operating System	:	Windows 8 32bit professional
Back End	:	SQL Server 2012

3.3 SOFTWARE REQUIREMENTS DESCRIPTION

ABOUT WINDOWS 8

An operating system (OS) is system software that manages computer hardware and software resources and provides common services for computer programs. All computer programs, excluding firmware, require an operating system to function. Windows 8 is a personal computer operating system developed by Microsoft as part of the Windows NT family of operating systems. Development of Windows 8 started before the release of its predecessor, Windows 7. It was announced at CES, and followed by the release of three pre-release versions.

The Windows 8 operating system is the newest member of the Windows family. It's different than earlier Windows releases as much for what it does not change as to what it does change. That is, the features that IT pros loved about Windows 7 are still there in

Windows 8—just better. The same keyboard shortcuts, management tools, security features, and deployment options are available in Windows 8. But in many cases, Windows 8 improves them in intuitive and significant ways. Random examples are the ribbon in File Explorer and faster disk encryption when using BitLocker Drive Encryption. This book describes these enhancements, plus many of the new features in Windows 8. Of course, everyone is talking about the new user interface in Windows 8: the Start screen, the modern looking windows graphics, and so on. These are not replacements for the desktop, and it is not an either-or choice that it has to make. For desktop apps, the same desktop that it used in Windows 7 is still there in Windows 8. It can still pin apps to the taskbar, pin files to those apps, and so on. The keyboard and mouse work the same way as it did before on the desktop. But Windows 8 uses a Start screen instead of the tiny Start menu in Windows 8. The most obvious benefit is that there is more real estate available and so apps can display dynamic, live information on their tiles (icons) to bring the latest information to it at a single glance.

Windows 8 also introduces Windows 8 apps. These are full screen, immersive apps that provide a different experience than it might be used to with traditional desktop apps. They do not have chrome. App commands (menu items) only appear when it needs them. Importantly, Windows 8 and Windows 8 apps provide a first-class touch experience, so it can swipe, flick, and use other intuitive gestures to get around them.

HARDWARE RECOMMENDATIONS

Windows 8 provides a terrific experience on the same hardware that runs Windows 7. Table 1-1 describes the hardware recommendations for Windows 8. In fact, it might even notice that PCs seem to work even better after upgrading from Windows 7 to Windows 8.

Component	Recommendation
Processor	1 GHz or faster
Memory	32-bit PCs: 1 GB 64-bit PCs: 2 GB
Hard Disk Space	32-bit PCs: 1 GB 64-bit PCs: 2 GB
Graphics Card	Microsoft DirectX 9 graphics device with WDDM driver

Additionally, some Windows 8 features require other hardware components:

- To use touch, it needs a tablet or a monitor that supports multi-touch.
- To access the Windows Store to download and run apps, it needs an active Internet connection and a screen resolution of at least 1024 x 768.
- To snap apps, it needs a screen resolution of at least 1366 x 768.

SENSORS AND SECURITY

With Windows 8, Microsoft will enable developers to take advantage of hardware innovation such as:

- Low-power Bluetooth
- GPS
- Gyroscopes
- Accelerometer

It'll also be able to take advantage of security hardware technologies like Trusted Platform Module (TPM) and Unified Extensible Firmware Interface (UEFI) boot.

FILE EXPLORER

File Explorer is the new Windows Explorer. File Explorer has quite a history, going all the way back to the days of MS-DOS. Over the years, the tool now known as File Explorer has evolved. It used to be called File Manager, and for a long time it was called Windows Explorer. With the release of Windows 8, Windows Explorer is now known as File Explorer.

TASK MANAGER

With the new Task Manager, it can quickly see running programs and can also end tasks if there is an issue. But IT pros and power users frequently want to see more information about the running tasks and the overall status of the system. By clicking More Details, it sees a significant amount of information about the processes running on either PC, its performance. Merely looking at the available tabs reveals that there is a lot of information

and many options here. Like File Explorer, the Task Manager interface has been redesigned to serve the needs of all types of users.

PROFILE CUSTOMIZATION

Profile customization in Windows 8 is simple. Both roaming and local profiles are available in Windows 8. Roaming profiles allow user customizations to be saved remotely and accessed on any Windows 8 machine. Local profiles are stored locally on the file system volume just like those in previous versions of Windows. To manage the user experience for generating local profiles, Sysprep is available in Windows 8. Default customizations can be packaged, just like in Windows 7, and redeployed in the out-of-box experience (OOBE) after system imaging is performed.

NETWORKING ENHANCEMENTS

Windows 8 and Windows Server 2012 provides new features and resources when deployed together. Many new features that IT pros love about Windows Server 2012 are optimized for use with Windows 8 clients. In fact, many of the new improved management features in Windows Server 2012 can also be used from a local console only available in Windows 8. Many redesigned features were available in Windows Server 2008 but have been imagined for the modern, expanding business needs.

SECURITY

Microsoft Windows 8 builds on the security features of Windows 7. It enables the enterprise to provide a secure and a stable computing platform from which users can accomplish their tasks. Three primary areas are the focus of the Microsoft security approach. Those areas include the following:

- Protect the client against threats.
- Protect sensitive data
- Secure access to resources.

To help protect a client against threats, Windows 8 offers several enhancements such as Trusted Boot, Internet Explorer SmartScreen Application Reputation, and app sandboxing.

The changes made to BitLocker in Windows 8 highlights the efforts to protect sensitive data. Securing access to resource centers on Virtual Smart cards and Dynamic Access Control.

ABOUT MICROSOFT VISUAL STUDIO 2015 (IDE)

Microsoft Visual Studio 2015 is a suite of tools for creating software, from the planning phase through UI design, coding, testing, debugging, analyzing code quality and performance, deploying to customers, and gathering telemetry on usage. These tools are designed to work together as seamlessly as possible, and are all exposed through the Visual Studio Integrated Development Environment (IDE).

You can use Visual Studio to create many kinds of applications, from simple store apps and games for mobile clients, to large, complex systems that power enterprises and data centers. You can create

- Apps and games that run not only on Windows, but also Android and iOS.
- Websites and web services based on ASP.NET, JQuery, AngularJS, and other popular frameworks
- Applications for platforms and devices as diverse as Azure, Office, *Sharepoint*, Hololens, Kinect, and Internet of Things, to name just a few examples
- Games and graphics-intensive applications for a variety of Windows devices, including Xbox, using DirectX.

Visual Studio by default provides support for C#, C and C++, JavaScript, F#, and Visual Basic. Visual Studio works and integrates well with third-party applications like Unity through the Visual Studio Tools for Unity extension and Apache Cordova through Visual Studio Tools for Apache Cordova. You can extend Visual Studio yourself by creating custom tools that perform specialized tasks.

ABOUT .NET

Microsoft .NET is a set of Microsoft software technologies for rapidly building and integrating XML Web services, Microsoft Windows-based applications, and Web solutions. The .NET Framework is a language-neutral platform for writing programs that can easily and securely interoperate. There's no language barrier with .NET: there are numerous languages available to the developer, including Managed C++, C#, Visual Basic and Java Script. The

.NET framework provides the foundation for components to interact seamlessly, whether locally or remotely on different platforms. It standardizes common data types and communications protocols so that components created in different languages can easily interpret. “.NET” is also the collective name given to various software components built upon the .NET platform.

.NET FRAMEWORK

The .NET Framework has two main parts:

1. The Common Language Runtime (CLR).
2. A hierarchical set of class libraries.

The CLR is described as the “execution engine” of .NET. It provides the environment within which programs run. The most important features are

- Conversion from a low-level assembler-style language, called Intermediate Language (IL), into code native to the platform being executed on.
- Memory management, notably including garbage collection.
- Checking and enforcing security restrictions on the running code.
- Loading and executing programs, with version control and other such features.
- The following features of the .NET framework are also worth description

MANAGED CODE

The code that targets .NET, and which contains certain extra information - “metadata” to describe it. Whilst both managed and unmanaged code can run in the runtime, only managed code contains the information that allows the CLR to guarantee, for instance, safe execution and interoperability.

MANAGED DATA

With Managed Code comes Managed Data. The CLR provides memory allocation and De-allocation facilities, and garbage collection. Some .NET languages use Managed Data by default, such as C#, Visual Basic.NET and JScript.NET, whereas others, namely C++, do not. Targeting CLR can, depending on the language it is using, impose certain constraints on the features available. As with managed and unmanaged code, one can have

both managed and unmanaged data in .NET applications - data that doesn't get garbage collected but instead is looked after by unmanaged code.

COMMON TYPE SYSTEM

The CLR uses something called the Common Type System (CTS) to strictly enforce type-safety. This ensures that all classes are compatible with each other, by describing types in a common way. CTS define how types work within the runtime, which enables types in one language to interpret with types in another language, including cross-language exception handling. As well as ensuring that tips are only used in appropriate ways, the runtime also ensures that the code doesn't attempt to access memory that hasn't been allocated to it.

COMMON LANGUAGE SPECIFICATION

The CLR provides built-in support for language interoperability. To ensure that it can develop managed code that can be fully used by developers using any programming language, a set of language features and rules for using them called the Common Language Specification (CLS) has been defined. Components that follow these rules and expose only CLS features are considered CLS-compliant.

THE CLASS LIBRARY

.NET provides a single-rooted hierarchy of classes, containing over 7000 types. The root of the namespace is called System; this contains basic types like Byte, Double, Boolean, and String, as well as Object. All objects derive from the system. Object. As well as objects, there are value types. Value types can be allocated on the stack, which can provide useful flexibility. There are also efficient means of converting value types to object types if and when necessary.

The set of classes is pretty comprehensive, providing collections, file, screen, and network I/O, threading, and so on, as well as XML and database connectivity. The class library is subdivided into a number of sets (or namespaces), each providing distinct areas of functionality, with dependencies between the namespaces kept to a minimum.

LANGUAGES SUPPORTED BY .NET

The multi-language capability of the .NET Framework and Visual Studio .NET enables developer to use their existing programming skills to build all types of applications and XML Web services. The .NET framework supports new versions of Microsoft's old favorites Visual Basic and C++ (as VB.NET and Managed C++), but there are also a number of new additions to the family.

Visual Basic .NET has been updated to include many new and improved language features that make it a powerful object-oriented programming language. These features include inheritance, interfaces, and overloading, among others. Visual Basic also now supports structured exception handling, custom attributes and also supports multi-threading.

Visual Basic .NET is also CLS compliant, which means that any CLS-compliant language can use the classes, objects, and components it create in Visual Basic .NET. Managed Extensions for C++ and attributed programming are just some of the enhancements made to the C++ language. Managed Extensions simplify the task of migrating existing C++ applications to the new .NET Framework.

C# is Microsoft's new language. It's a C-style language that is essentially "C++ for Rapid Application Development". Unlike other languages, its specification is just the grammar of the language. It has no standard library of its own, and instead has been designed with the intention of using the .NET libraries as its own. Microsoft Visual J# .NET provides the easiest transition for Java-language developers into the world of XML Web Services and dramatically improves the interoperability of Java-language programs with existing software written in a variety of other programming languages.

Active State has created Visual Perl and Visual Python, which enable .NET-aware applications to be built in either Perl or Python. Both products can be integrated into the Visual Studio .NET environment. Visual Perl includes support for Active State's Perl Dev Kit. Other languages for which .NET compilers are available include

- FORTRAN
- COBOL
- C & C++

ASP.NET

ASP.NET is a web development platform, which provides a programming model, a comprehensive software infrastructure and various services required to build up robust web applications for PC as well as mobile devices. ASP.NET works on top of the HTTP protocol, and uses the HTTP commands and policies to set a browser-to-server bilateral communication and cooperation. ASP.NET is a part of Microsoft .Net platform. ASP.NET applications are compiled codes, written using the extensible and reusable components or objects present in .Net framework. These codes can use the entire hierarchy of classes in .Net framework. ASP.NET application codes can be written in any of the following languages:

- C#
- Visual Basic.Net
- Jscript
- J#

ASP.NET is used to produce interactive, data-driven web applications over the internet. It consists of a large number of controls such as text boxes, buttons, and labels for assembling, configuring, and manipulating code to create HTML pages.

ASP.NET WEB FORMS MODEL

ASP.NET web forms extend the event-driven model of interaction to the web applications. The browser submits a web form to the web server and the server returns a full markup page or HTML page in response.

All client side user activities are forwarded to the server for stateful processing. The server processes the output of the client actions and triggers the reactions. Now, HTTP is a stateless protocol. ASP.NET framework helps in storing the information regarding the state of the application, which consists of:

- Page state
- Session state

The page state is the state of the client, i.e., the content of various input fields in the web form. The session state is the collective information obtained from various pages the user visited and worked with, i.e., the overall session state.

THE ASP.NET COMPONENT MODEL

The ASP.NET component model provides various building blocks of ASP.NET pages. Basically it is an object model, which describes:

- Server side counterparts of almost all HTML elements or tags such as <form> and <input>.
- Server controls, which help in developing complex user-interface. For example, the Calendar control or the Gridview control. ASP.NET is a technology, which works on the .Net framework that contains all web-related functionalities. The .Net framework is made of an object-oriented hierarchy.

An ASP.NET web application is made of pages. When a user requests an ASP.NET page, the IIS delegates the processing of the page to the ASP.NET runtime system. The ASP.NET runtime transforms the .asp page into an instance of a class, which inherits from the base class page of the .Net framework. Therefore, each ASP.NET page is an object and all its components i.e., the server-side controls are also objects.

ABOUT SQLSERVER

Using Visual Studio.NET, there is no need to open the Enterprise Manager from SQL Server. Visual Studio.NET has the SQL Servers tab within the Server Explorer that gives a list of all the servers that are connected to those having SQL Server on them. Opening up a particular server tab gives five options:

- Database Diagrams
- Tables
- Views
- Stored Procedures
- Functions

DATABASE DIAGRAMS

To create a new diagram right click Database diagram and select New Diagram. The Add Tables dialog enables to select one to all the tables that it went in the visual diagram it are going to create. Visual Studio .NET looks at all the relationships between the tables and then creates a diagram that opens in the Document window.

Each table is represented in the diagram and a list of all the columns that are available in that particular table. Each relationship between tables is represented by a connection line between those tables. The properties of the relationship can be viewed by right clicking the relationship line.

TABLES

The Server Explorer allows to work directly with the tables in SQL Server. It gives a list of tables contained in the particular database selected. By double clicking one of the tables, the table is seen in the Document window.

This grid of data shows all the columns and rows of data contained in the particular table. The data can be added or deleted from the table grid directly in the Document window. To add a new row of data, move to the bottom of the table and type in a new row of data after selecting the first column of the first blank row. It can also delete a row of data from the table by right clicking the gray box at the left end of the row and selecting Delete.

By right clicking the gray box at the far left end of the row, the primary key can be set for that particular column. The relationships to columns in other tables can be set by selecting the Relationships option. To create a new table right-click the Tables section within the Server Explorer and selecting New Table. This gives the design view that enables to start specifying the columns and column details on the table.

To run queries against the tables in Visual Studio .NET, open the view of the query toolbar by choosing View->Toolbars->Query. To query a specific table, open that table in the Document window. Then click the SQL button which divides the Document window into two panes-one for query and another to show results gathered from the query. The query is executed by clicking the Execute Query button and the result is produced in the lower pane of the Document window.

VIEWS

To create a new view, right-click the View node and select New View. The Add Table dialog box enables to select the tables from which the view is produced. The next pane enables to customize the appearance of the data in the view.

FEATURES OF SQL SERVER

The OLAP Services feature available in SQL Server version 7.0 is now called SQL Server 2000 Analysis Services. The term OLAP Services has been replaced with the term Analysis Services. Analysis Services also includes a new data mining component. The Repository component available in SQL Server version 7.0 is now called Microsoft SQL Server 2000 Meta Data Services.

References to the component now use the term Meta Data Services. The term repository is used only in reference to the repository engine within Meta Data Services. SQL-SERVER database consist of six types of objects, They are,

- TABLE
- QUERY
- FORM
- REPORT
- MACRO

TABLE

A database is a collection of data about a specific topic.

VIEWS OF TABLE

It can work with a table in two types,

- Design View
- Datasheet View

DESIGN VIEW

To build or modify the structure of a table, it work in the table design view. It can specify what kind of data will be held.

DATASHEET VIEW

To add, edit or analyze the data itself, it work in a table datasheet view mode.

QUERY

A query is a question that has to be asked the data. Access gathers data that answers the question from one or more table. The data that make up, the answer is either diagnosed (if it, edit it) or a snapshot (it cannot be edited). Each time it run the query, it get the latest information in the dynasty. Access either displays the dynaset or snapshot for us to view or perform an action on it such as deleting or updating.

FORMS

A form is used to view and edit information in the database record by record. A form displays only the information it want to see in the way it want to see it. Forms use the familiar controls such as textboxes and checkboxes. This makes viewing and entering data easy.

VIEWS OF FORM

It can work with forms in several primarily there are two views, They are,

- Design View
- Form View

DESIGN VIEW

To build or modify the structure of a form, it work in form design view. It can add controls to the form that are bound to fields in a table or query, includes text boxes, option buttons, graphs and pictures.

FORM VIEW

The form view which displays the whole design of the form.

REPORT

A report is used to view and print information from the database. The report can group records into many levels and compute totals and average by checking values from many records at once. The report is also attractive and distinctive because it has control over the size and appearance of it.

MACRO

A macro is a set of actions. Each action in macros does something. Such as opening a form, or printing a report. It writes macros to automate the most common tasks to work easier and save the time.

