SACRED HEART COLLEGE, CHALAKUDY

(AFFILIATED TO UNIVERSITY OF CALICUT)

THRISSUR, KERALA - 680307

AQAR 2021-22

CRITERION II

2.5.1 - Mechanism of internal assessment is transparent and robust in terms of frequency and mode.



Submitted to

National Assessment and Accreditation Council

2.5.1 Details of "Mechanism of internal assessment is transparent and robust in terms of frequency and mode"

As an affiliated institution of University of Calicut, Sacred Heart College Chalakudy adheres to the rules and regulations of the University for internal assessment of students. This assessment is based on internal examinations, assignments, seminars and attendance in respect of theory courses and based on tests, lab skill and records/viva in respect of practical courses.

The institute has an "**Internal Examination Cell**" for smooth and transparent conduct of internal examinations. This cell issues the time table of internal examinations, assigns invigilation duties, conducts the examinations on time and directs the departments to submit the mark book containing the internal marks to the principal for transparency.

1. INTERNAL ASSESSMENT RULES FOR THE PG COURSES

16. INTERNAL EVALUATION / CONTINUOUS ASSESSMENT (CA)

16.1 This assessment shall be based on a predetermined transparent system involving periodic written tests, assignments, seminars, viva-voce and attendance in respect of theory courses and based on tests, lab skill and records/viva in respect of practical courses.

16.2 The criteria and percentage of weightage assigned to various components for internal evaluation are as follows :

	(a) Theory :		
Sl.No	**Component**	**Percentage**	**Weightage**
1	Examination /Test	40%	2
2	Seminars / Presentation /Viva-Voce	20%	1
3	Assignment	20%	1
4	Attendance	20%	1
	(b) Practical :		
1	Lab Skill	40%	4
2	Records/viva	30%	3
3	Practical Test	30%	3

(The components and the weightage of the components of the practical (Internal) can be modified by the concerned BOS without changing the total weightage 10.)

16.3 Grades shall be given for the internal evaluation are based on the grades A+,A,B,C,D&E with grade points 5,4,3,2, 1 &0 respectively. The overall grades shall be as per the Ten Point scale provided in clause **20.2** of this regulation.

16.4 There shall be no separate minimum Grade Point for internal evaluation.

16.5 To ensure transparency of the evaluation process, the internal assessment marks awarded to the students in each course in a semester shall be published on the notice board before 5 days of commencement of external examination.

16.6 There shall not be any chance for improvement of internal marks.

16.7 The course teacher shall maintain the academic record of each student registered for the course, which shall be forwarded to the University, through the college Principal, after being endorsed by the Head of the Department.

16.8 For each course there shall be class test/s during a semester. Grades should be displayed on the notice board. Valued answer scripts shall be made available to the students for perusal.

16.9 Each student shall be required to do **assignment/s** for each course. Assignments after valuation must be returned to the students. The teacher shall define the expected quality of the above in terms of structure, content, presentation etc. and inform the same to the students. Punctuality in submission is to be considered.

16.10 Every student shall deliver **Seminar / Presentation** as an internal component for every course and must be evaluated by the respective course teacher in terms of structure, content, presentation and interaction. The soft and hard copies of the seminar report are to be submitted to the course teacher.

16.11 All the records of Continuous Assessment (CA) must be kept in the college and must be made available for verification by university, if asked for.

16.12 There shall be an objective test in the nature of **Fill in the blanks / Multiple Choice Questions (MCQ)** for awarding internal assessment marks for SDE/Private Registration students.

17. EXTERNAL / END SEMESTER EVALUATION (ESE)

2. INTERNAL ASSESSMENT RULES FOR THE UG COURSES

9. EVALUATION AND GRADING

9.1. Mark system is followed instead of direct grading for each question. For each course in the semester letter grade and grade point are introduced in 10-point indirect grading system as per guidelines given in Annexure-1

9.2. Course Evaluation

The evaluation scheme for each course shall contain two parts

1) Internal assessment 2)External Evaluation

20% weight shall be given to the internal assessment. The remaining 80% weight shall be for the external evaluation.

9.2.1. Internal Assessment

20% of the total marks in each course are for internal examinations. The marks secured for internal assessment only need to be sent to University by the colleges concerned.

The internal assessment shall be based on a predetermined transparent system involving written tests, Class room participation based on attendance in respect of theory courses and lab involvement/records attendance in respect of Practical Courses.

Internal assessment of the project will be based on its content, method of presentation, final conclusion and orientation to research aptitude.

Components with percentage of marks of Internal Evaluation of Theory Courses are-Test paper 40%, Assignment 20%, Seminar 20% and Class room participation based on attendance 20%.

For practical courses - Record 60% and lab involvement 40% as far as internal is concerned.

For the test paper marks, at least one test paper should be conducted. If more test papers are conducted, the mark of the best one should be taken.

To ensure transparency of the evaluation process, the internal assessment marks awarded to the students in each course in a semester shall be notified on the notice board at least one week before the commencement of external examination. There shall not be any chance for improvement for internal marks. The course teacher(s) shall maintain the academic record of each student registered for the course, which shall be forwarded to the University by the college Principal after obtaining the signature of both course teacher and Head of the Department.

The Split up of of marks for Test paper and Class Room Paticipation (CRP) for internal evaluation are as follows.

Split up of marks for Test paper

Range of Marks in test paper	Out of 8 (Maximum internal marks is 20)	Out of 6 (Maximum internal marks is 15)
Less than 35%	1	1
35% - 45%	2	2
45% - 55%	3	3
55% - 65%	4	4
65% - 85%	6	5
85% -100%	8	6

Split up of marks for Calss Room Participation

Range of CRP	Out of 4 (Maximum internal marks is 20)	Out of 3 (Maximum internal marks is 15)
50% ≤ CRP < 75%	1	1
75% ≤ CRP < 85%	2	2
85 % and above	4	3

3. INTERNAL EXAMINATION TIME TABLES

Second Semester Internal Examination for II semester B A / B Sc. / B Com. Degree

It has been decided to conduct internal examinations for II semester classes from 2nd September to 9th September, 2021. The time table for the exams is given below:

Time	Date	Subject
FN Session (B Sc.) 9.30 am to 11.30 am / 12 pm	02 / 09 / 2021	English A03
	03 / 09 / 2021	English A04
AN Session (B A / B Com.) 1:00 pm to 3:00 / 3:30 pm	06 / 09 / 2021	Hindi/Malayalam
	07 / 09 / 2021	Core
	08 / 09 / 2021	Complementary 1
	09 / 09 / 2021	Complementary 2

Instructions

1. The students should reach the College to write exams.
2. The question paper should be as per the university pattern and time duration (2/2.5 h)
3. HoD's kindly provide the time table to students and instruct them not to stay back/come early without the permission of the faculty in charge/HoD
4. The examinations should be conducted by keeping all the COVID–19 protocol.
5. The department heads have to take care of question papers, seating arrangement and conduct of the exams for the students in the respective departments.
6. After the end of the examination, HoD should provide two copies of all the question papers to the internal examination cell.
7. Answer papers to be collected from the college office.

Internal examination for II Semester BA/BSc./BCom. students those coudn't appear with genuine covid/covid related symptoms

- It should be noted that the exams should be as per University patterrn
- Students those who coudn't appear for the previous internal exmas with genuine covid/covid related symptoms should contact the respecctive departments

Date	Time	Subject
21/10/2021	9 AM	English A03
	1:30 PM	English A04
22/10/2021	9 AM	Hindi/Malayalam
	1:30 PM	Core
25/10/2021	9 AM	Complementary I
	1:30 PM	Complementary II

Sacred Heart College, Chalakudy
Time Table for V Semester Internal Examinations
Time: 9:15 AM – 11:45 AM