*SYSTEM
DESIGN*

CHAPTER 4

SYSTEM DESIGN

4.1 DATABASE DESIGN

TABLE 1: MAP IMAGE

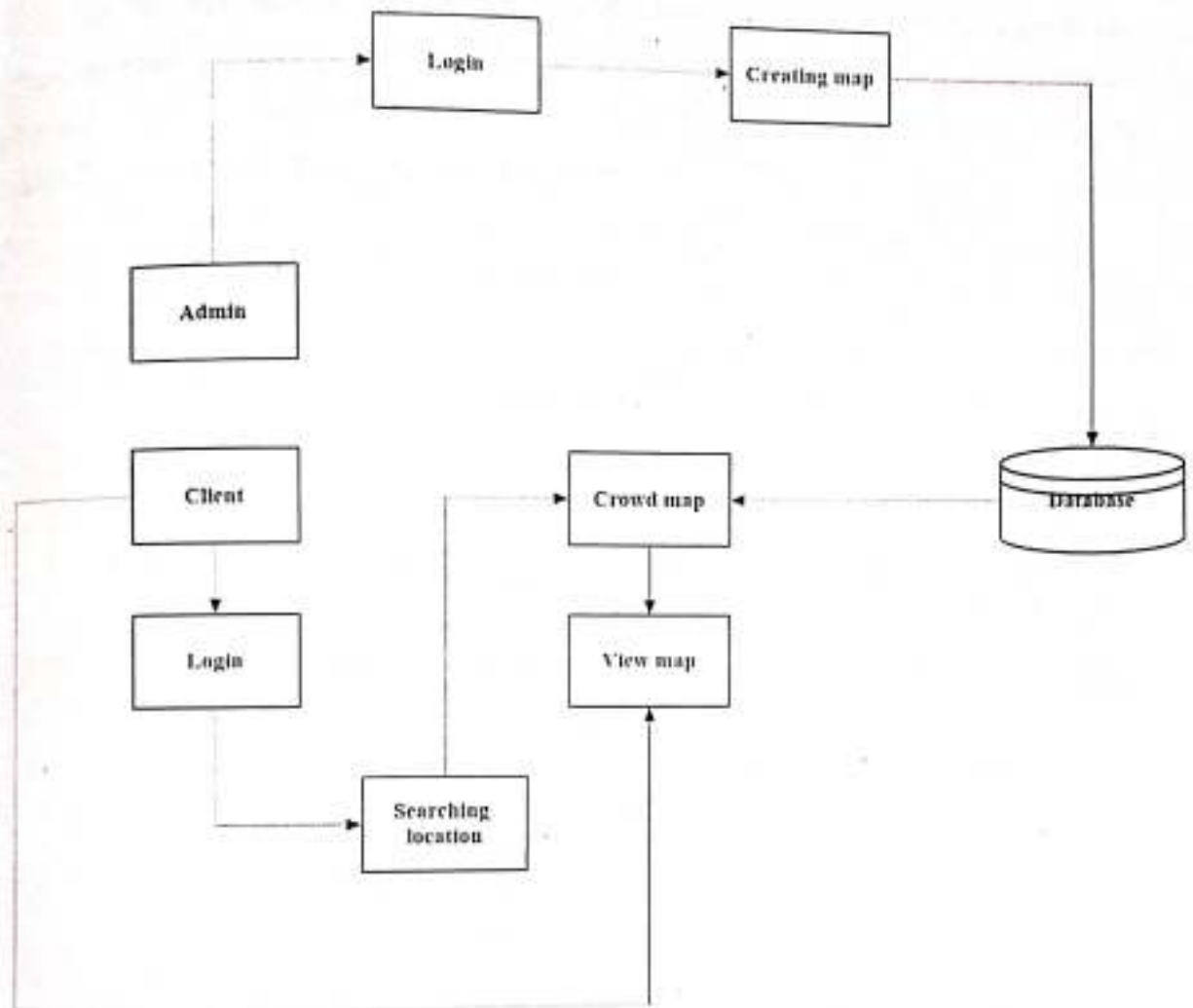
S.No	Field name	Data Type
1	Location keyword	nvarchar(MAX)
2	Map	nvarchar(MAX)

TABLE 2: MAP DETAILS

S.No	Field name	Data Type
1	Keyword	nvarchar(MAX)
2	Point name	nvarchar(MAX)
3	Latitude	nvarchar(MAX)
4	Longitude	nvarchar(MAX)
5	Description	nvarchar(MAX)

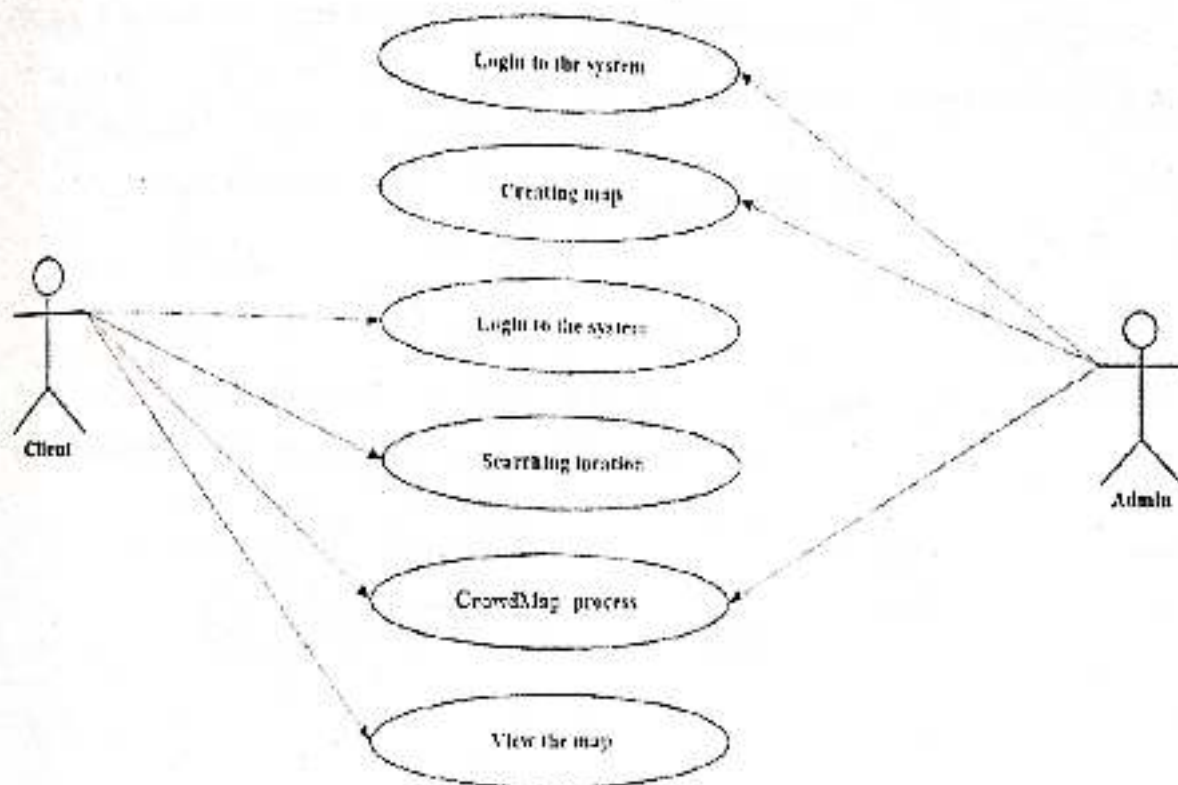
4.2 UML DIAGRAMS

1. SYSTEM ARCHITECTURE



2. USECASE DIAGRAMS

Use case diagrams are considered for high level requirement analysis of a system. So when the requirements of a system are analyzed the functionalities are captured in use cases. That use cases are nothing but the system functionalities written in an organized manner. Now the second things which are relevant to the use cases are the actors. Actors can be defined as something that interacts with the system.



Use case diagrams specify the events of a system and their flows. But use case diagram never describes how they are implemented. Use case diagram can be imagined as a black box where only the input, output and the function of the black box is known

The actors can be human user, some internal applications or may be some external applications. So in a brief when planning to draw a use case diagram should have the following items identified.

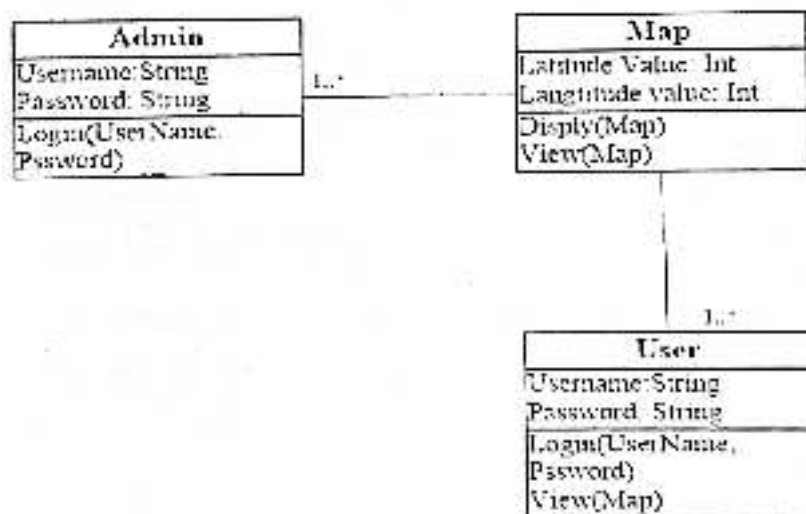
- Functionalities to be represented as an use case
- Actors
- Relationships among the use cases and actors.

Use case diagrams are drawn to capture the functional requirements of a system. So after identifying the above items have to follow the following guidelines to draw an efficient use case diagram.

- The name of a use case is very important. So the name should be chosen in such a way so that it can identify the functionalities performed.
- Give a suitable name for actors.
- Show relationships and dependencies clearly in the diagram.
- Do not try to include all types of relationships. Because the main purpose of the diagram is to identify requirements.
- Use note whenever required to clarify some important points.

3.CLASS DIAGRAM

The class diagram is a static diagram. It represents the static view of an application. Class diagram is not only used for visualizing, describing and documenting different aspects of a system but also for constructing executable code of the software application.



The class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modelling of object oriented systems because they are the only UML diagrams which can be mapped directly with object oriented languages.

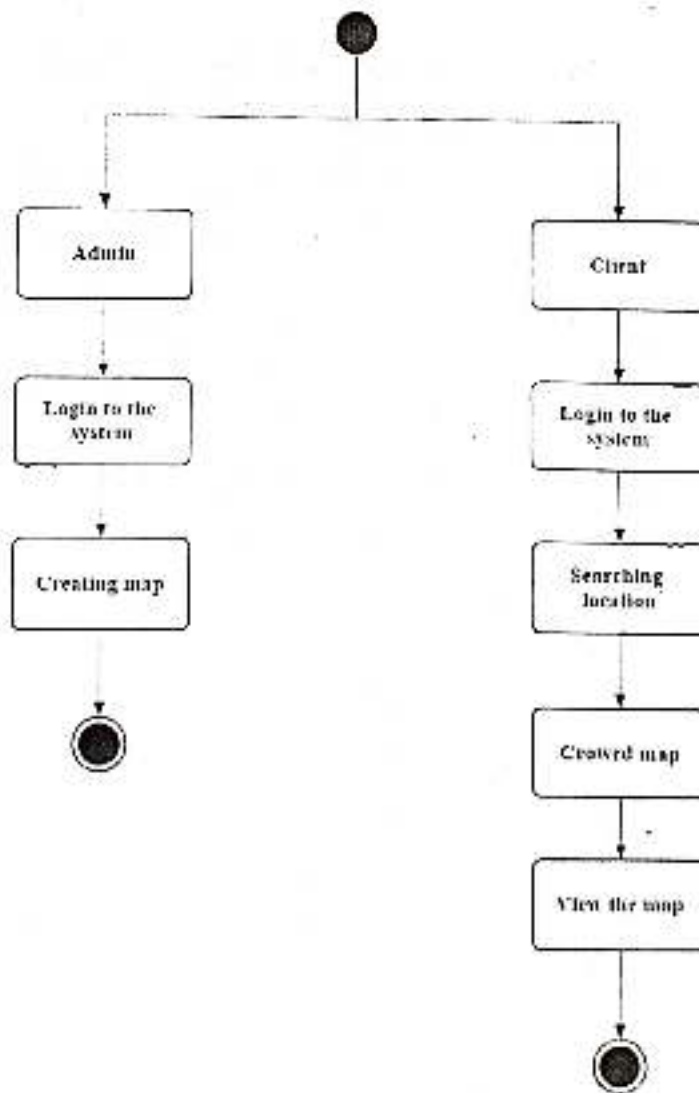
The class diagram shows a collection of classes, interfaces, associations, collaborations and constraints. It is also known as a structural diagram.

The purpose of the class diagram is to model the static view of an application. The class diagrams are the only diagrams which can be directly mapped with object oriented languages and thus widely used at the time of construction.

The UML diagrams like activity diagram, sequence diagram can only give the sequence flow of the application but class diagram is a bit different. So it is the most popular UML diagram in the coder community.

4. ACTIVITY DIAGRAM

Activity diagram is another important diagram in UML to describe dynamic aspects of the system. Activity diagram is basically a flow chart to represent the flow from one activity to another activity. The activity can be described as an operation of the system.



So the control flow is drawn from one operation to another. This flow can be sequential, branched or concurrent. Activity diagrams deals with all type of flow control by using different elements like fork, join etc.

The basic purposes of activity diagrams are similar to other four diagrams. It captures the dynamic behavior of the system. Other four diagrams are used to show the message flow from one object to another but activity diagram is used to show message flow from one activity to another.

Activity is a particular operation of the system. Activity diagrams are not only used for visualizing dynamic nature of a system but they are also used to construct the executable system by using forward and reverse engineering techniques. The only missing thing in activity diagram is the message part.

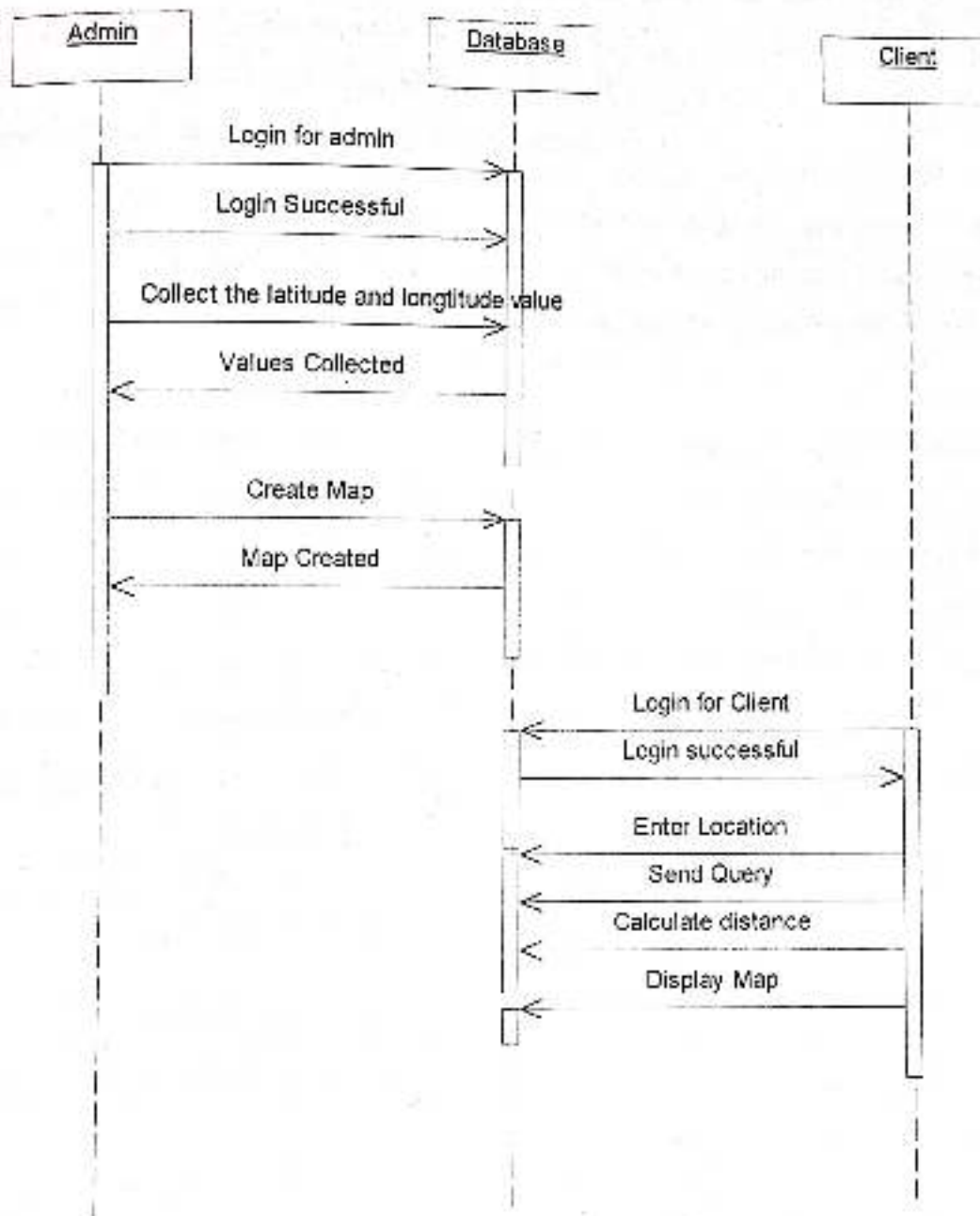
It does not show any message flow from one activity to another. Activity diagram is some time considered as the flow chart. Although the diagrams looks like a flow chart but it is not. It shows different flow like parallel, branched, concurrent and single.

So the purposes can be described as:

- Draw the activity flow of a system.
- Describe the sequence from one activity to another.
- Describe the parallel, branched and concurrent flow of the system.

5. SEQUENCE DIAGRAM

The Sequence Diagram models the collaboration of objects based on a time sequence. It shows how the objects interact with others in a particular scenario of a use case. With the advanced visual modeling capability, it can create complex sequence diagram in few clicks. Besides, VP-UML can generate sequence diagram from the flow of events which it has defined in the use case description.



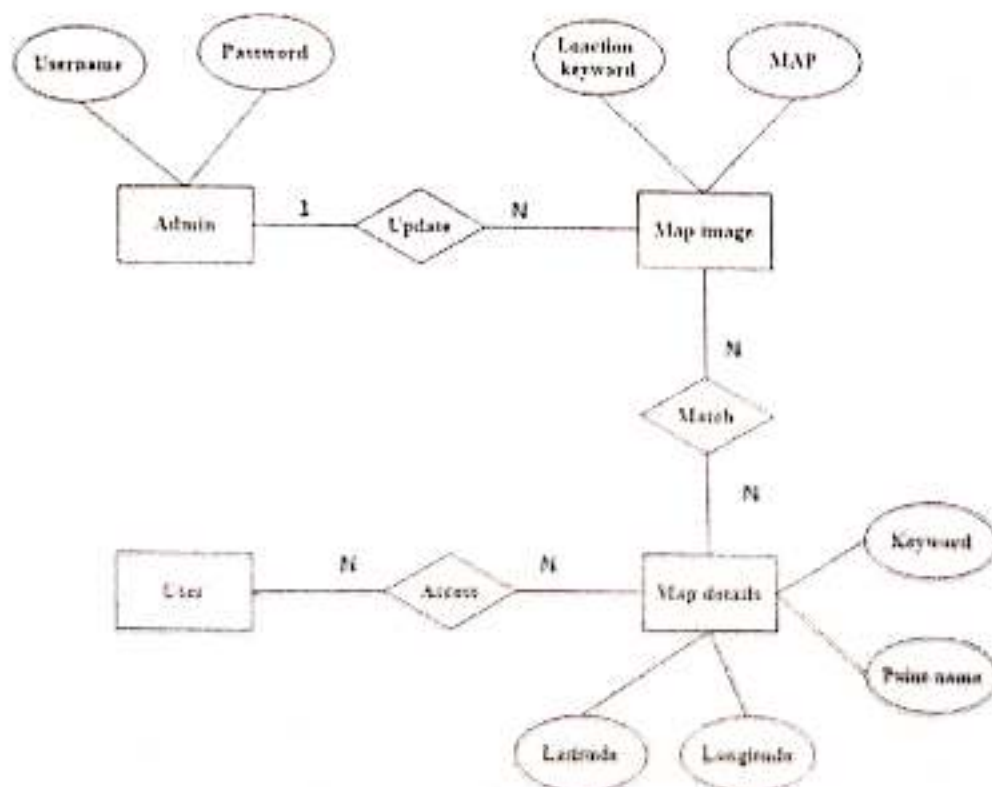
The sequence diagram is used primarily to show the interactions between objects in the sequential order that those interactions occur. Much like the class diagram, developers typically think sequence diagrams were meant exclusively for them. However, an organization's business staff can find sequence diagrams useful to communicate how the business currently works by showing how various business objects interact. Besides documenting an organization's current affairs, a business-level sequence diagram can be used

as a requirements document to communicate requirements for a future system implementation. During the requirements phase of a project, analysts can take use cases to the next level by providing a more formal level of refinement. When that occurs, use cases are often refined into one or more sequence diagrams.

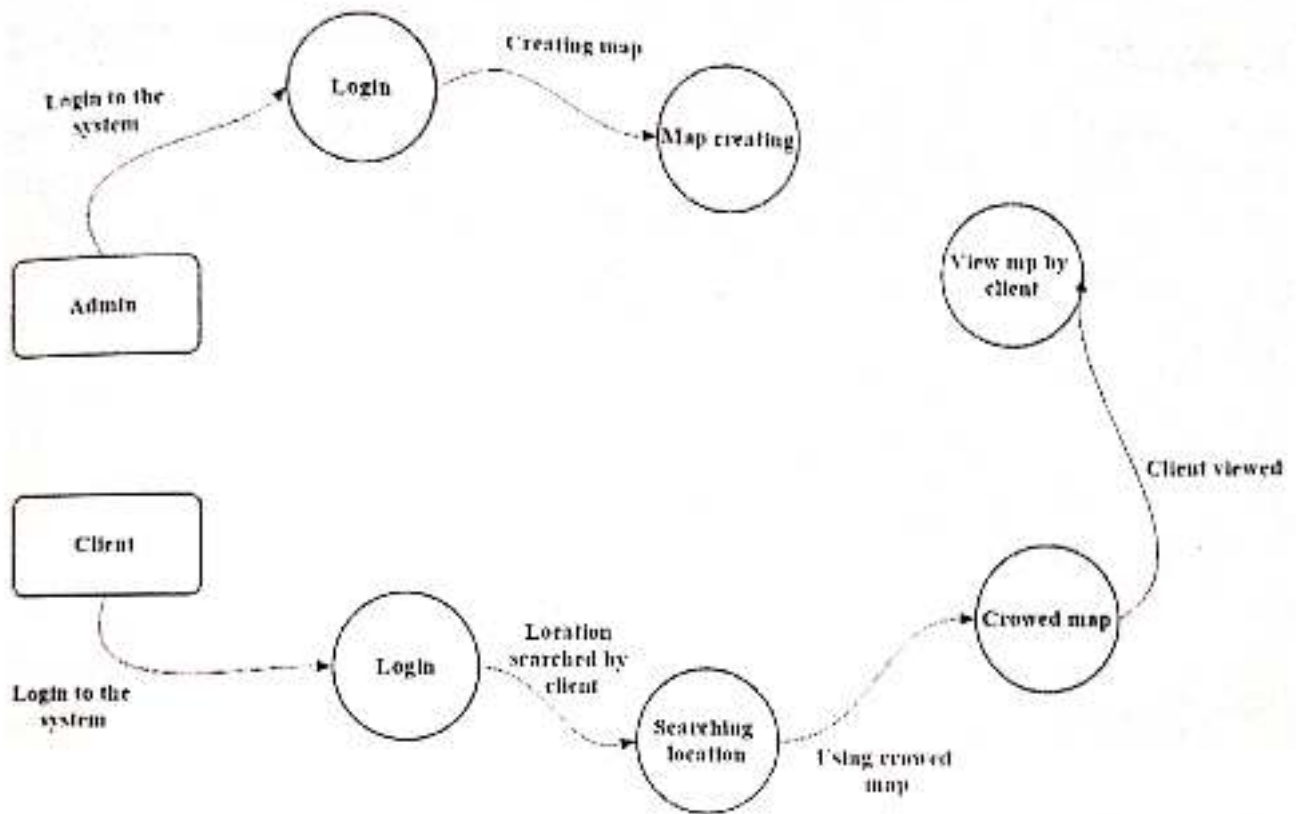
An organization's technical staff can find sequence diagrams useful in documenting how a future system should behave. During the design phase, architects and developers can use the diagram to force out the system's object interactions, thus fleshing out overall system design.

One of the primary uses of sequence diagrams is in the transition from requirements expressed as use cases to the next and more formal level of refinement. Use cases are often refined into one or more sequence diagrams. In addition to their use in designing new systems, sequence diagrams can be used to document how objects in an existing (call it "legacy") system currently interact. This documentation is very useful when transitioning a system to another person or organization.

6. ER DIAGRAM

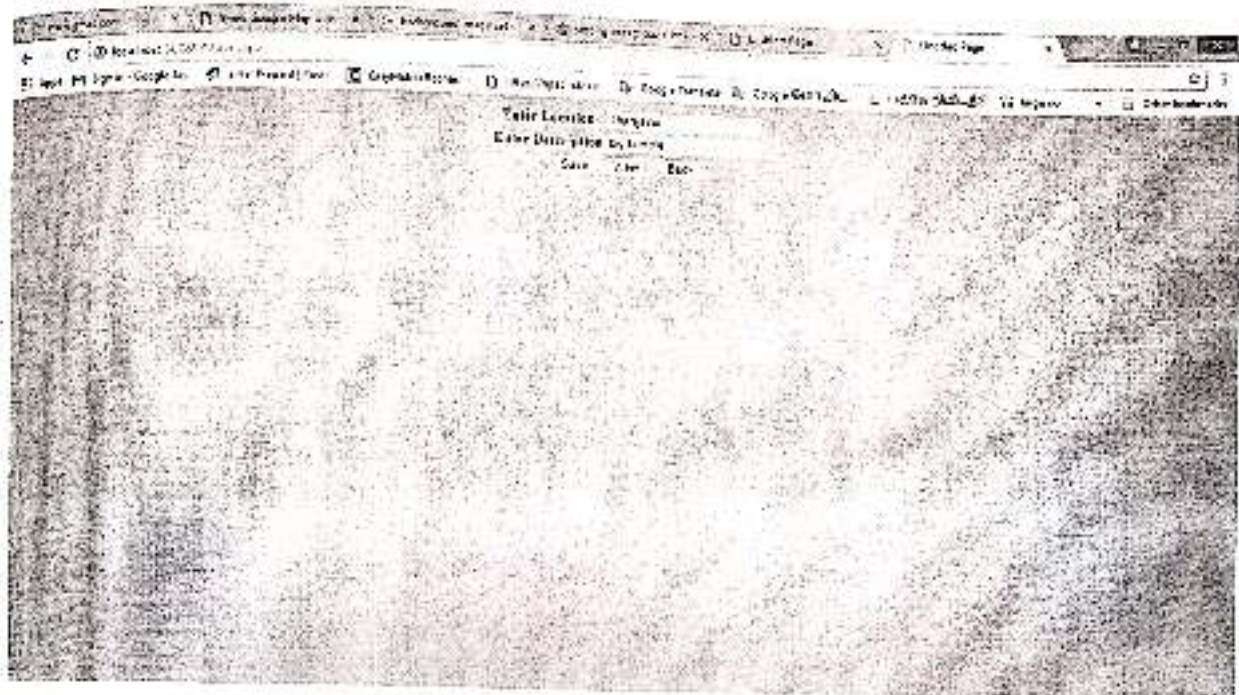


7. DATAFLOW DIAGRAM

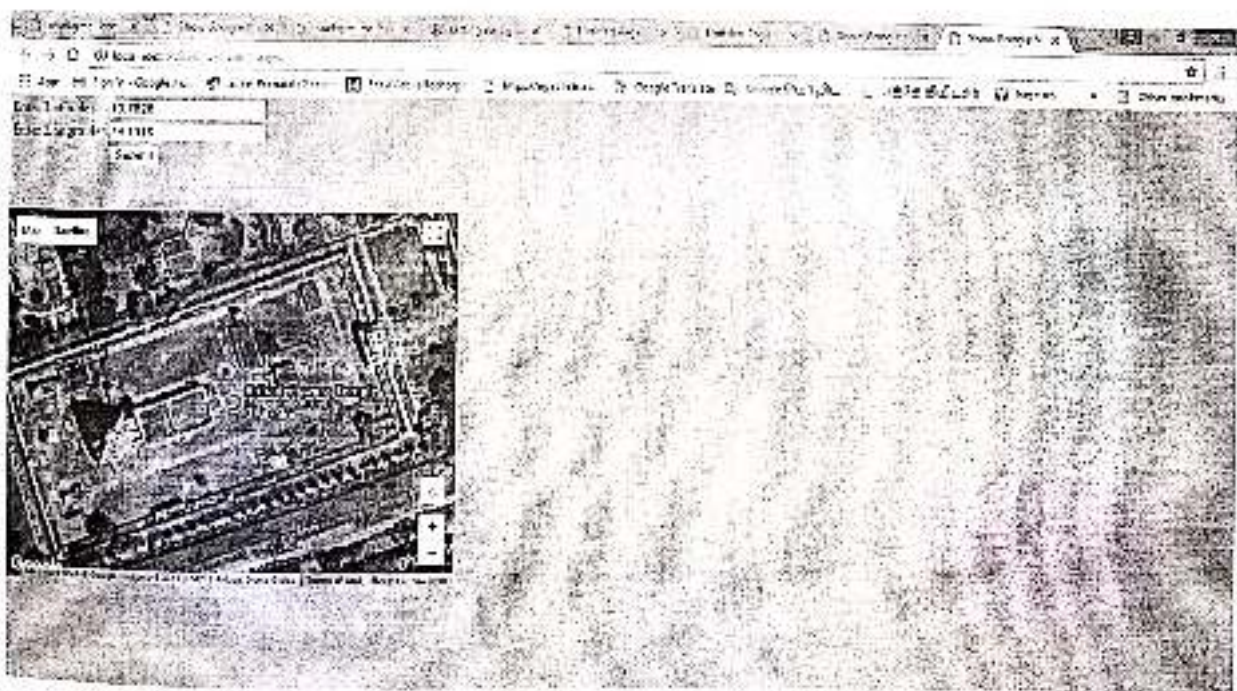


4.3 INPUT/OUTPUT FORM DESIGN

INPUT FORM



OUTPUT FORM



IMPLEMENTATION

CHAPTER 5

IMPLEMENTATION

5.1 CROWDMAP WITH KEY-FRAME COMPARISON ALGORITHM

Step1: Given two sets of SURF descriptors $\{F1\}$ and $\{F2\}$

Step2: for $\forall f1 \in \{F1\}$ do $f2$

Step3: $\leftarrow \text{NearestNeighbor}(f1, \{F2\}) f^*$

Step4: $\leftarrow \text{NearestNeighbor}(f2, \{F1\})$ if $f^* == f1$

Step5: then if $d(f1, f2) < hd$

Step6: then add pair $(f1, f2)$ to array A

Step7: return A

CrowdMap leverages crowd sourced sensor-rich videos to reconstruct accurate indoor digital floor plans without any building information known a priori. The system consists of two components based on client-cloud platform structure. The first component is mobile front-end which allows user to contribute the spatial, video and inertial data by capturing sensor-rich videos. The other component is cloud backend which processes the received crowd sourced data and reconstructs floor plan. CrowdMap adopts a sequence based approach that we use multiple video frames along the user trajectory to aggregate multiple user trajectories. In other words, the aggregation of two or more user trajectories is determined from multiple frames over certain period of time instead of single frame comparison.

SYSTEM TESTING



CHAPTER 6

SYSTEM TESTING

6.1 VALIDATION TESTING

While verification is a quality control process, quality assurance process carried out before the software is ready for release is known as validation testing. Its goal is to validate and be confident about the software product or system, that it fulfills the requirements given by the customer. The acceptance of the software from the end customer is also its part. Often the testing activities are introduced early in the software development life cycle. The two major areas when it should take place are in the early stages of software development and towards the end, when the product is ready for release. In other words, it is acceptance testing which is a part of validation testing.

PASSWORD VISIBILITY TESTING

In this login form the username and password are displayed. Here the error occurred is the password characters are displayed transparently. The password characters whatever entered by the user should not be displayed in text characters. The password should be hidden using some special characters like (*, #, \$). By using the special characters the password will not be easily hacked by other users.



6.2 FUNCTIONALITY TESTING

Functional testing is a type of testing which verifies that each function of the software application operates in conformance with the requirement specification. This testing mainly involves black box testing and it is not concerned about the source code of the application. Each and every functionality of the system is tested by providing appropriate input, verifying the output and comparing the actual results with the expected results. Software is tested by providing it with some related input so that the output can be evaluated to see how it conforms, relates or varies compared to its base requirements. Moreover, functional testing also checks the software for usability, such as by ensuring that the navigational functions are working as required. The project has been verified for the functionality testing as it works fine and produce expected output as mentioned in the requirement of the project.

*PERFORMANCE
AND
LIMITATION*

CHAPTER 7

PERFORMANCE AND LIMITATION

7.1 RESULTS AND DISCUSSION

In our project the top most requirements is indoor floor planning reconstruction. The admin will be login and create the map for the user requirements. The client will login and searching their locations for their needy. And this process display the map to the client. The project has been checked for functionality testing. It worked fine as proposed by the user. It ensures the main functions of the system is working fine. Functionality testing is the basic usability testing of the system proves user interface of the project is easily understandable so it makes the project user friendly to execute it successfully. Error conditions are checked to verify the suitable error message are checked. The algorithm or method implemented in this project indicates better performance since it is flawlessly passing the functionality test.

CrowdMap front-end runs on a user's smartphone. It takes some energy when user starts capturing the indoor environment by shooting sensor-rich videos. The inertial sensor (accelerometer, compass and gyroscope) only consumes about 30mW when sampling. Recording video takes an average of 350mW for a one minute recording with a resolution setting of 480p. However, unlike CrowdInside, our mobile application does not require users to run a daemon process in the background. Therefore, several rounds of data collecting tasks should not constitute significant power consumption for a user.

CONCLUSION

CHAPTER 8

CONCLUSION

This project presents CrowdMap, an indoor floor plan reconstruction system based on crowd sourced sensor-rich videos. Our solution uses the sequential relationship between consecutive frames to enhance the accuracy of the floor plan. The prototype of our system is readily deployable at a large scale. As our future work, we will focus on further processing of the room panorama to extract more context information of the room, such as object detection and object recognition. We also plan to further study several issues related to the proposed crowdsourcing based indoor mapping approaches, such as user incentive and privacy preservation mechanism. Once fully hardened, we believe that CrowdMap is able to extend existing digital map services to indoor environment on a world scale.

APPENDIX

CHAPTER 8

APPENDICES

1. SOURCE CODE

```
using System;
using System.Configuration;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.UI;
using System.Web.UI.HtmlControls;
using System.Web.UI.WebControls;
using System.Web.UI.WebControls.WebParts;
using System.Xml.Linq;
public partial class _Default : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }
    protected void Button1_Click(object sender, EventArgs e)
    {
        Response.Redirect("Login.aspx");
    }
    protected void Button2_Click(object sender, EventArgs e)
    {
        Response.Redirect("Userquery.aspx");
    }
}
```

```

using System;
using System.Collections;
using System.Configuration;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.UI;
using System.Web.UI.HtmlControls;
using System.Web.UI.WebControls;
using System.Web.UI.WebControls.WebParts;
using System.Xml.Linq;

public partial class Default2 : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
        txtlat.Text = Session["name"].ToString();
        txtlon.Text = Session["no"].ToString();
    }
}

using System;
using System.Collections;
using System.Configuration;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.UI;
using System.Web.UI.HtmlControls;
using System.Web.UI.WebControls;
using System.Web.UI.WebControls.WebParts;

```

```

using System.Xml.Linq;
public partial class Default3 : System.Web.UI.Page
{
    protected void Page_Load(object sender, EventArgs e)
    {
    }
    private void BuildScript(DataTable tbl)
    {
        String Locations = "";
        foreach (DataRow r in tbl.Rows)
        {
            // bypass empty rows
            if (r["Latitude"].ToString().Trim().Length == 0)
                continue;
            string Latitude = r["Latitude"].ToString();
            string Longitude = r["Longitude"].ToString();
            // create a line of JavaScript for marker on map for this record
            Locations += Environment.NewLine + " map.addOverlay(new GMarker(new GLatLng(" +
            Latitude + "," + Longitude + "));";
        }
        // construct the final script
        js.Text = @"<script type='text/javascript'>
function initialize() {
if (GBrowserIsCompatible()) {
var map = new GMap2(document.getElementById('map_canvas'));
map.setCenter(new GLatLng(51.5,-0.1167), 2);
" + Locations + @"
map.setUIToDefault();
}
}
</script> ";
}
}

```

```

    }
    using System;
    using System.Collections;
    using System.Configuration;
    using System.Data;
    using System.Linq;
    using System.Web;
    using System.Web.Security;
    using System.Web.UI;
    using System.Web.UI.HtmlControls;
    using System.Web.UI.WebControls;
    using System.Web.UI.WebControls.WebParts;
    using System.Xml.Linq;
    public partial class Login : System.Web.UI.Page
    {
        protected void Page_Load(object sender, EventArgs e)
        {
        }
        protected void Button1_Click(object sender, EventArgs e)
        {
            if (TextBox1.Text == "Admin" && TextBox2.Text == "Admin")
            {
                Response.Redirect("Main.aspx");
            }
            else
            {
                lblerror.Visible = true;
                lblerror.Text = "Invalid";
            }
        }
    }
    using System;

```

```

using System.Collections;
using System.Configuration;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.UI;
using System.Web.UI.HtmlControls;
using System.Web.UI.WebControls;
using System.Web.UI.WebControls.WebParts;
using System.Xml.Linq;
using System.Data.SqlClient;
public partial class Main : System.Web.UI.Page
{
    SqlConnection con;
    SqlCommand cmd;
    string s;
    int count = 0;
    protected void Page_Load(object sender, EventArgs e)
    {
    }
    protected void Button1_Click(object sender, EventArgs e)
    {
        count++;
        string point = "Point" + count;
        get();
        s = "insert into MapDetails values('" + TextBox1.Text + "','" + point +
        "','79.1280056587558','10.7727758608997,'" + TextBox2.Text + "')";
        cmd = new SqlCommand(s, con);
        cmd.ExecuteNonQuery();
        con.Close();
    }
}