Date	Paper Code	Subject
10/01/2022 Monday	ZOLB06T	Cell Bilogy and Henotics
	HIS5B07	World History–3
	BCM5B07	Accounting for Management
	CHE5B06	Inorganic Chemistry–III
	ENG5B07	Appreciating Drama and Theatre
	PHYB06	Computational Physics
	ECO5B07	Fiscal Economics
	MTS5B05	Theory of Equations and Abstract Algebrea
11/01/2022 Tuesday	ZOLB07T	Biotechnology, Microbiology and Immunology
	HIS5B08	Indian History–3
	BCM5B08	Business Research Methods
	ENG5B08	Literary Theory
	PHY5B07	Quantum Mechanics
	ECO5B08	Indian Economic Development
	MTS5B06	Basic Analysis
12/01/2022 Wednesday	BCM5B09	Income Tax law and Accounts
	CHE5B07	Organic Chemistry–II
	MTS5B07	Numerical Analysis
13/01/2022 Thursday	ZOL5B08	Biochemistry and Molecular biology
	HIS5B09	Kerala History–1
	BCM5B10	Financial Markets and Services
		Computer Applications in Business
	ENG5B09	Languag and Linguistics
	PHY5B08	Optics
	ECO5B09	Economics of Capital Market
	MTS5B08	Linear Programming
14/01/2022 Friday	ZOL5B09T	Methodology in Science, Biostatistcs and Bioinformatics
	HIS5B10	Methodology of Writing History
	BCM5B11	Financial Management
		Business Information Systems
	CHE5B08	Physical Chemistry–II
	ENG5B10	Indian Writing in English
	PHY5B09	Electronics (Analog and Digital)
	ECO5B10	Mathematical Economics
	MTS5B09	Introduction to Geometry
17/01/2022 Monday (Open Course)	ZOL5D01T	Reproductive Health and Sex Education
	HIS5D01	Historical Tourism
	BCM5D01	E–Commerce
	CHE5D01	Environmental Chemistry
	ENG5D01	English for Copetitive Examinations
	PHY5D01	Non Conventional Energy Sources
	ECO5D01	Economics in Everyday Life
	MTS5D03	Linear Mathematical Models

Sacred Heart College, Chalakudy
Time Table for V Semester Internal Examinations
Time: 9:15 AM – 11:45 AM

Date	Paper Code	Subject
10/01/2022 Monday (Open Course)	ZOL5D01T	Reproductive Health and Sex Education
	HIS5D01	Historical Tourism
	BCM5D01	E–Commerce
	CHE5D01	Environmental Chemistry
	ENG5D01	English for Competitive Examinations
	PHY5D01	Non Conventional Energy Sources
	ECO5D01	Economics in Everyday Life
	MTS5D03	Linear Mathematical Models
11/01/2022 Tuesday	ZOLB06T	Cell Biology and Henotics
	HIS5B07	World History–3
	BCM5B07	Accounting for Management
	CHE5B06	Inorganic Chemistry–III
	ENG5B07	Appreciating Drama and Theatre
	PHYB06	Computational Physics
	ECO5B07	Fiscal Economics
	MTS5B05	Theory of Equations and Abstract Algebra
12/01/2022 Wednesday	ZOLB07T	Biotechnology, Microbiology and Immunology
	HIS5B08	Indian History–3
	BCM5B08	Business Research Methods
	CHE5B07	Organic Chemistry–II
	ENG5B08	Literary Theory
	PHY5B07	Quantum Mechanics
	ECO5B08	Indian Economic Development
	MTS5B06	Basic Analysis
13/01/2022 Thursday	ZOL5B08	Biochemistry and Molecular biology
	HIS5B09	Kerala History–1
	BCM5B09	Income Tax law and Accounts
	CHE5B08	Physical Chemistry–II
	ENG5B09	Language and Linguistics
	PHY5B08	Optics
	ECO5B09	Economics of Capital Market
	MTS5B07	Numerical Analysis
14/01/2022 Friday	ZOL5B09T	Methodology in Science, Biostatistcs and Bioinformatics
	HIS5B10	Methodology of Writing History
	BCM5B10	Financial Markets and Services
		Computer Applications in Business
	ENG5B10	Indian Writing in English
	PHY5B09	Electronics (Analog and Digital)
	ECO5B10	Mathematical Economics
	MTS5B08	Linear Programming
17/01/2022 Monday	BCM5B11	Financial Management
		Business Information Systems
	MTS5B09	Introduction to Geometry

Sacred Heart College, Chalakudy

Time Table for I Semester UG Internal Examinations
Time: 9:00 AM – 10:00 AM

Date	Paper
17/01/2022 Monday	ENG1A01 – English
18/01/2022 Tuesday	ENG1A02 – English
19/01/2022 Wednesday	MAL1A07(1) – Malayalam
	HIN1A07(01) – Hindi
20/01/2022 Thursday	Core Course
21/01/2022 Friday	Complementary I
24/01/2022 Monday	Complementary II

Sacred Heart College, Chalakudy

Internal Examination Time Table for III Semester UG Courses 2021
Time: 9 AM – 10 AM Max. Marks: 20