```

```

public void get()
{
    con = new SqlConnection("Server=.\SQLEXPRESS;Database=MapAware;Integrated
Security=true");
    con.Open();
}
protected void Button2_Click(object sender, EventArgs e)
{
    get();
    s = "select * from MapDetails";
    cmd = new SqlCommand(s, con);
    SqlDataAdapter da = new SqlDataAdapter(cmd);
    DataTable dt = new DataTable();
    da.Fill(dt);
    GridView1.DataSource = dt;
    GridView1.DataBind();
    con.Close();
}
}
using System;
using System.Collections;
using System.Configuration;
using System.Data;
using System.Linq;
using System.Web;
using System.Web.Security;
using System.Web.UI;
using System.Web.UI.HtmlControls;
using System.Web.UI.WebControls;
using System.Web.UI.WebControls.WebParts;
using System.Xml.Linq;
using System.Data.SqlClient;

```

```

publicpartialclassUserquery :System.Web.UI.Page
{
SqlConnection con;
SqlCommandcmd;
string s;
int count = 0;
protectedvoidPage_Load(object sender, EventArgs e)
{
}
publicvoid get()
{
con = newSqlConnection("Server=.\SQLEXPRESS;Database=MapAware;Integrated
Security=true");
con.Open();
}
protectedvoid Button1_Click(object sender, EventArgs e)
{
get();
s = "select * from MapDetails";
cmd = newSqlCommand(s, con);
SqlDataReaderdr;
dr = cmd.ExecuteReader();
if(dr.HasRows)
{
while(dr.Read())
{
string f=dr[1].ToString();
DropDownList1.Items.Add(f);
DropDownList2.Items.Add(f);
}
}
}
}

```



```

protectedvoid DropDownList1_SelectedIndexChanged(object sender, EventArgs e)
{
    get();
    s = "select * from MapDetails where Pointname='" +
    DropDownList1.SelectedItem.ToString()+"'";
    cmd = newSqlCommand(s, con);
    SqlDataReaderdr;
    dr = cmd.ExecuteReader();
    if (dr.HasRows)
    {
        while (dr.Read())
        {
            string Place = dr[4].ToString();
            stringlat=dr[2].ToString();
            stringlongi = dr[3].ToString();
            TextBox1.Text = Place.ToString();
            TextBox4.Text = lat.ToString();
            TextBox6.Text = longi.ToString();
        }
    }
}

```

```

protectedvoid DropDownList2_SelectedIndexChanged(object sender, EventArgs e)
{
    get();
    s = "select * from MapDetails where Pointname='" +
    DropDownList2.SelectedItem.ToString() + "'";
    cmd = newSqlCommand(s, con);
    SqlDataReaderdr;
    dr = cmd.ExecuteReader();
    if (dr.HasRows)
    {
        while (dr.Read())

```

```

{
string Place = dr[4].ToString();
stringlat = dr[2].ToString();
stringlongi = dr[3].ToString();
TextBox2.Text = Place.ToString();
TextBox5.Text = lat.ToString();
TextBox7.Text = longi.ToString();
}
}
}
staticdecimalDistanceBetween(double latA, double longA, double latB, double longB)
{
varRadianLatA = Math.PI * latA / 180;
varRadianLatb = Math.PI * latB / 180;
varRadianLongA = Math.PI * longA / 180;
varRadianLongB = Math.PI * longB / 180;

doubletheDistance = (Math.Sin(RadianLatA)) *
Math.Sin(RadianLatb) +
Math.Cos(RadianLatA) *
Math.Cos(RadianLatb) *
Math.Cos(RadianLongA - RadianLongB);

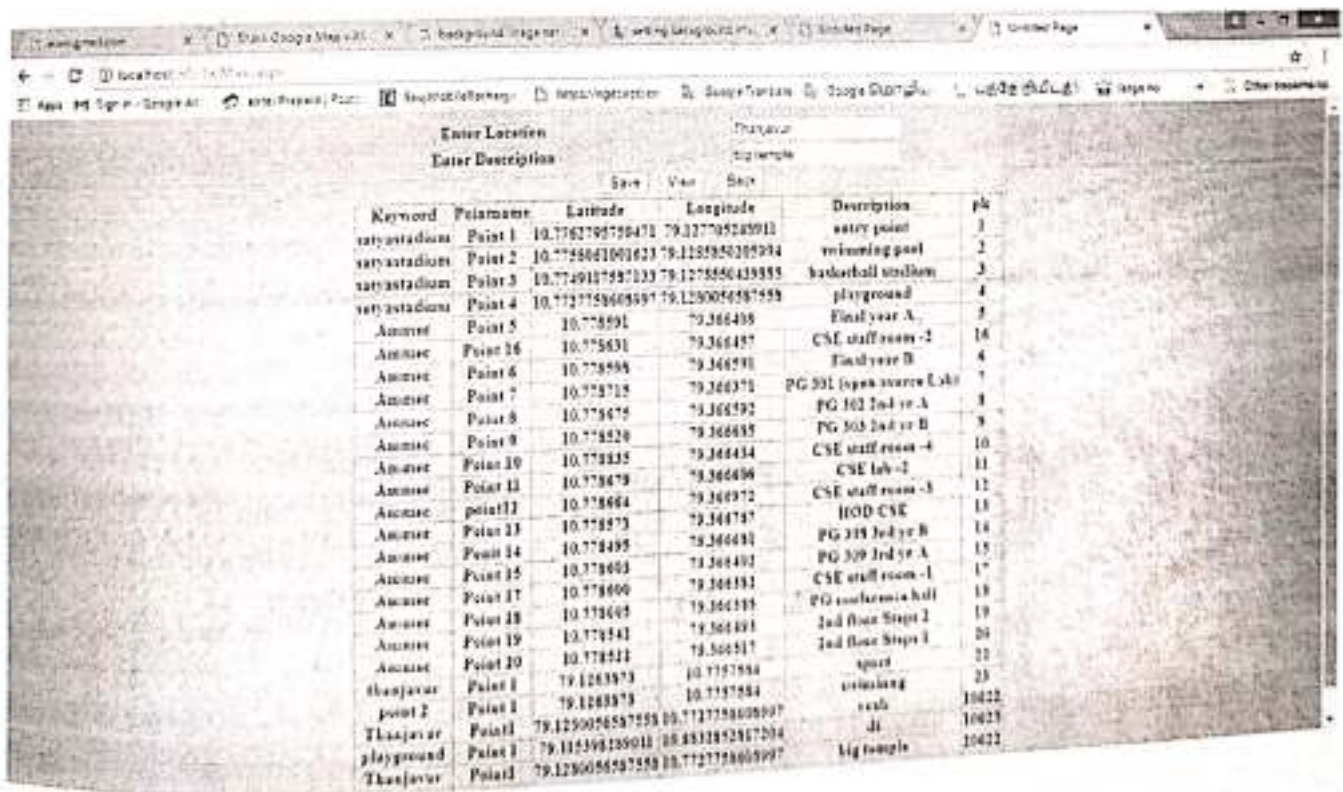
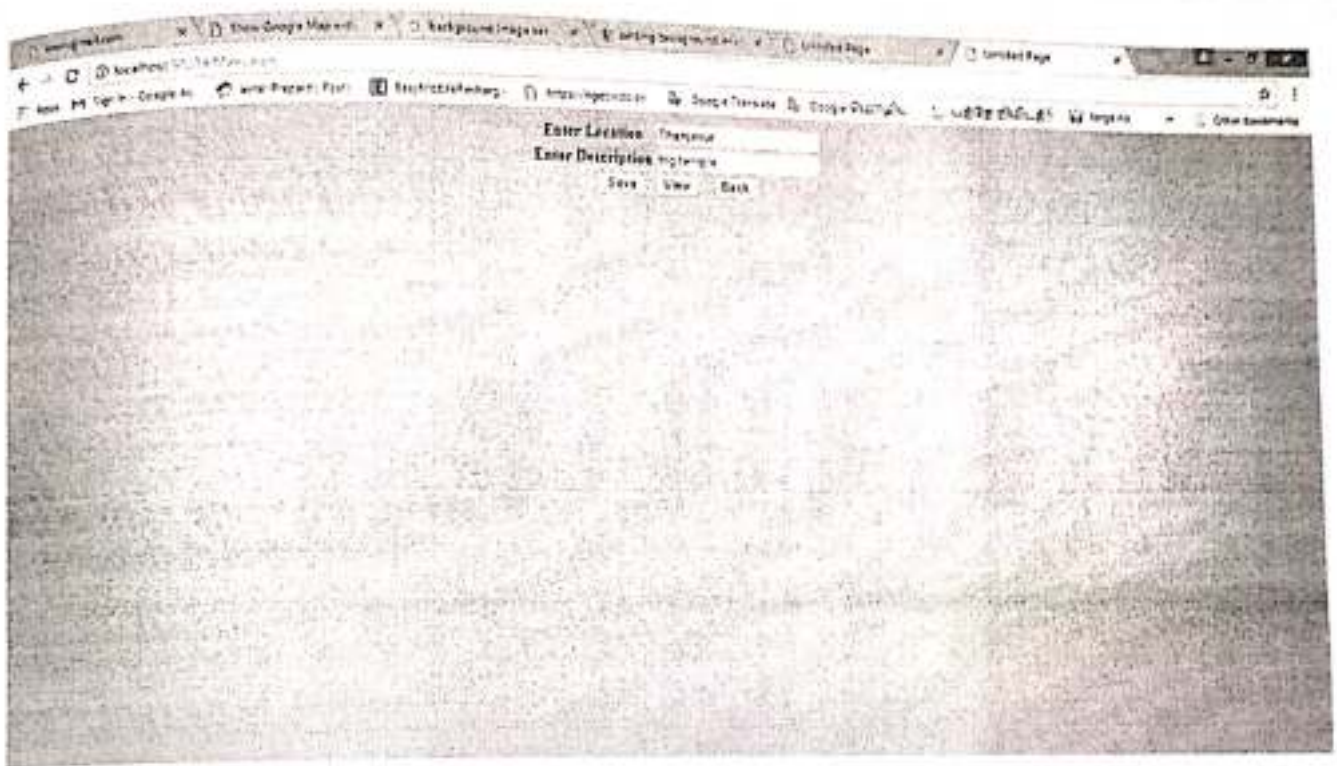
returnConvert.ToDecimal((((Math.Acos(theDistance) * (180.0 / Math.PI)))) * 69.09M *
1.6093M;
}
protectedvoid Button2_Click(object sender, EventArgs e)
{
double lat1, lat2, lon1, lon2;
lat1 = Convert.ToDouble(TextBox6.Text);
lat2 = Convert.ToDouble(TextBox7.Text);
lon1 = Convert.ToDouble(TextBox4.Text);

```

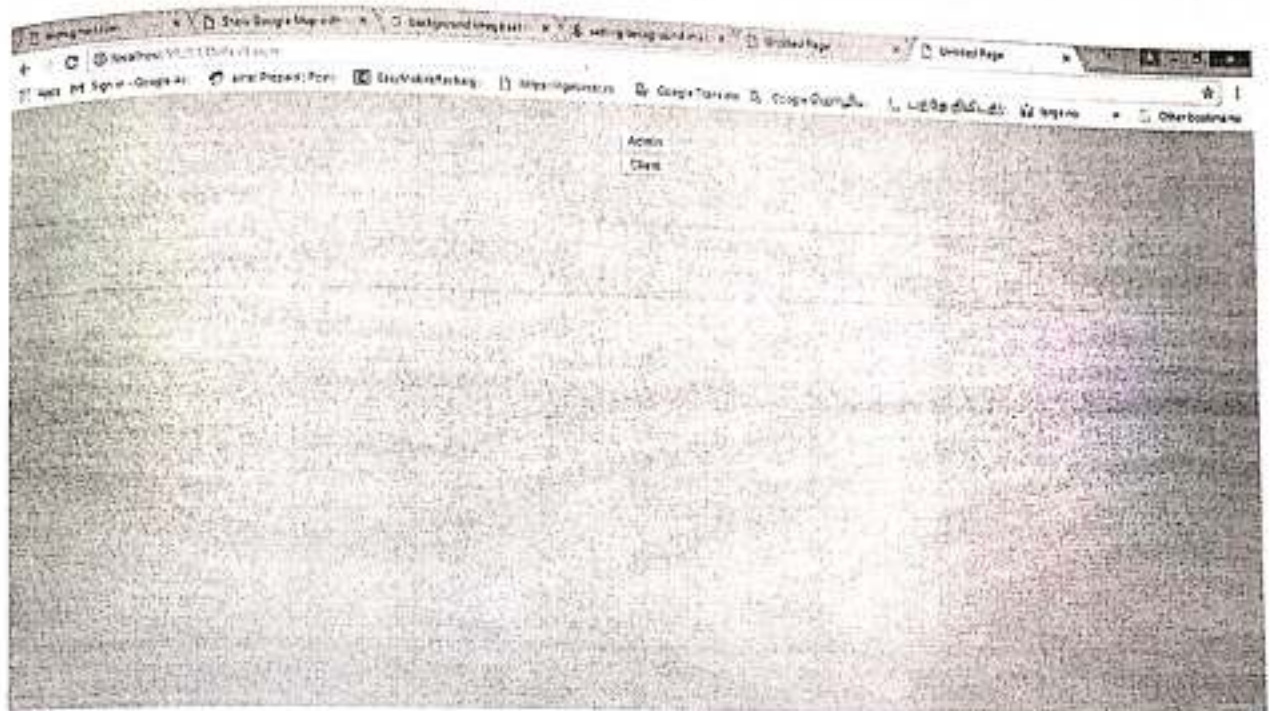
```
lon2 = Convert.ToDouble(TextBox5.Text);
decimaldist = (DistanceBetween(lat1, lat2, lon1, lon2));
dist = Math.Round(dist, 3);
string dis = (dist + "M").ToString();
TextBox3.Text = dis.ToString();
Button3.Enabled = true;
}
protectedvoid Button3_Click(object sender, EventArgs e)
{
Session["name"] = TextBox4.Text;
Session["no"] = TextBox6.Text;
Response.Redirect("Default2.aspx");
}
}
```


ENTER LOCATION

In this form user enter the location.

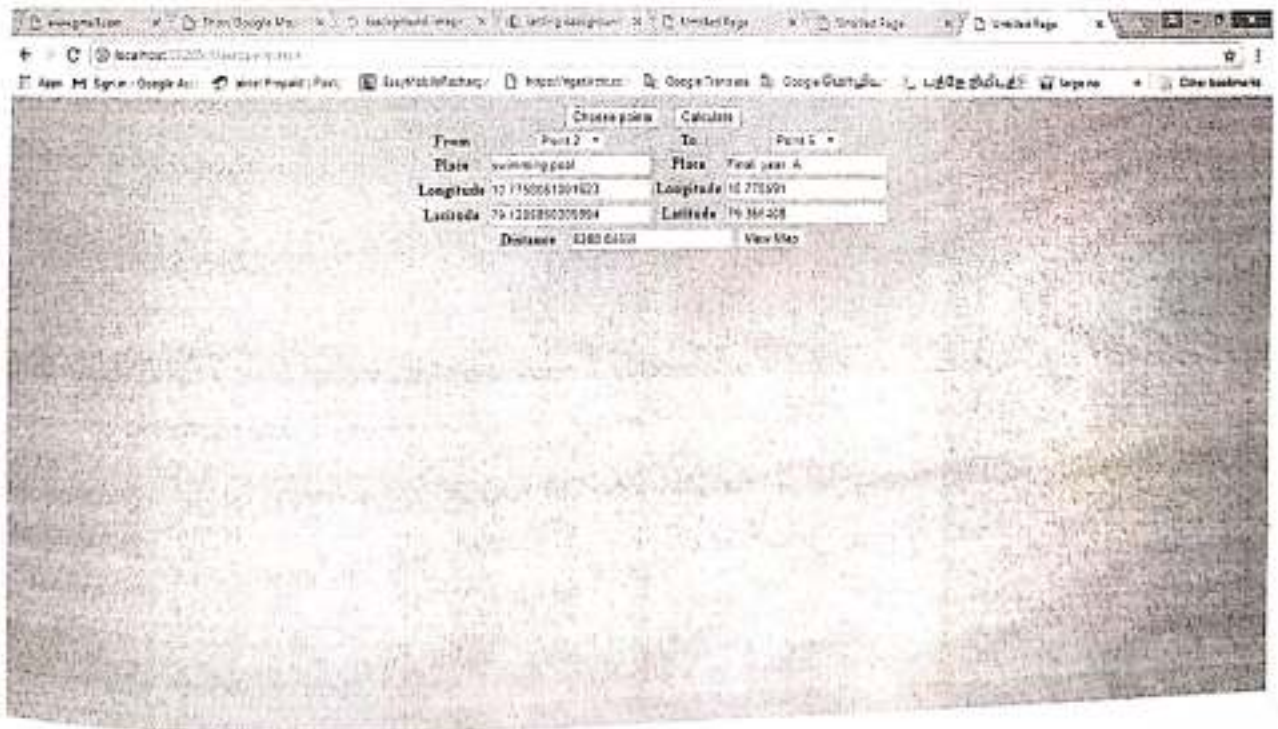


CLIENT FORM



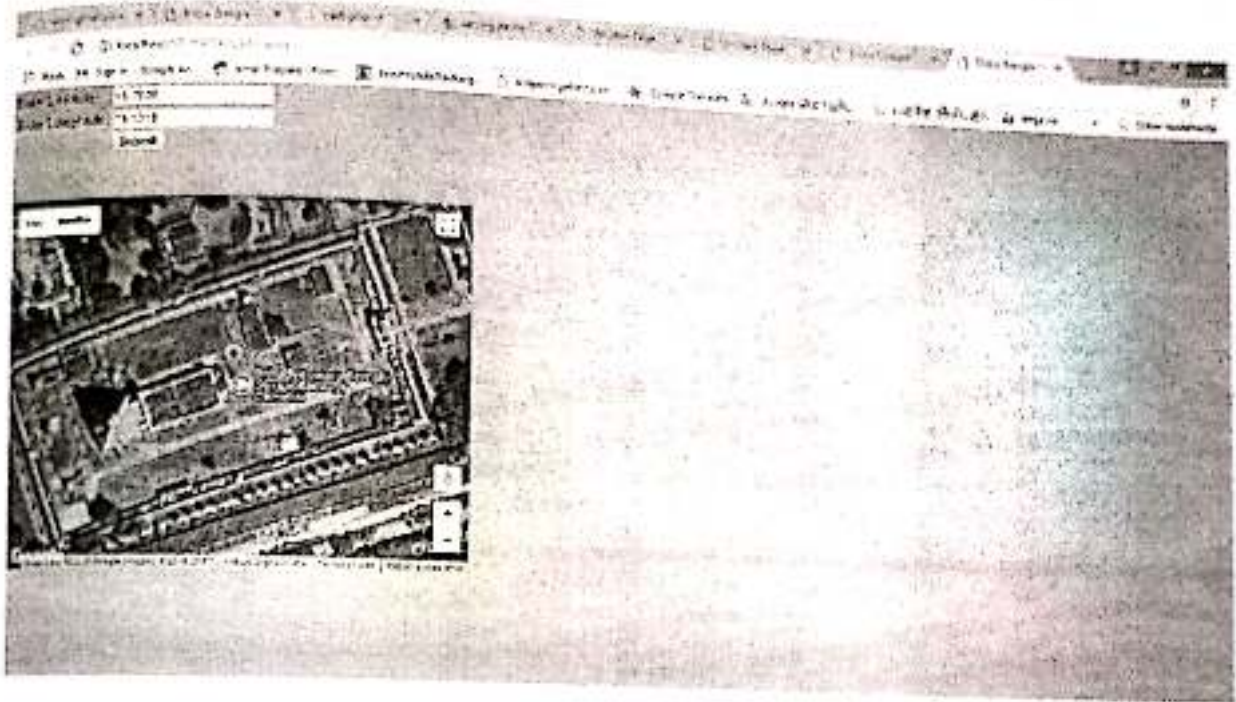
CLIENT SEARCHING FORM

In this form client searching place



CLIENT VIEW THE MAP

In this form client view the map



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			DALLOWAY	
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GANESAR COLLEGE OF ARTS AND SCIENCE

MELASIVAPURI - 622 403

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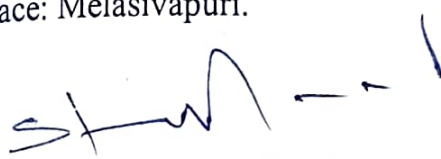
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CERTIFICATE

This is to certify that the dissertation entitled **“THE THEME OF WAR AND LOVE IN HEMINGWAY’S A FAREWELL TO ARMS”** submitted by **A.ABIRAMI (Reg. No: P17050251)** Department of English, Ganesar College of arts and Science, Melasivapuri, is a bonafide record of work done by her under my guidance in partial fulfillment of the requirement of the Degree of **MASTER OF ARTS in English**. This is dissertation or any part of it has not been submitted elsewhere for any other degree.

Date: 25. 3. 2019


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Signature of the Guide




25-03-19
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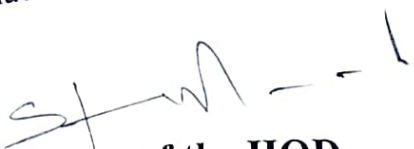
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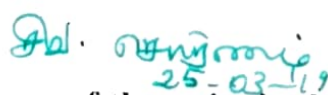
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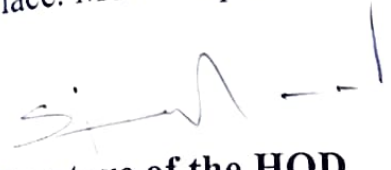
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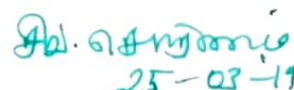
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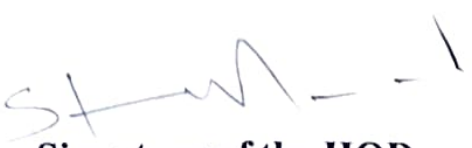
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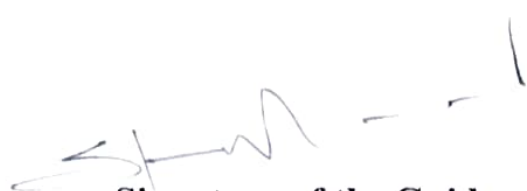
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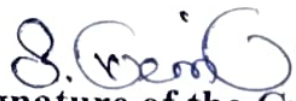
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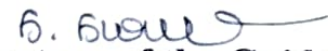
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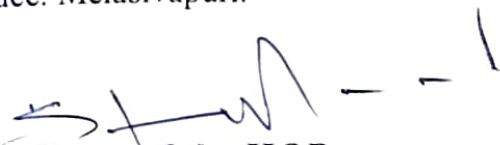
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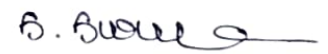
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**EXPECTATIONS, DISAPPOINTMENTS AND COMPENSATION IN
CHARLES DICKENS'S GREAT EXPECTATIONS**

Project Report Submitted to **BHARATHIDASAN UNIVERSITY,
THIRUCHIRAPALLI.**

In partial fulfillment of the requirement for the degree of
MASTER OF ARTS in English
2018 – 2019

Researcher
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Prof. **T.K.MOHAN RAM, M.A., M. Phil.,**



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I hereby declare that the dissertation entitled **“EXPECTATIONS, DISAPPOINTMENTS AND COMPENSATION IN CHARLES DICKENS’S GREAT EXPECTATIONS”** Submitted for the **M.A Degree** is an original work done by **S.MAHATHMA (Reg. No. P17050254)** under the guidance of prof. **T.K.MOHAN RAM (Assistant professor in English)** and the dissertation has not formed the basis for award of any degree or any other similar titles.



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TEXTUAL NOTE

Reference details have been given within parenthesis as per the rules found in the latest MLA Book.

The following abbreviations have been used in the text for the quotation taken from the Primary Sources.

GREAT EXPECTATIONS - GE

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CHAPTER I

INTRODUCTION

“Literature is an expression of society” and **“Literature is a criticism of life”**. Literature represents life which is a social reality. The writer is a member of the society sharing special social values. The readers also are social beings. Literature and society are mutually interdependent. This leads to one to justify that literature is a social document. The writer comes from the society and he knows the society well. He may use literature as a “mirror of life”, to represent the society as he sees it, or he may try to shape it.

Most literary works picture social reality. It is true to a greater extent that readers derive their chief impression of a foreign society by reading literature of the period. Literature is very close to sociology in the sense that all literature is an individual's response to other individuals at a given time; and sociology is a comprehensive response of the individuals of all times. Literature, besides being a social document, becomes elevated into a monument by the passage of time. **Harry Levin** says **“The relation between literature and society are reciprocal. Literature is not only the effect of social causes; it is also the cause of social effects”**. Literature is a mirror of society because it gives an image, but the image is not necessarily a image. The image can be distorted in reality or perceived as distorted by society as a whole. Literature can also be distorted by the

perception of society looking into the mirror. For example, political commentary has always been a huge part of literature whether covert comments on life through drama or overt attacks on the political mechanism. These commentaries are often partisan in their attacks and represent a distorted view of society in the mirror, focusing on what the author perceives as a scar. The mirror literature provides will continue to expose society to views not seen from our place within. We may see scars of political rhetoric, exposed to struggles, or only focus on the beauty of poetry highlighting the best of society.

Literature is the word taken from the Latin “Litteraturae”, which means “writings”. “Literature” has been commonly used since the eighteenth century, equivalently with the French “belles lettres” which means “fine letters”, to designate fictional and imaginative writings_ poetry, prose fiction, drama. In an expanded use, it designates also any other writings including philosophy, history, and even scientific works addressed to a general audience that are especially distinguished in form, expression, and emotional power.

British Literature refers to literature associated with the United Kingdom, Isle of Man and Channel Islands. This includes literatures from England, Northern Ireland, Scotland and Wales. By far the largest part of British literature has been written in the English language, with English literature developing into a global phenomenon, because of its use in the former colonies of Britain. In addition the story of British literature involves writings in Anglo-Norman, Anglo-Saxon, Cornish, Guernésiais, Jèrriais, Latin, Manx, Scots, Scottish Gaelic, Welsh and other languages. The term “novel” is applied to a great variety of writings that

have in common only the attribute of being extended works of fiction written in prose. As an extended narrative, the novel is distinguished from the short story and from the work of middle length called the novelette; its magnitude permits a greater variety of characters, greater complication of plots, ampler development of milieu, and more sustained exploration of character and motives than do the shorter, more concentrated modes.

The term for the novel in most European languages is roman, which is derived from the medieval term, the romance. The English name for the form, on the other hand, is derived from the Italian novella which means literally "a little new thing", which was a short tale in prose. The novel is a fictional narrative, long and complicated in structure, with life-like representation of actions and characters. **Boccaccio's Decameron** stories were indeed a collection of short stories. Elizabethans wrote prose works of fiction but they cannot be considered novels as such. **Bunyan's Pilgrim's Progress**, **Defoe's Robinson Crusoe**, and **Swift's Gulliver's Travels** are also works of fiction, the forerunners of the novel form.

As a narrative written in prose, the novel is distinguished from the long narratives in verse of **Geoffrey Chaucer**, **Edmund Spenser**, and **John Milton** which, beginning with the eighteenth century, the novel has increasingly supplanted. Within these limits the novel includes such diverse works as **Samuel Richardson's Pamela** and **Laurence Sterne's Tristram Shandy**; **Jane Austen's Emma** and **Virginia Woolf's Orlando**; **Charles Dickens' Pickwick Papers** and **Henry James's The Wings of the Dove**; **Leo Tolstoy's War and Peace** and

Franz Kafka's The Trial; Earnest Hemingway's The Sun Also Rises and James Joyce's Finnegans Wake; Doris Lessings's The Golden Notebook and Vladimir Nabokov's Lolita.

The eighteenth century saw the establishment of novel in English. **Fielding's Tom Jones, Smollett's Humphry Clinker** are the early novels in English followed by **Goldsmith's Vicar of Wakefield**. The social novels of **Jane Austen** and **the Bronte sisters** made a different impact on the readers of fiction. The historical novels of **Sir Walter Scott** started a new wave of novel based on history. **Charles Dickens** exploited the novel form to present London life of the 19th century using a complex structure. **Thackeray, George Eliot** and **Thomas Hardy** are other important novelist of the period.

In the 20th century, novel became the most popular genre in literature. A variety of novel forms were experimented with. Starting from **Galsworthy, H.G.Wells** and **Maugham** down to **Aldous Huxley, D.H.Lawrence, Virginia Woolf** and **James Joyce** many novelists made innovations in the novel form. In America and in other parts of the English speaking world, a galaxy of novelists wrote novels, exploring all aspects of human life.

The novel, like the drama, has a plot, setting, characterization and a theme. The plot is a systematic arrangement and organization of events. It can be loose or compact. The characters are lifelike in a novel. There is scope for the novelist to develop his characters. He creates his characters from imagination and

convinces the readers that the illusions are real. The setting is the backdrop of the novel. It refers to geographical location, historical moment or general cultural environment. It renders fictional scenes vivid and clear. The theme of the novel is what the author conveys as his message to his readers. The novelist tells his story using various techniques. The technique was perfected by **Henry James**. There are various kinds of novels like Psychological novels, Picaresque novel, Historical novels, Social novels, Regional novels, Gothic novel, Stream of conscious novels, Philosophical novel.

Novels dealing with social problems arose out of the concern of the writer for the society around him. The social novel emphasizes the influence of the social and economic conditions of an era on shaping characters and determining events; if it also embodies an implicit or explicit thesis recommending political and social reform, it is often called a sociological novel. Examples of social novels are **Harriet Beecher Stowe's Uncle Tom's Cabin (1852)**; **Upton Sinclair's The Jungle (1906)**; **John Steinbeck's The Grapes of Wrath (1939)**; **Nadine Gordimer's Burger's Daughter (1979)**.

The term social novel is closely associated with the greatest Victorian novelist **Charles Dickens**, the writer of poverty, injustice, comedy and crime. He was the most popular and influential English novelist even in the 21st century. During his lifetime, he is well known internationally for his extraordinary characters, his mastery of prose in telling their lives, and his portrayal of the social classes. Some people thought of **Dickens** as the spokesman of the poor, as he represented the awareness of their troubles. Social problem is an important concern

in the novels of **Charles Dickens**. He chose many of the social evils of his day as the subject for his novels. Industrialization and its accompanying evils of child labour, debtors' prison life, poverty, unhealthy living conditions associated with it, the exploitation of ordinary people by money lenders, the corruption and incompetence of the legal system, administration of the Poor Law and the educational system of Victorian England were the subjects of his novels. He depicted the life, manners, behaviours, expectations and desires of the contemporary London people in his novels. He presented the life as it is in his novel. His novels were considered as novels of all time.

Walter Allen regards **Charles Dickens** as the greatest genius among the English imaginative writers. He says that as a whole he is second only to Shakespeare. "**His best novels, like Shakespeare's major plays, seem in exhaustible; they can be read again and again and again and always something new, not realized before, is to be found in them**". [GE, Pg.No.I]

Allen says that the novels of **Dickens** are composed of layer upon layer of meaning, as great poetry is. Among English writers, in terms of his fame and of the public's recognition of his characters and stories, many consider him next only to **William Shakespeare**. Some other says that **Dickens** is more equal and then to Shakespeare. Like Shakespeare, he has modeled multitude of characters in his novels. Both **Shakespeare** and **Dickens** earned millions and millions of money through their immortal pieces of writings. **Charles Dickens** even declined the offer of Queen Victoria to join in the politics because he wanted

to reform the society. In all his novels, Dickens exposed the evils of the contemporary society. That's why he is warmly regarded as a great Social Reformer.

Charles Dickens (1812-70) is one of the most recognized celebrities of English literature. He is regarded as 'The Quintessential Victorian Author'. He arguably wrote some of the most incredible characters and fascinating plots. **Charles Dickens** enjoyed a great deal of popularity in his own time. With many of his works first published as serialized novels, he struck a chord then with his exploration of the human condition, of poverty and injustice, and his sharp character studies that managed to be both witty and perceptive. And what people loved then, we still love now. Many of his themes remain relevant and resonant, and his characters still feel familiar, offering that same mirror to readers to see ourselves more truly.

He was a prolific writer and author of fifteen novels, countless short stories, five novellas, essays and many articles. He also generously promoted the careers of other novelists in his weekly journals. He excelled in writing about London settings and grotesque and comic characters. He also excelled in the apt phrase. Many of his phrases have grown proverbial: 'Not know in; in tears and white muslin; ladies who ferment themselves into hysterics'. His vocabulary is enormous. He has an astonishing command over technical and learned words. **Charles Dickens** was the most popular of all English novelists. **Charles Dickens** was born on February 7, 1812, at Portsea, near Portsmouth to John and Elizabeth

Dickens. He was christened **Charles John Huffman Dickens**. He was the second of eight children. His mother had been in service to Lord Crew, and his father worked as a clerk for the Naval Pay office. John Dickens was imprisoned for debt when **Charles** was young. **Charles Dickens** went to work at a blacking warehouse, managed by a relative of his mother, when he was twelve, and his brush with hard times and poverty affected him deeply. He later recounted these experiences in the semi-autobiographical novel **David Copperfield**. Similarly, the concern for social justice and reform that surfaced later in his writings grew out of the harsh conditions he experienced in the warehouse.

As a young boy, **Charles Dickens** was exposed to many artistic and literary works that allowed his imagination to grow and develop considerably. He was greatly influenced by the stories his nursemaid used to tell him and by his many visits to the theater. Additionally, **Dickens** loved to read. Among his favorite works were **Don Quixote** by **Miguel de Cervantes**, **Tom Jones** by **Henry Fielding**, and **Arabian Nights**, all of which were picaresque novels composed of a series of loosely linked adventures. This format no doubt played a part in **Dickens'** idea to serialize his future works.

Dickens was able to leave the blacking factory after his father's release from prison, and he continued his education at the Wellington House Academy. Although he had little formal schooling, **Dickens** was able to teach himself shorthand and launch a career as a journalist. At the age of sixteen, **Dickens** got himself a job as a court reporter, and shortly thereafter he joined the

staff of *A Mirror of Parliament*, a newspaper that reported on the decisions of Parliament. During this time, **Charles** continued to read voraciously at the British Library, and he experimented with acting and stage-managing amateur theatricals. His experience acting would affect his work throughout his life—he was known to act out characters he was writing in the mirror and then describe himself as the character in prose in his novels.

Quickly becoming disillusioned with politics, **Dickens** developed an interest in social reform and began contributing to the **True Sun**, a radical newspaper. Although his main avenue of work would consist in writing novels, **Dickens** continued his journalistic work until the end of his life, editing **The Daily News**, **Household Words**, and **All the Year Round**. His connections to various magazines and newspapers as a political journalist gave him the opportunity to begin publishing his own fiction at the beginning of his career.

He would go on to write fifteen novels and many short stories and sketches. Some of the short works of the author are his most read and dramatized work. A final one, **The Mystery of Edwin Drood**, was left unfinished upon his death. He later worked for a solicitor and finally found his vocation that was to make him become famous as a news reporter. It was when he was about twenty five that his newspaper sketches and satirical tales began to attract a large number of people. His **Sketches by Boz** and the sporting characters of his **Pickwick Papers** made young **Dickens** a famed caricaturist of English manners.

From the first social novel, his future course and fame as a novelist were assured of readers for a long time come.

While he published several sketches in magazines, it was not until he serialized **The Posthumous Papers of the Pickwick Papers** over 1836-37 that he experienced true success. A publishing phenomenon, **The Pickwick Papers** was published in monthly installments and sold over forty thousand copies of each issue. It is the finest book that might be called a novel to come from the pen of **Dickens**. It was published by Chapman & Hall in monthly installments from March of 1836 until November 1837. This is a series of humorous sketches about the very diversing members of the Pickwick Club. The book is pure fun from beginning to end as there is no serious attempt at drama or plot continuity. **Dickens** was the first person to make the serialization of novels profitable and was able to expand his audience to include those who could not normally afford such literary works.

Within a few years, **Dickens** was regarded as one of the most successful authors of his time, with approximately one out of every ten people in **Victorian** England avidly reading and following his writings. In 1836, **Dickens** also married Catherine Hogarth, the daughter of a co-worker at his newspaper. The couple had ten children before their separation in 1858. Catherine's younger sister Mary lived with the couple, and **Dickens** was very attached to her. He was deeply traumatized by her death at the age of seventeen, and she is believed to have provided inspiration for a number of his idealized, angelic heroines such as Little

Nell and Florence Dombey. With **Oliver Twist (1837)** **Dickens** began his series of novels dealing with criminal types and with his campaign for social improvement. Here he is concerned with the corruption of children by a master pickpocket Fagin was named after Bob Fagin, a fellow employee that young Charles Dickens met when he worked at a blacking factory, and the foul atmosphere of workhouses.

In **Nicholas Nickleby (1839)**, he turns to the miserable condition prevailing in certain English schools. Both *Oliver Twist* and *Nicholas Nickleby* followed in monthly installments, and both reflected **Dickens'** understanding of the lower classes as well as his comic genius. In **1843**, **Dickens** published one of his most famous works, **A Christmas Carol**. Every English speaking person knows almost by memory his *A Christmas Carol* with the unforgettable Scrooge, the jolly Bop Cratchit, and the lovable Tiny Tim. His disenchantment with the world's economic drives is clear in this work: he blames much of society's ills on people's obsession with earning money and acquiring status based on money.