Date	B Sc. Courses	B A Courses	B Com.
17/01/2022	ENG3A05–English	ENG3A05–English	BCM3A11 Basic Numerical Skills
18/02/2022	Malayalam/Hindi	Malayalam/Hindi	BCM3A12 General Informatics
19/01/2022	Core	Core – I	BCM3B03 Business Regulations
20/01/2022	Complementary–I	Core – II	BCM3B04 Corporate Accounting
21/01/2022	Complementary–II	Complementary–I	BCM3C03 Human Resource Management

Sacred Heart College, Chalakudy

Internal examination for III Semester PG courses – Feb 2022
Time: 9:30 – 12:30

Venue	Date of examination				
	07/02/2022	08/02/2022	09/02/2022	10/02/2022	11/02/2022
Language hall	Maths: Paper – I (20)	Maths: paper – II (20) Physics: Paper I (11) English: Paper I (11) Chemistry: Paper I (12)	Maths: Paper – III (20) Physics: Paper II (11) English: Paper II (11) Chemistry: Paper II (12)	Maths: Paper – IV (20) Physics: Paper III (11) English: Paper III (11) Chemistry: Paper III (12)	Maths: Paper – V (20) Physics: Paper IV (11) English: Paper IV (11) Chemistry: Paper IV (12)

Invigilation

07/02/2022	08/02/2022	09/02/2022	10/02/2022	11/02/2022
Smitha Davis	Shyama I	Anju Rose Anto	Heena Peethambaran	Vijitha Mukundan

SACRED HEART COLLEGE, CHALAKUDY

Time Table For First Semester II Internal Examination Febuary, 2022

Time: 9:30 AM – 12 Noon

Date	Course Code	Subject Topic
15.02.2022	ENG1A01	Transactions-Essential English language skills (B A/B Sc./B Com.)
16.02.2022	ENG1A02	Ways with words-Literature in English (B A/B Sc./B Com.)
17.02.2022	MAL1A07(1)	Malayalam sahithyam-1 (B A/B Sc.)
	MAL1A07(2)	Malayalam sahithya padnnaml (B Com.)
	MAL1A07(3)	Malayala bashayum sahithyavum1 (B Sc. Psychology)
	HIN1A07(01)	Prose and Drama (B A/B Sc.)
	HIN1A07(02)	Prose forms in Hindi literature (B Com.)
	HIN1A07(03	Prose and one act play (B Sc. Psychology)
18.02.2022	BC1B01	Management concepts and business ethics (B Com.)
	ZOL1B01T	Animal diversity non core data part 1 (Zoo)
	HIS1BC01	Trends in Historgraphy (History)
	PHY1B01	Machanics1 (Phy)
	ECO1B01	Micro economics -1 (Eco)
	MTS1B01	Basic logic and number theory (Maths)
	CHE1B01	Theoretical and Inorganic Chemistry-1 (Chem)
	PSY1IB01	Basic themes in Psychology-1 (Psych)
	ENG1B01	Introducing Literature (Eng)
21.02.2022	BC1C01	Managerial Economics (B Com.)
	CHE1C01	General Chemistry (Zoo)
	EC01(2)CO1	Introductory Economics-1 (History)
	MTS1C01	Mathematics-1 (Phy)
	STA1C01	Introductory statistics (Chem, Maths)
	ICP1(2)C01	Indian Constitution and Politics: Basic Features and Governmental Structures (Eco)
	HIS1(2)C01	Modern Indian History (1857 to the present) (Eng)
	PSY1IC01	Human Physiology (Psych)
22.02.2022	CSC1C01	Computer Fundamentals (Chem, Phy, Maths)
	BOT1C01	Angio sperm anatomy and micro techniques (Zoology)
	PSY1IC01	Psychological Statistics (Psych)