Dickens is part and parcel of the Christmas spirit in England and the United States. The reform of the miserly Scrooge has become one of humanity's greatest symbols of the meaning of the Yuletide season. His travels abroad in the 1840s, first to America and then through Europe, marked the beginning of a new stage in **Dickens'** life. His writings became longer and more serious. **Dickens'** closest approach to autobiography and his acknowledge masterpiece is **David Copperfield (1849-50)**, a long novel of the early life of his central character. The novel has got many reputations and popularity. He himself

says that “of all my books, I like this the best” [GE, Pg.No.XI]. In this novel readers find the same flawed world that **Dickens** discovered as a young boy. This work is filled with realistic incident of a picaresque nature and a memorable **Dickens’s** portrait gallery of characters. Not since **Chaucer’s The Canterbury Tales** has English book contained a more sympathetic treatment of a cross section of the various strata of English society.

Dickens published some of his best-known novels. In **Bleak House (1852)**, **Dickens** turns his indignation upon the delays and corruption of the chancery courts. Another novel **Hard Times (1854)** deals with the grinding existence of industrial workers. **Little Dorrit (1855)** strikes at the inefficiency of English governmental offices. Also the debtors prison comes in for censure in this novel. In another group, **Dickens** is mainly concerned with social manners and with individual shortcomings of character.

In **The Old Curiosity Shop (1840)**, he is concerned with the evil of gambling and the effects it can have on the individual. This novel is one of the most charming books that **Dickens** wrote, containing one of the most lovable girl characters in the world action__ Little Nell. **Martin Chuzzlewit (1843)** deals with selfishness as a central theme. **Domby and Son (1846)** studies the inhumanity of a capitalist and the subsequent humbling of his arrogant pride. In 1841, **Dickens** tried the historical novel in **Barnaby Rudge**. The result here is a melodramatic thriller of the 18th century which is rather flat. **A Tale of Two Cities (1859)** is regarded as one of the greatest of the English historical novels, with a background

of the French Revolution. This has been a highly popular story, but lacks the usual humour and droll characterization of the author's other novels.

Great Expectation (1860) belongs to the last period in **Dickens'** writing. It was initially published in **All the Year Round**, a weekly periodical founded and owned by **Charles Dickens**. In the novel Pip, like **Dickens** himself, dreams of becoming a gentleman. **Our Mutual Friends (1864)** is the last novel that Dickens completed before his death. It is a mystery story as well as being a satire of the manners of the polite society of **Dickens's** day. **The Mystery of Edwin Drood (1870)** was the fifteenth novel of **Dickens**. He was only halfway finished with the book when he died.

The inspiration to write a novel set during the French Revolution came from **Dickens'** faithful annual habit of reading **Thomas Carlyle's** book **The French Revolution**, first published in 1839. When **Dickens** acted in **Wilkie Collins'** play **The Frozen Deep** in 1857, he was inspired by his own role as a self-sacrificing lover. He eventually decided to place his own sacrificing lover in the revolutionary period, a period of great social upheaval. A year later, **Dickens** went through his own form of social change as he was writing **A Tale of Two Cities**: he separated from his wife, and he revitalized his career by making plans for a new weekly literary journal called **All the Year Round**. In 1859, **A Tale of Two Cities** premiered as a series in this journal. Its popularity was based not only on the fame of its author, but also on its short length and radical subject matter of the novel.

Dickens became involved in theatrical collaborations with his friend, the novelist **Wilkie Collins**. In 1857, while interviewing actresses for a play the two had written together, **Dickens** met Nelly Ternan. Despite already being married, and the age difference between the two -**Dickens** was 45 and Ternan 18, the two fell in love. This meeting precipitated the end for **Dickens** of what was already an unhappy marriage. **Dickens** separated from his wife Catherine in 1858. While his relationship with Nelly was kept very discreet, especially considering **Dickens's** celebrity, the two travelled together regularly, and **Dickens** supported her financially until the time of his death.

Dickens' health began to deteriorate in the 1860s. In 1858, in response to his increasing fame, he had begun public readings of his works. These exacted a great physical toll on him. An immensely profitable but physically shattering series of readings in America in 1867-68 sped his decline, and he collapsed during a "farewell" series in England. He returned on June 8, 1870 when he was unexpectedly smitten down by apoplexy. The misfortune is regarded as the penalty of over tasked brain.

On June 9, 1870, **Charles Dickens** died of a stroke at his house of Gadshill, near Rochester. He was buried in Poet's Corner of Westminster Abbey. An epitaph at his funeral is placed, "To the Memory of Charles Dickens who died at his residence, Higham, near Rochester, Kent, June 9, 1870, at the age of 58. He was a sympathizer with the poor, suffering, and the oppressed; and by his death, one of England's greatest writers is lost to the world". As

reported in Dickens obituary, his last words were alleged to have been-“**Be natural my children. For the writer that is natural has fulfilled all the rules of art**”. To make Dickens work immortal a museum is build on his name as “Charles Dickens Museum” in 48, Doughty Street, London.

Sir Ifor Even says: when **Dickens** died in 1870 something had gone out of English life that was irreplaceable, a bright light that had shine upon the drab commercialism of the century, calling men back to laughter and kindness, and the disruption of the cruelties in which they were entangling themselves. Though he left **The Mystery of Edwin Drood** unfinished, he had already written fifteen substantial novels and countless shorter pieces. His legacy is clear. In a whimsical and unique fashion, **Dickens** pointed out society's flaws in terms of its blinding greed for money and its neglect of the lower classes of society. Through his books, we come to understand the virtues of a loving heart and the pleasures of home in a flawed, cruelly indifferent world.

Dickens was a man of little formal education and had no training in philosophy or science or ancient or modern history, or yet he was a great literary artist. He was a born genius who “**took an endless delight in observing the world around him and identified himself spontaneously with all the joys and sorrows of common humanity**” [GE, Pg.No.XXIV]. **Angus Wilson** describes Dickens' versatility thus: “**he was social critic, active philanthropist, literary editor, journalist, public speaker, talented actor, and keen traveler**”.

[GE, Pg.No.XXIV]

In **Dickens's** day, awards were more commonly given for practical purposes. If he had made inventions or created new ways to produce machinery, he would have most likely won a few. However, awards for art, literature, or other creative achievements were about non-existent. There have been plays, musicals, and movies that have received awards since that time, but **Charles Dickens** himself never received any awards. But his novels like **Great Expectations**, **Bleak House** and **Pickwick Papers** are got a unique place in the title, "The Hundred Novels Of All Time". His novels were adopted for movies and won many awards.

This Dissertation presents the realistic pictures found in the novel of **Charles Dickens** with special reference to Expectation, Disappointment and Compensation in the novel, **Great Expectation**. The novel serialised weekly in All the Year Round, from 1st December 1860 to 3rd August 1861; it was published in book form in 1861, in three volumes. It contains fifty nine chapters.

Dickens wrote a letter to his friend **John Forster** on September 1860 informed about his intention of writing **Great Expectations**: "The book will be written in the first person throughout, and during these first three weekly numbers you will find the hero to be a boy-child, like David. Then he will be an apprentice..... I have made the opening, I hope, in its general effect exceedingly droll. I have put a child and good-natured foolish man, in relations that seem to ma very funny". H.F. Chorley says that ".....Whether the library of English fiction contains a romance comparable with Great

Expectations is a matter which admits of doubt". He also says that "**Great Expectation, we are satisfied, will add to Mr. Dickens's reputation, and is the imaginative book of the year".** Great expectation restores Mr. Dickens and his readers to the old level. It has in his best vein. It has characters in it that will become part of common talk, and live even in the mouths of those who do not read novels.

Edwin Whipple remarks that, 'the plot of the romance is therefore universally admitted to be the best that Dickens has ever invented. It is also noticeable as indicating, better than any of his previous stories, the individuality of Dickens's genius'. E.S. Dallas says that 'Mr. Dickens has good-naturedly granted to his hosts of readers the desire of their hearts'. He also says that 'Great Expectations.....is to be ranked among his happiest'.

John Forster says that ".....in these two books of Copperfield and Great Expectations, he kept perfectly distinct the two stories of a boy's childhood, both told in the form of autobiography".

Great Expectations is at once superbly constructed novel of spellbinding mystery and a profound examination of moral values. Written at a time when **Dickens'** relationship with Victorian Society had reached a crisis, this novel is peopled by characters unmistakably bearing **Dickens'** familiar stamp but here they appear in a new and questioning light. The orphan Pip, and the convict,

Magwitch, the beautiful Estella, and her guardian, the embittered and vengeful Miss Havisham, the strangely ambiguous figure of the master lawyer, Mr. Jaggers all play their part in a story whose title itself reflects the deep irony that shapes **Dickens'** searching reappraisal of the Victorian middle class. From the agony of his disenchantment comes a work that gives an added dimension to his matchless genius.

This chapter formed the introduction. The second chapter deals with the expectations, disappointments and compensation in the novel **Great Expectations**. Chapter third forms the conclusion.

CHAPTER II

EXPECTATIONS, DISAPPOINTMENTS AND COMPENSATION IN CHARLES DICKENS'S GREAT EXPECTATIONS

Charles Dickens is said to be as central to the Victorian novel as Tennyson is to Victorian poetry. **Great Expectations** is a time conquering master piece of **Charles Dickens**. It is the thirteenth novel by **Dickens** and his penultimate completed novel. This novel attained the greatest recognition, fortune and got the 16th place in the category of The 100 Greatest Novels of All Time. **Dickens's** novels in general are full of people with expectations. The leading idea of this novel too as stated by the title is about great expectation. The title also alludes to the idea of great things to come or things that are expected to come but are not there yet.

The novel has many themes. **Great Expectations** explores themes of social class, poverty, and crime. This chapter focuses especially on how **Dickens** touches on expectations and disappointments in the life of diverse characters and finally with what compensation they move on. **Dickens** demonstrates an artful story through very complicated and conflicted characters drawn from the real life of contemporary people in England. An overwhelming number of expectations are at work at various levels of the story of **Great Expectations**.

Through these expectations, working in the minds of various characters and the existing picture of the Victorian society of **Dickens**' time are also vividly portrayed.

G. K. Chesterton once observed that all of **Charles Dickens**'s novels could be titled **Great Expectations**, for they are full of an unsubstantial yet ardent expectation of everything. Nevertheless, as **Chesterton** pointed out with irony, the only book to which **Dickens** actually gave the title was one in which most of the expectations are never realized.

To the Victorians, the word "expectations" meant legacy as well as anticipations. In that closed society, one of the few means by which a person born of the lower or lower-middle class could rise to wealth and high status was through inheritance. A major theme of the Victorian social novel involved a hero's passage through the class structure, and a major vehicle of that passage was money bestowed upon him, acquired through marriage, or inherited. Unlike many nineteenth century novels that rely upon the stale plot device of a surprise legacy to enrich the fortunate protagonists, **Great Expectations** probes deeply into the ethical and psychological dangers of advancing through the class system by means of wealth acquired from the toil of others.

Dickens portrays the expectations of the characters very efficiently in the novel. The greatest of which are the expectations of Pip, the protagonist of the novel. A Bildungsroman novel that depicts the personal growth and personal development of an orphan Philip Pirrip nicknamed Pip. It tells how the poor country boy Philip Pirrip grows up with false expectations to finally return to a rather cruel exposure of reality. The narrator, Pip recounts his life story from the

childhood to how he matures and grows up to becoming a young man. The title of **Charles Dickens's** novel **Great Expectations** mainly refers to Pip's "great expectations" which are many dimensional and ever-evolving. Pip undergoes three phases in his life, in which he has different expectations. The first stage, chapter 1-19 ends with Pip's departure for London to be 'created' a gentleman- a great expectation; the second stage, chapter 20-39 ends with the appearance of Pip's real economic benefactor- a great disappointment and the final stage, chapter 40-59 ends with Pip's departure for the east-a compensation. Each of the three parts of the novel treats a different expectation, and we watch how Pip gets disappointments in the face of his changing expectations.

“At such a time I found out for certain, that this bleak place over grown with nettles was the churchyard; and that Philip Pirrip, late of this parish, and also Georgiana wife of the above, were dead and buried; and that, Alexander, Bartholomew, Abraham, Tobias, and Roger, infant children of the aforesaid, were also dead and buried; and that the dark flat wilderness beyond the churchyard, intersected with dykes and mounds and gates, with scattered cattle feeding on it, was the marshes; and that the low leaden line beyond was the river; and that the distant savage lair from which the wind was rushing, was the sea; and that the small bundle of shivers growing afraid of it all and beginning to cry, was Pip”.

[GE, Pg.No.1]

This is an often-quoted passage, in which the orphan Pip recovers a sense of personal identity from the world around him, and in relation to his buried family. Philip Pirrip, better known to himself and to the world as Pip, is

a poor orphan of about seven years old living with his sister Mrs. Joe Gargery and her husband Mr. Joe Gargery, the blacksmith in Kent, England. The first phase pictures Pip in his natural surrounding behaving instinctively and so virtuously. He is simple, naive trustful and confiding.

The opening chapter of the novel is an evident for that. He has an encounter with an escaped convict, Abel Magwitch on Christmas Eve and even the act of stealing food and file for the convict is an instinctive act of mercy. The help he gives the escaped convict results in the criminal setting him up with a secret inheritance. This truth is known by Pip at the later part of the story only. Despite the harsh and cruel treatment at the hands of his sister he feels at home with his brother-in-law, and even prepares himself to accept the life of an ironsmith. He even had a great love and care for his brother-in-law.

The first and foremost expectation takes the shape of his longing for cold star named Estella, the adopted daughter of Miss Havisham. His visit to the "Satis House" effects a great change in his attitude and behaviour. There he meets Estella, a "very pretty", "very proud", "self-possessed" and wealthy but heartless girl of about his age. Pip falls madly in love with her from the moment he meets her and continues to do so throughout the rest of his life even though she treats him with only contempt and hostility. And from that moment on, everything Pip does in his life is no longer for himself or anyone else but for Estella and only her. He always remembers the sweetest moment of the kiss given to her and always had a longing to kiss her again. Pip says that:

“I kissed her cheek as she turned it to me. I thing I would have gone through a great deal to kiss her cheek. But I felt that the kiss was given to the coarse common boy as a piece of money might have been, and that it was worth nothing”.

[GE, Pg.No.86]

The greatest expectation of Pip is winning her heart and marrying her. Throughout the transformation in his life, this expectation remained unchanged. Estella holds all the attention of Pip. He cannot think of anything else except her. He wants to win her at any costs. He believes himself to be the hero of a Romance plot set in motion by Miss Havisham:

“She had adopted Estella, she had as good as adopted me, and it could not fail to be her intention to bring us together. She reserved it for me to restore the desolate house, admit the sunshine into the dark rooms, set the clocks a going and the cold hearths a blazing, tear down the cobwebs, destroy the vermin —in short, do all the shining deeds of the young Knight of romance, and marry the Princess. I had stopped to look at the house as I passed; and its seared red brick walls, blocked windows, and strong green ivy clasping even the stacks of chimneys with its twigs and tendons, as if with sinewy old arms, had made up a rich attractive mystery, of which I was the hero”.

[GE, Pg.No.217]

But when he is rejected by her on the ground of his poverty, makes him very disappointed. The expectation which is built in the heart of Pip all

are shattered into pieces. So he aspires strongly after being rich in some ways and thus winning her heart. Here begins the second expectation of Pip.

Dickens also portrays the expectations of other characters very clearly in the novel. Miss Havisham is the wealthy, eccentric old woman who lives in a manor called Satis House near Pip's village. She is manic and often seems insane, flitting around her house in a faded wedding dress, keeping a decaying feast on her table, and surrounding herself with clocks stopped at twenty minutes to nine. Pip narrates about her in the following words:

**“I saw that the bride within the bridal dress had
Withered like the dress, and like the flowers, and had
No brightness left but the brightness of her sunken
eyes. I saw that the dress had been put upon the
rounded figure of a young woman, and that the figure
upon which it now hung loose, had shrunk to skin
and bone.....I should have cried
out, if I could”.**

[GE, Pg.No.53]

Miss Havisham had the expectation of getting married to her beloved, Arthur Compeyson and thus ensuring security to her life and property. As

a young woman, Miss Havisham was jilted by her fiancé minutes before her wedding because he had expectation of being wealthy through her poverty. After his desire being fulfilled of getting a large sum of money and other things from her, he abandons her. This is a great disappointment to her till her death. Throughout the story Miss Havisham acts predominantly as a sadistic personality. Her deceitful lover becomes in her eyes the symbol of the whole male sex whom she starts hating and on whom she wants to take revenge as long as she lives, while she torments herself, she does not forget to torment the members of the male sex.

And now she has a vendetta against all men. Her expectation is to obtain revenge on the male sex and so she adopts Estella and deliberately raises her to be the tool of her revenge, training her beautiful ward to break men's hearts. She allures young men towards her only to be scorned and jilted as she herself was jilted by a member of menfolk. She says to Pip: **“I adopted her to be loved. I bred her and educated her, to be loved. I developed her into what she is, that she might be loved! Love her!”**

[GE, Pg.No.226]

Havisham has made this young beautiful girl, heartless. She has taken her heart and replaced by a piece of ice so that she may treat men coldly and torture them. She constantly whispers her ears: **“Break their hearts, my pride and hope, break their hearts and have no mercy!”**[GE, Pg.No.89] She sends Estella to Richmond to entice men and then smash their hearts. While she invites Pip to play with Estella, her pleasure is in seeing Pip vanquished and frustrated:

"Let me see you play with cards with this boy".

"With this boy? Why, he is a common labouring boy!"

"Well? You can break his heart".

**"What do you play boy?" asked Estella of myself,
with the greatest disdain.**

"Nothing but beggar my neighbor, miss".

"Beggar him," said Miss Havisham.

[GE, Pg.No.55]

Her concept of love is perverted by her own disappointing experience. She even says to Pip about love. **"what real love is. It is blind devotion, unquestioning self-humiliation, utter submission, trust and belief against yourself and against the whole world, giving up your whole heart and soul to the smitter-as I did".**

[GE, Pg.No.226]

On the other hand Estella also had the expectation of using her beauty to attract people of different kinds. She taunts and hates Pip at the same time. She had the expectation of getting married with a rich and wealthy man. She grows older, she learns control. But the control takes the form of abnegating personality. Estella knows she is beautiful; she lets her beauty do the work.

Habitually, she speaks of herself and Pip as puppets: **"we have no choice, you and I, but to obey out instructions. We are not free to follow our own devices, you and I"** [GE, Pg.No.250]. Miss Havisham's relatives like Camilla, Cousin Raymond, Georgiana and Sarah Pocket often visited her in the expectation of winning her sympathy and getting some shares of wealth and property that is left by her fiancé. Magwitch and Pip first meet when Pip is a boy

and Magwitch, an escaped convict. He does not forget Pip's kindness in the marshes, and later in life devotes himself to earning money that he anonymously donates to Pip. He has the expectation of sending Pip to London to improve his condition. Magwitch's expectation is to make Pip gentleman in a full sense and so his expectation is great.

Soon Pip learns to be a blacksmith from his brother-in-law, Joe, though he is completely unhappy as Estella mocks him for being such a common labourer. Pip says that: **"...I thought long after I laid me down, how common Estella would consider Joe, a mere blacksmith: how thick his boots, and how coarse his hands"** [GE, Pg.No.72]. One night, his sister, Mrs. Joe is viciously attacked and will only be able to lie in bed until her death so a nice young girl named Biddy is hired to take care of her. Pip uses this opportunity to ask her to teach him all that she knows academically so that he can better himself in the eyes of Estella. Pip explains to Biddy:

"The beautiful young lady at Miss Havisham's, and she's more beautiful than anybody ever was, and I admire her dreadfully, And I want to be a gentleman on her account". [GE, Pg.No.129]

Pip's another great expectation arrives in the form of his fortune that is his dream of becoming "a gentleman". One day a lawyer namely Mr. Jaggers comes and says that he has money coming or "great expectations" and he has to have a different education now that is he is to be "a gentleman" rather than a blacksmith. Pip, already thinking of Estella, is delighted at his good fortune and

believes that he owes this to Miss Havisham who wants to promote his social status. He receives the fortune from a secret benefactor to pursue an education and manners and he does this along with obtaining wealth, success and high social class in the hopes of becoming worthy in the eyes of his beloved Estella. Mr. Jaggers urges him to travel to London to start his education and pave the way to becoming a "gentleman".

Before going to London Pip says to Joe, **"I was lost in the mazes of my future fortunes, and could not retrace the bypaths we had trodden together. I begged Joe to be comforted"**. Joe replied that **"we had ever been the best of friends"**. Pip replies for that **"we ever would be so"** [GE, Pg.No.139]. This is the end of Pip's first stage of expectation.

The next stage of his career is set in England. On his arrival in London, Pip's initial impression of London is unattractive and dirty. Nonetheless, his great expectations lie before him. In London, Pip starts his lessons with Mr. Matthew Pocket, Herbert's father. In addition, some important instructions as a gentleman will be taught with Mr. Herbert Pocket. He makes friendship with two gentlemen named Herbert Pocket and Wemmick while receiving a good education.

Herbert Pocket is a member of the Pocket family, Miss Havisham's presumed heirs. From time to time, Herbert instructs Pip on convenient London table styles. Pip himself asks Herbert to help him to the manners and manners of London, he tells him: **"I further mentioned that as I had been brought up a blacksmith in a country place, and knew very little of the ways of politeness"** [GE, Pg.No.176]. Pip follows any advice or instruction saying

by Herbert, he knows that Herbert wants to help him, thus, he never feels that Herbert tries to insult him, on the contrary, all the time, Pip thanks him when the later corrects any mistake. He confides to Herbert as he thinks himself;

“I cannot tell you how dependent and uncertain I feel, and how exposed to hundreds of chances. Avoiding forbidden ground, as you did just now, I may still say that on the constancy of one person (naming no person) all my expectations depend. And at the best, how indefinite and unsatisfactory, only to know so vaguely what they are. But we had looked forward to my one-and-twentieth birthday, with a crowd of speculations and anticipations, for we had both considered that my guardian could hardly help saying something definite on that occasion”.

[GE, Pg.No.282]

By time, Pip has undergone a lot of changes in his appearance; in the past, he was an ordinary person and the goal of criticism and scorns by Estella, now he believes that he has improved a gentlemanly behavior and etiquette. But on the other side, he starts to feel shameful and embarrassed of his past life in the marsh with Joe and Biddy. Pip constructs an unexamined illusion, a great expectation. He blindly proceeds least realizing that he is caught in a maze of other expectations. Pip continues to pine after Estella but expresses disdain for his former loved ones like his once beloved Joe. After learning the sophisticated ways of London society from an aristocrat namely Bentley Drummle, Pip becomes snobbish so much so that he feels irritated at the visits of Joe.

This is **Dickens's** sharp criticism that a fake Victorian gentleman Pip becomes ashamed of his old childhood friend Joe's presence at his lodging in

London. When Biddy, by writing a letter, informs Pip that Joe is coming at London, Pip cannot be happy; rather a growing discomfort seizes him. Pip doesn't express his happiness with his best friend in the marsh; instead, a growing discomfort seizes him and wishes that Joe won't come to London when Pip now lives a sophisticated life. Pip's snobbishness rises to such an extent. He thinks if he could offer money for him and avoiding his visit **"Not with pleasure, though I was bound to him by so many ties;"** [GE, Pg.No.215]

They share a relationship based on love and trust, like father and son or two brothers. **"no; with considerable disturbance, some mortification, and a keen sense of incongruity. If I could have kept him away by paying money, I certainly would have paid money"** (GE, Pg.No.215). When Joe arrives, Pip treats him arrogantly; he appears so cold with him. He feels a sense embarrassment for Joe's clumsy behavior, loose coat, and old hat. Joe immediately recognizes that Pip doesn't wish to see him, thus, Joe decides not to stay the night with him in the same room. Joe says that:

"Pip, dear old chap, life is made of ever so many partings welded together, as I may say, and one man's a blacksmith, and one's a whitesmith, and one's a goldsmith, and one's a coppersmith. Divisions among such must come. . . ."

[GE, Pg.No.211]

Similarly, Pip's snobbery is obvious when he, on visiting his home town, does not settle down on the smithy with Joe, rather takes a room at an inn. But soon he feels remorse at the high-handed way in which he has treated him.

“Looking towards the open window, I saw light wreaths from Joe’s pipe floating there, and I fancied it was like a blessing from Joe---not obtruded on me or paraded before me, but pervading The air we shared together. I put my light out, and crept into Bed; and it was an easy bed now, and I never slept the old Sound sleep in it any more”.

[GE, Pg.No.137]

He believes, if he stays at the forge, his new style would be hurt. By doing so, Pip hurts and betrays his childhood friends Joe and Biddy and his original morality. He thinks:

“It was too early yet to go to Miss Havisham’s, so I loitered into the country of Miss Havisham’s side of town-which was not Joe’s side; I could go there to-morrow-thinking about my patroness, and painting brilliant pictures of her plans for me”.

[GE ,Pg.No.229]

Pip begins to grow into a false man when he comes into contact with money and the life of the upper class. Moreover, his search for self-improvement and to be a gentleman, in addition to his dream to marry Estella, all these expectations lead to create another Pip. And just now he knows what an unpleasant man he has become. He has avoided and betrayed all people who care for and love him. He thinks that:

“As I grown accustomed to my expectations, I had insensibly begun to notice their effect upon myself and those around me. Their influence on my own character, I disguised from my recognition as much as possible, but I knew very well that it was not all good. I lived in a state of chronic uneasiness respecting my behavior to Joe. My conscience was not by any means comfortable about Bidly”.

[GE, Pg.No.268]

Pip becomes successful, wealthy and well respected over the years, gaining everything he had ever wished to be as a child except at gaining the love of Estella. When Pip turns 21 years old, he visits Jaggers for further information on his expected fortune and hopefully the identity of his benefactor. Jaggers tells him he will have an annual allowance of 500 pounds until his benefactor is made known to him, but refuses to tell him when his benefactor will be revealed to him. He also tells Pip that when his benefactor is revealed, Jaggers' business will end, and he need not be informed about it.

Mr.Jaggers had the expectation to be settled in his life through using the fortune of Pip. In a fourth meta- fictional sense, we can say that the title refers to the readers' great expectations, which **Dickens** builds upon for his wonderful plot twists. All of these layers of meaning in the title make for a rich reading experience. Many years pass until one particular night when his former convict, Magwitch, returns to Pip, dramatically announcing his identity as Pip's secret benefactor all these years: “Look'ee here, Pip. I'm your second father. You're my son—more to me nor any son. I've put away money, only for you to spend”.

[GE, Pg.No.302]

It is a great disappointment to Pip. He had a great expectation about his benefactor but all are shattered now. Now he entirely realizes that the distance between him and Estella becomes bigger and bigger and immediately all his dreams are shattered. It is ironically to believe that the person who supports him to be a fortune and gentleman is a criminal and convict, he thinks that: "All the truth of my position came flashing on me; and its disappointments, dangers, disgraces, consequences of all kinds, rushed in in such a multitude that I was borne down by them and had to struggle for every breath I drew".

[GE, Pg.No.302]

Pip was all the time under the deception that it was Havisham who had provided him with 'great expectations' so that he might become a proper suitor for Estella. When it dawns upon him that it is Magwitch the criminal whose unclean money has made him a gentleman, he feels stunned. The other dream of marrying Estella also thwarted through knowing the discovery of his benefactor. As a child he had shown genuine sympathy and compassion towards Magwitch, in the marshes when Magwitch ate the pie stolen for him by Pip from his sister's kitchen, we hear Pip whispering: "I am glad you enjoy it". [GE, Pg.No.16]

But now he encounters the same Magwitch with disdain although it is Magwitch's money which has transformed him from a country boy to a fashionable youth of London. He rejects all the snobbish elements he acquired in London. He returns and with his return **Dickens** twists the ending. He shows his utter disgust at this turn of events. Pip observes:

“A new fear had been engendered in my mind by his narrative, or rather, his narrative had given form and purpose to the fear that was already there” [GE, Pg.No.349]. This is the end of Pip’s second stage of expectations.

As time goes on, Pip begins to genuinely care for Magwitch. His moral regeneration starts in this stage. He agrees to help Magwitch escape, as he is still wanted by the police. The clouds which covered his original goodness pass away and once again he enables to see man as man recognizing the proper worth of basic humanity. Pip tries to repair all his relationships with people he mistreated and loved. Pip finds Herbert a good job even if it means Pip using some of his own money. The revelation of his benefactor makes him get involved in Magwitch’s past and future. Magwitch thus gains dignity and sympathy. Pip moves out of aggressive pride into trust and love.

A complicated mystery begins to fall into place when Pip discovers that Compeyson was the man who abandoned Miss Havisham at the altar. Estella was the daughter of the criminal Magwitch and the gipsy woman Molly. Miss Havisham has raised her to break men’s hearts, as revenge for the pain her own broken heart caused her. Pip was merely a boy for the young Estella to practice on; Miss Havisham delighted in Estella’s ability to toy with his affections. This is a great shock to Pip. Pip’s world of fantasy and the great expectations associated with that world crumbled before him on knowing these facts. News came at this time that Estella was to be married to Drummle while Miss Havisham died in a fire accident. Pip fell in a great disappointment.

Pip now reconciled himself to the fact that he should accept Magwitch as his second father. Pip also tries to help Magwitch escape. A big fight

ensued between Magwitch and Compeyson, he was drowned. Although Magwitch does not escape, Pip makes Magwitch happy before he dies telling him that "you had a child once, whom you loved and lost....she lived and found powerful friends. She is living now, she is a lady and very beautiful. And I loved her".

[GE, Pg.No.437]

Dorothy van Ghent regards Pip as a universal figure: Pip, after all, the ordinary mixed human being, one more Everyman in the long Succession of them that literature has represented, but we see this every man as he develops from a child; and his destiny is directed by the ideals of his world-toward "great expectation" which involve the making of Magwitch, which involve, that is murder.

Dickens was a moralist. He therefore took care to make Miss Havisham show feelings of repentance in the end. Caught in fire, she is on the point of death but full of remorse and asks Pip to forgive her: "**what I have done! Take the pencil write under my name 'I forgive her!'** Pip forgives her. She has the consolation to die in peace" [GE, Pg.No.381]. The sorrowful face of Pip jilted by Estella becomes for Miss Havisham a mirror in which she sees the reflection of her similar state in the past when she was let down by Compeyson. She tells Pip:

**"Until you spoke to her the other day, and until
I saw in you a looking-glass that showed me what
I once felt myself, I did not know what I had done
What I have done! What I have done!"**

[GE, Pg.No.377]

Through Pip, **Dickens** helps Miss Havisham discover the error of her ways. She is happy Pip has shown her this and would like to give Pip some money to help him with his debts. Pip does not take the offer and knows that he himself must work hard to pay off his debts. Pip then goes to his home in the marshes. Pip now fell ill. On his recovery he found to his surprise that the much neglected Joe was nursing him during his illness. Joe pays off all his debts and their relationship is now repaired. Pip was moved by this and decided to come down to the forge once again. Now he had an expectation to ask Biddy to forget the past and marry him. But there waits another disappointment that he found Biddy married to Joe. He bade farewell to all to take up the clerkship offered by Herbert in the East. He says to both Biddy and Joe:

**“And Joe and Biddy both, as you have beento church to-day,
And are in charity and love with all mankind, receive my humble
thanks for all you have done for me, and all I have so ill repaid!”**

[GE, Pg.No.479]

Pip moves on with this compensation in his life after facing lots of frustrations and disappointments. Business prospered and soon he acquired a partnership and returned to England after eleven years. He was happy to see the Joes with a growing family. Pip also meets Little Pip, the symbol of rebirth. Pip fixed all his problems and was never again faced with them because he decided to live with the people he loved, Joe and Biddy, his family. Pip's behavior as a gentleman has caused him to hurt the people who care about him most. Once he has learned these lessons and it makes him into a mature man.

On his visit to Satis House he met Estella. She is a widow now, because Bently Drummle is dead now. She tells him how she had been ill treated by Drummle. Before she got separated from him he died. **Dickens** portrays at the end of the novel how the expectations of Estella, having married to a rich man and living a sophisticated life all are fell down. She is the center of Pip's great expectations but neglecting him being a poor man she marries the rich man Drummle with lots of dreams and expectations. But all her expectations are turns down into great disappointment to her. Now she is bent and broken but has come into a better shape.

Dickens reveals in Estella the emergence of tender heart at the end of the novel. She asked for Pip's forgiveness. In her reunion with Pip, she admits: **"suffering has been stronger than all other teaching"** and tells Pip whose heart she now fully understands: **"I have been bent and broken, but I hope into a better shape"**. As Havisham's instrument of vengeance she tortured Pip. Now she solicits: **"Be as considerate and good to me as you were, and tell me we are friends"**.
[GE, Pg.No.460]

Both Pip and Estella find their fulfillment in each other. Pip replies: **"we are friends"**. Estella echoes: **"And will continue friends apart"** (GE, Pg.No.460). This is the 'compensation' of Pip for his longing of great expectations having united with Estella. Of all the disappointments in his life, now Pip wins the heart and hands of Estella as a compensation of his expectations.

Pip tells at the end of the novel:

**“I took her hand in mine, and we went out of the ruined place;
And, as the morning mists had risen long ago when I first left
The forge, so, the evening mists were rising now, and in all the
Broad expanse of tranquil light they showed to me, I saw no
Shadow of another parting from her”.**

[GE, Pg.No.460]

Love, Pip learns through experience, is a great blessing. In the past, Estella had been to him a physical hunger, but she had no heart and the word ‘love’ was unintelligible to her. Suffering makes her a wiser woman. Getting united with Pip is a compensation for her lost life. Living a widow is a great misery for her. But Pip gives hands to her and lifted her from the great disappointment and lightens her to begin a new life. What is significant for us is that Pip begins to divest himself of snobbery, of false values, of vulgarizing ‘great expectations’ and weds himself to the life of hard work, love and understanding. Herein lies his real worth.

Dickens's characters are more realistic and more humane. On the other hands, **Dickens's** characters are exactly copied from the actual life. They are some of us. But, in a very few characters such as Miss. Havisham and Magwitch we realize some elements of exaggeration. They hold a tone of a fairytale. For the point in question **Calder** states that: **Great Expectation** lies in the elements that **Dickens** takes over from the fairy-tales which he never forgets. It is a kind of

inverted Cinderella, where the ugly sister, Joe and Magwitch, are in the right, the fairy godmother, Miss. Havisham, is a witch after all, and the princess, Estella, is a gleaming fake. As in a **Shakespearean** comedy, most of the characters are paired off in marriage, Joe and Biddy; Herbert and Clara; Wemmick and Skiffins. After the changed ending with the apparent union of Pip and Estella, **Great Expectations** comes very near Shakespearean comedy.

Dickens handles two different settings; the first one is the country life setting, and the second one is the city life setting. The country is depicted vividly with all its trivialities; the muddy and foggy environment represents the bad life conditions of the country. The second setting scene is the foggy and filthy atmosphere covering London. The physical environment of London is untidy and exposed to rubbish. In a sense, it represents the bad condition which the sudden changes of the Industrial Revolution caused. The third setting which is interpreted as a gothic atmosphere is Miss Havisham's "nightmarish stage-setting". This three different setting in **Great Expectations** create the process where **Dickens** would direct his characters to experience life in various stages.

Dickens also implies the inner worlds of his characters, but with a different manner. **Dickens** attained success in his attempt to illustrate the wrong way of life and behaviors. **Dickens** always offers the right way. He guides his characters to give up their attempt when they fail as it is illustrated with Pip. **Dickens's** characters develop in the course of event; Miss Havisham, frightful and powerful as a witch, is at last scene pathetic old woman who repents, Magwitch changes from "hungry dog" of his first appearance to the man who to die with moral beauty, Pip as a symbol of hope suffer from the lack of parents. Estella also lacks her parents; Magwitch's destruction is a sort of revenge; Miss Havisham

wastes her life due to her passions. In **Dickens's Great Expectations** the unexpected becomes the expected. In Pip, Estella and Magwitch the point in question is highly committed. For example; Pip's unexpected changes in his world, Estella's unexpected parents, Magwitch is not expected to be the benefactor, Miss Havisham is expected to be according to the course of the events. In this novel we notice Pip's expectation as called a sort of attitude. He wishes to acquire qualities of a gentleman.

Dyson sums up **Dickens's** achievement briefly: The extraordinary achievement of **Dickens** was to go as far as he did toward social realism in the early Victorian climate without becoming feverish, and without giving widespread offense. It was his remarkable and unusual gift to be able to depict the most warped and criminal people in a manner horrifyingly vivid to sensitive adult, but unlikely to harm a young person, or a reader only partly engaged with book.

Great Expectations would have come to be called 'Great Disappointments' or a book of disillusionments had not the original ending been changed to the present one. The original ending of **Great Expectations** was unlike the one that we read it now. **Dickens** originally ended the novel with a description of chance meeting between Pip and Estella; He narrated Estella's story after her marriage to Drummle but he made no attempt to suggest a change in the mind and behaviour of Estella. We have to suspend or disbelief when Pip says, "in her face and her voice, and in her touch, she gave me the assurance, that sufferings hadgiven her a heart to understand what my heart used to be".

[GE, Pg.No.460]

In the first ending Pip did not attain his 'great expectation'. His great expectation is fulfilled in the revised ending though after thorough mellowing of the expectations. **Sir Edward Bulwer-Lytton** said that "**Dickens's original ending might disappoint his Victorian readers, who had come to be expected the virtuous and reformed characters be rewarded with the joy of home and family**". And as a response for **Bulwer-Lytton's** opinion, **Dickens** changed the novel's ending and made it happy ending.

Dickens worked to make Pip meet Estella in the destructions of Satis House after she becomes a widow, and shifted his last sentence from "**I could see the shadow of no parting from her**" into "**I saw no shadow of another parting from her**", but also the end is still ambiguous whether Pip and Estella are married or remain single [**Schlicke, 1999, 260**]. The novel also adopted for movie and it has won many awards. The film version of the novel makes things clear. There both of them are brought together immediately after Pip's recovery thus sparing them eleven years of separation.

But **Bernard Shaw** was not happy with both the endings. He says "**Dickens wrote two endings and made a mess of both**", the present ending he calls an 'outrage' and the first much too matter of act to be the right ending to a tragedy. It was symptomatic of a radical change of taste that, in the Preface to a 1937 edition of **Great Expectations**, **George Bernard Shaw** focused upon, and applauded, what he saw as the novel's essential seriousness: "**It is too serious a book to be a trivially happy one. Its beginning is unhappy; its middle is unhappy; and the conventional happy ending is an outrage on it**". **John Forster**, **Dickens'** friend and biographer, feels '**the first ending more consistent with the drift, as well as natural working out of the tale**'. It would have been an

artistic ending for Pip to lose Estella. But the revised ending is better. It has a very well evoked atmosphere which suggests a changed Estella and prepares us for the gentle reconciliation reuniting Pip and Estella. The structure of the novel, too adequately prepares the readers for Pip's apparent winning of Estella. Their union is the expectation of the readers also. Pip's moral and material life has been built around his expectations. Had he not been allowed to unite with Estella it would have been a great disappointment to the readers. But **Dickens** has fulfilled his readers' expectations.

Pip understands that only good deeds can bring respect, not wealth. At the end of the novel, Pip gets the title of a real gentleman, only when he helps Magwitch and nurses him, also by helping Herbert secretly [**Alexander, 2005**]. He said to himself "**I did really cry in good earnest when I went to bed, to think that my expectations had done some good to somebody**" [GE, Pg.No. 295]. The lesson that Pip learned that one's social status is associated with one's personality and character not with the class. At the end of his journey, Pip rejects the social class and comes back to his original place, the marshes where he spent his childhood. Undoubtedly, he learns a lot from this experience [**Dennis, 2000**].

Dickens tells us through pip's realization that both; money and class have no any importance while affection, loyalty, and morality are more important for human being. Actually the moving of Pip from the small and isolated village to London seeking to be a gentleman represents the outflow of middle class. **Dickens** presents Pip as two characters, as we hear the story, we hear a mature person telling us the events about Pip as a child with his simple language

and simple expression. For instance when Pip depicts his feeling of inefficiency and weakness about himself and his family when he spends the day at Satis House for the first time:

“I thought how Joe and my sister were then sitting in the kitchen, and how I had come up to bed from the kitchen, and how Miss Havisham and Estella never sat in a kitchen, but were far above the level of such common doings”.

[GE, Pg.No.70]

Later Pip comments on the day from his present perspective, now he is mature and referring to his past, he is no longer young with innocent, simple and narrow view of life. Of course, like this technique, enables the author to give his commentaries about past events [The Victorian Web, 2016].

“That was a memorable day to me, for it made great changes in me. But, it is the same with any life. Imagine one selected day struck out of it, and think how different its course would have been. Pause you who read this, and think for a moment of the long chain of iron or gold, of thorns or flowers, that would never have bound you, but for the formation of the first link on one memorable day”.

[GE ,Pg.No.71]

Throughout Pip’s story of growth, **Dickens** examines the period of temptation of young as **Bernard N. Schilling** asserts in his book **The Rain of Years** that **“Dickens accuses the time of encouraging illusion the young and**

then frustrating their hopes of inspiring excessive ambition and then requiring calculated acts of cruelty to fulfill that ambition, of depriving youth to its grace, vitiating its generous sentiment. Youth is lead from a wholesome past into a corrupt future”.

Pip's conversion marks Pip fantasist growing into maturity. Estella too at the end changes though her normal change takes place off stage. Fantasies thus dwindle into humanity; the mood thus is a celebration of the expectation arising out of humanity and mellowness; Fairy-wishing and day dreaming collapse. **Dickens** uses a kind of montage to represent an organization of reality, a super imposition of the moral present which offsets the atmosphere of fairy-tale and fairy- wishing. So **Great expectation** is not a tale is set in a moral universe. The characters who represent the moral attitude are the saintly Joe Gargery and lawyer Jaggers. They abide and endure in this novel to carry home the object lesson of the triumph of moral attitudes.

Paul Pickrel in his essay on **Great Expectation** says that Joe lives by truth to feeling and Mr.Jaggers lives by truth to fact. The malevolence of compeyson and Orlick, the cruelties of Mrs.Joe and Drummle also get eliminated in the novel. The other expectations that are rewarded in this novel are the modest ambitions of characters like Herbert Pocket, Clara and Bidly. So **Dickens** wants to stand by modest ambitions and not the soaring ambitions of a world of fantasy just as he would stand by a moral universe and not the world of fantasy nor the world of cruelties and malevolence.

Great Expectations is a symbolic autobiography of **Dickens**. In writing of Pip, he had his elder son in his mind, who had shown little inclination to help themselves. Joe's village is modeled on the tiny village of Cooling, a few miles away from **Dickens's** home at Gad's Hill. Satis house is based on an old Elizabethan mansion south of Rochester Cathedral, where **Dickens** as a child strolled frequently. His boyhood encounter with a convict ship at Chatham provided him the model on the bulk of Thames. Estella's cold hearted treatment of Pip has a strong resemblance to that of Ellen Lerman's failure to reciprocate the author's autumn passion.

Just as **Dickens** suffered humiliation in the Blacking factory, he let his creation Pip suffers at the hands of the fashionable people in Joe's household. As **Dickens** preferred to forget the lowly antecedent of his family so that Pip with his back turned against his friends. For **Dickens** as for Pip's life had 'come true' to an extent that even his wild fantasy could hardly have suggested in childhood, in spite of fantasy led by **Dickens** finds expression, in the lucid atmosphere of fairy tale built up by **Great Expectations**.

Calder says that in **Great Expectation**, **Dickens** wants to convey two major social messages. One is that in a class society there is justice for the rich, but none for the poor; so that in the absolute sense there is no "justice" at all. The other is that class divisions sustained by wealth destroys the bonds of fellowship which should exist between man and man, and can condition even a morally sensitive person such as Pip to act badly.

Dickens's characters in **Great Expectations** Miss. Havisham and Magwitch are the power with which they use Pip and Estella as tools for the sake of their passions and revenge on the society. They had expectations in their lives when they turn into disappointments they decided to get some compensation for the loss from the society. Pip's sister and her husband Mr. and Mrs. Blacksmiths remain in a somewhat second category. Being a parentless little boy Pip leads an unbearable life in the country with his sister Mrs. Joe. He is ill-treated by his sister and by all the visitors to the house. He hates living in such condition.

Dickens depicts England of his time. This is also the nature of the people in Victorian society which **Dickens** portrays through his characters of the novel. One critic of **Dickens**, **Humphry House** argues that "**a great writer is a product of the social forces of the time in which he lives, and that he also reflects and modifies them in his work**".

Then, the scorns of the little girl of his age Estella originates in him the wish to get on and willingness to spend his time and pocket-money on learning to read and to write so as to be a gentleman. He bears in him a gradual expectation. He is afforded by a known benefactor. From now on he leads a new life in London. Very short time before the end of his education in London, he discovers that Magwitch, the convict is his benefactor. He is disappointed with this discovery. So, **Dickens** brings Estella and Pip together though Estella is married to someone else. Thus, Pip is a tool in the hand of Magwitch. He becomes mature in the long run. Another character who is treated as a tool is Estella. She is misled by Miss Havisham as Pip is by Magwitch. Estella and Pip are brought together for the sake of envy. The unhappy jilted old girl Miss Havisham plots the life of the little girl and the boy with the hope of revenge on the males. Magwitch is almost in the

some psychology with Miss Havisham. He desires to revenge not on the individuals but on the society as a whole. Magwitch wants to achieve his purpose through money. He tries to transform Pip into a gentleman by money.

Pip has a deep desire to improve himself and attain any possible advancement, whether educational, moral, or social. His longing to marry Estella and join the upper classes stems from the same idealistic desire as his longing to learn to read and his fear of being punished for bad behavior: once he understands ideas like poverty, ignorance, and immorality, Pip does not want to be poor, ignorant, or immoral. Pip judges his own past actions extremely harshly, rarely giving himself credit for good deeds but angrily castigating himself for bad ones.

As a character, however, Pip's idealism often leads him to perceive the world rather narrowly, and his tendency to oversimplify situations based on superficial values leads him to behave badly toward the people who care about him. When Pip becomes a gentleman, for example, he immediately begins to act as he thinks a gentleman is supposed to act, which leads him to treat Joe and Biddy snobbishly and coldly.

On the other hand, Pip is a very generous and sympathetic young man, a fact that can be witnessed in his numerous acts of kindness throughout the novel and his essential love for all those who love him. Pip's main line of development in the novel may be seen as the process of learning to place his innate sense of kindness and conscience above his immature idealism. Not long after meeting Miss Havisham and Estella, Pip's desire for advancement largely overshadows his basic goodness. After receiving his mysterious fortune, his idealistic wishes seem to have been justified, and he gives himself over to a gentlemanly life of idleness.

But the discovery that the wretched Magwitch, not the wealthy Miss Havisham, is his secret benefactor shatters Pip's oversimplified sense of his world's hierarchy. The fact that he comes to admire Magwitch while losing Estella to the brutish nobleman Drummle ultimately forces him to realize that one's social position is not the most important quality one possesses, and that his behavior as a gentleman has caused him to hurt the people who care about him most. Once he has learned these lessons, Pip matures into the man who narrates the novel, completing the Bildungsroman.

In **Great Expectations**, Dickens succeeded to establish themes of expectation, disappointment and compensation to make Pip learn a great lesson from his experience. Pip discovers at the end of the novel that affection, loyalty, and conscience are more important than social advancement, money and class. By exploring his great expectations he discovers new things more important and more valuable than what he has so called as "great expectations".

CHAPTER III

CONCLUSION

Dickens's novels in general are full of people with expectations. The leading idea of the novel **Great Expectations** too as stated by the title is about 'great expectation'. The title itself is ironic as it reflects the tendencies and the traits of the characters, who have 'great expectations' about their future. The developments in the novel clearly point out that the role each and every one plays in the novel with a view to getting the benefit in some possible ways. We have discussed these things in the second chapter.

In this novel **Great Expectation** many of the prominent characters like Pip, Estella, Miss Havisham and Magwitch have great expectations, though in different ways. They move with different motives in different directions. Pip nurses high hopes of advancement in status, in lifestyle and gentle respectability founded on unearned gift from unknown sources. Pip dreams of gentility when he visits to the Satis House. But Pip's fantasies are connected with the unattainable Estella. She only sowed the thought of expecting and living like the higher class society within him through her speech and 'cold' behaviour. His first and foremost expectation is winning the heart and hand of Estella. Even though he is ill treated by her he does not show any hatred towards her. Even she rejects him and marries the brutal man, Drummle. This is a great disappointment to Pip. But Pip does not step back from his 'great expectation'. His expectation of

marrying Estella paves way to build more and more expectations in his life. He wishes to become a wealthy and rich man then only he can win the hands of Estella. He used the fortune from a secret benefactor to come up in life. But this is an incorrect way to come up in his life. Using the fortune of unknown person and leading a spendthrift life makes Pip to go for an immoral life. Having expectation in our life is a common thing. But more ambitious man becomes corrupt in their behaviour. Pip even neglected his close friend Joe accusing his country behaviour. Later he had shown regret for that.

Some of the expectations of Pip are fulfilled. Pip has got education and learned manner and behaviour of higher class people through Herbert and Wemmick. More expecting things sometimes yield to disappointments. Likewise, Pip also thinks that Miss Havisham is the secret benefactor, who will have the intention of making him suitable for Estella by making him to learn and teach manners and later marry her. But his 'great expectation' is thwarted into pieces when he comes to know that Magwitch, the escaped convict is the secret benefactor of Pip. All his expectations turn into 'great disappointments'. Pip even showed an initial hatred towards Magwitch, but sooner realized his mistakes and decided to help him.

Another disappointment occurs when he discovers that Compeyson was the man who abandoned Miss Havisham on the eve of marriage. Estella was the daughter of Magwitch. Miss Havisham had raised her to wreak vengeance on the male society, as a compensation for the sufferings she had in the past. Pip was merely a small boy for the young Estella to practice on. This makes

Pip to come out of the illusion which he called as 'great expectation'. Having undergone lots of disappointments, Pip comes to the reality and decided to live with Joe and Biddy. Pip has become well developed businessman. He used to live like a higher society people. Of all the changes in his life Pip's expectations of marrying Estella remains unchangeable one. On the other hand, Estella also had the expectation of marrying a rich and higher class man was fulfilled by marrying Drummle. But her marriage life is an unfulfilled one because Drummle died in an accident. Now she is a widow. In the young age, Estella was proud of her charm and beauty. She had the expectation of using her beauty to attract men. Now she loses her charm and pretty having undergone lots of difficulties in her marriage life. Estella's marriage life is a great disappointment to her.

Miss Havisham had the expectation of marrying her lover Compeyson but her life is thwarted at the moment of her marriage. She is cheated by her fiancé. This is a great disappointment to her. This disappointment makes her to have an expectation of vengeance on all men for the humiliation she suffered at the hands of one faithless lover. This is a foolish behaviour. She would not take one man as a representative of whole male society. She loses her life and also spoils the life of Estella. She adopts Estella and brought up her with the thought of making her as a tool to wreak vengeance on the male society. She even induces this thought with in her also. Estella also grows with the thought and finally loses her life. But both the life of Estella and Miss Havisham rescued by the gentle man Pip only. Like Havisham, We can take him as the representative of whole male society. In other words, this is a compensation for the humiliation she had in the past. She even repents before her death for the ill-treatment of Pip and her mis-usage of Estella. Magwitch dreams of making Pip a gentleman. Having got many

disappointment and frustration in his life, he wishes to do something good at the end of his life. That's why he decided to be the benefactor of Pip. He seeks fulfillment for his frustrated and crime ridden life ironically in fashioning a gentleman out of Pip with his money. Even though he is a convict, in a way his expectation is correct one. He has used his crime money in a correct way by giving education to a poor boy Pip. He even gets fulfillment in his expectation when Pip accepts him as a 'second father'. At the end of his death, Pip reveals that his daughter, Estella is alive and whom he loves very much, makes him very happy. This is the compensation that Magwitch got at the end of his life.

The sad irony of the title is that expectations are never great. A man is what he does. A man who expects to be given is a parasite and a fool. The title has something to do with the nature of Pip's perception of society. He comes from a poor blacksmith family and has these great expectations of what he's missing out on. As the book progresses these "great" expectations become less and less great to Pip. He meets Magwitch and he is just realizing how much he had rather be back at home at the forge than live out all of these great expectations he had for the rich social class.

Dickens has given a great conclusion for the novel which made the novel an immortal piece of literature. **Dickens** made a twist in the ending which fulfills the expectations of his readers. After changing into an ordinary life in the forge, Pip wishes to have a glimpse of Estella. With this expectation he goes to Satis House. There he meets Estella but not the one he expected before. She is a widow now. She has lost all her pride and beauty. Her expectations were gone.

Nothing but the dejected Estella only remains. But for Pip, he remains with the same thoughts about Estella. His love for her has never changed. Now he is wealthy and an educated man also. He can go for other choice of woman for his future life. He did not do things like that. When he meets the all abandoned Estella, he offers his hand to lift Estella from all her sufferings and dejections. He accepts her with a great heart and gives light to her darkened life.

Both Pip and Estella accepts this as compensation and moves with their rest of life. In a way Pip attained his expectation not up to the expected level but to the obtained level. Now Estella also got the fulfillment of her expectation, marrying a rich and wealthy man. In other words, Pip had that much determination about his dream. Of all the frustrations and dejections he never lost his hope and go for other way of living his life. His strong mental power changes all the disappointments into a better life to him. He accepts Joe and Biddy as his parents and finally gives life to dejected Estella, even though she is a neglected woman in the society. He makes his expectation to a greater one by giving life to her.

In this novel, the minor characters also had some expectations. Herbert wants to be rich in life and wishes to marry Clara. His expectations fulfilled with the help of Pip. Jaggers wanted to earn much money through the fortune of Pip and he used the opportunity well to come up in his life. Mr. Joe does not have any expectations but gets disappointment by the untimely death of his wife, Mrs. Joe. At the end of the novel he marries the orphan girl, Biddy as a compensation for the loss of his wife. As a realistic writer, **Charles Dickens** is

through the description of the ordinary people, reflecting the reality in his life time. **Lumphry House** says that '**Great Expectations** is the perfect expression of a phase of English society'. **Johnson** thinks that Pip's 'great expectations' were the great expectations of Victorian society, visions of a parasitic opulence of future wealth and glory, a materialistic paradise of walnut, plush, gilt mirrors, and heavy dinners.

Edmund Wilson in one of his essays says about the richest and most rewarding of **Dickens's** achievements and **Great Expectations** emerged as a pivotal work:

"In **Great Expectations** we see Pip pass through a whole psychological cycle. At first, he is sympathetic, then by a more or less natural process he turns into something unsympathetic, then he becomes sympathetic again. Here the effects of both poverty and riches are seen from the inside in one person. This is for **Dickens** a great advance"

Life is a complicated mess of circumstances that nobody will ever fully understand, the closest tangible object we may have in order to even begin to understand our environment would be through our own literature, expression, and art. Through these things, dried ink can clear the path to enlightenment, and this is increasingly evident in **Charles Dickens's Great Expectations**. Through very complicated, conflicted characters, he demonstrates an artful story about Expectations, Disappointment and Compensation. No one is perfect, and everyone has its markers. Seeing from the novel the hero Pip, we still even have a lot to learn. Individual growth is a process of growing to be a perfect oneself. Though

Pip's great expectations disillusion, he finally still gets back to the good moral character, and begins a new life. All of these topics which are present in the novel are so present in our life. The baggage that we wear would be all of our combined emotions and expectations. No matter what you do, you will never escape the expectation of others. These expectations lead to something that all of us to disappointments and sometimes compensation will be there.

These things are the recurring theme in **Dickens** literature especially in the novel **Great Expectations**. We are now in the information age, living a happy life in this world, but still we lack the spirit of self-reliance, and depend on our parents to reach our goals. In order to achieve our goal in the future, whether big or small, success or failure, one should depend on himself/herself, relying on his or her own ability to realize the great expectations.

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