Time Table For Third Semester II Internal Examination Febuary, 2022

Time: 9:30 AM – 12 Noon

Date	Course Code	Subject Topic
15.02.2022	BCM3A11	Basic Numerical skills (B Com.)
	ENG3A05	Signatures-Expressing the Self (B A/B Sc.)
16.02.2022	BCM3A12	Professional Business Skills (B Com.)
	HIN3A29	Poetry in Hindi (B A/B Sc.)
	MAL3A09	Malayala Sahithyam-3 (B A/B Sc.)
17.02.2022	BCM3B03	Business Regulations (B Com.)
	ZOL3B03T	Animal Diversity Core Data Part-1 (Zoo)
	HIS3BC03	World History-1 (History)
	PHY3B03	Electrodynamics-1 (Phy)
	CHE3B03	Physical Chemistry-1 (Chem)
	ENG3B03	Appreciating Prose (Eng)
	MTS3B03	Calculus of Single variable-2 (Maths)
	ECO3B03	Quantitative Methods for Economic (Eco)
18.02.2022	BCM3B04	Corporate Accounting (B Com.)
	HIS3BC04	Indian History-1 (History)
	ECO3B04	Micro Economics-2 (Eco)
	ENG3B04	English Grammer and Usage (Eng)
	MTS3C03	Mathematics-3 (Phy, Chem)
	STA3C03	Probability Distributions and sampling Theory (Maths)
	CHE3B03	Organic Chemistry (Zoo)
21.02.2022	BCM3C03	Human Resource management (B Com.)
	BOT3C03	Morphology, Syst, Botony, Economic Botony, Plant breeding and Horticulture (Zoo)
	CSC3C03	Problem Solving using C (Phy, Chem, Maths)
	ECO4(3)C04	Mathematical Tools for Economics-II (Eco)
	ICP4(3)C02	Indian Constitution and Politics:Federalism,Decentralization and Political Dynamics (History)
	JOU(3)C02	Introduction to TV and Cinema (Eng)

SACRED HEART COLLEGE CHALAKUDY

TIME TABLE FOR PG FIRST SEMESTER II INTERNAL EXAMINATION APRIL 2022

DATE	SUBJECT CODE	SUBJECT NAME
01/04/2022	MC1C1	Business Environment(Com.)
	ENG1C01	British Literature from Chauser to 18 th Century(Eng.)
	CSS1C02	Discrete Mathematical Structures(Comp. Sci.)
	PHY1C01	Classical Mechanics (Phy.)
	CHE1C01	Quantum Mechanics and Computational Chemistry (Chem.)
	MTH1C01	Algebra 1 (Maths)
	ZOL1C01	Biochemistry and Cytogenetics (Zool)
	ECO1C01	Microeconomics: Theory and Applications 1 (Eco.)
02/04/2022	MC1C2	Quantitative Techniques for Business Decisions
	ENG1C02	British Literature 19th Century
	CSS1C02	Advanced Data Structures
	PHY1C02	Mathematical Physics 1
	CHE1C02	Elementary Inorganic Chemistry
	MTH1C02	Linear Algebra
	ZOL1C02	Biophysics and Biostatistics
	ECO1C02	Macroeconomics: Theories and Policies 1
04/04/2022	MC1C3	Accounting for Managerial Decisions
	ENG1C03	History of English Language
	CSS1C03	Theory of Computation
	PHY1C03	Electrodynamics and Plasma Physics
	CHE1C03	Structure and Reactivity of Organic Compounds
	MTH1C03	Real Analysis1
	ZOL1C03	Ecology and Ethology
	ECO1C03	Indian Economy: Problems and Policies
05/04/2022	MC1C4	IT Applications in Commerce
	ENG1C04	Indian Literature in English
	CSS1C04	The Art of Programming Methodology
	PHY1C04	Electronics
	CHE1C04	Thermodynamics, Kinetics and Catalysis
	MTH1C04	Discrete Mathematics
	ECO1C04	Quantitative Methods for Economic Analysis 1
06/04/2022	MC1C5	Organizational theory and Behaviour
	CSS1C05	Computer Organization and Architecture
	MTH1C05	Number Theory

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Time Table for IV Semester UG Internal Examination – June, 2022

Date	Course Code	Subject
15/06/2022	BCM4A13	Entrepreneurship Development (B Com.)
	ENG4A06	Spectrum: Literature and contemporary issues (BA/B Sc.)
16/06/2022	BCM4A14	Banking and Insurance (B Com.)
	HIN4A10	Novel And Short Stories (BA/BSc.)
	MAL4A10	Malayala Sahithyam 4 (BA/BSc.)
17/06/2022	BCM4B05	Cost Accounting (B Com.)
	ZOL4B04T	Animal Diversity Core Data Part II (Zoo)
	HIS4B05	World History II (History)
	PHY4B04	Electrodynamics II (Phy)
	CHE4B04	Organic Chemistry 1 (Chem)
	ENG4B05	Appreciating Fiction (Eng)
	MTS4B04	Linear Algebra (Maths)
	ECO4B05	Quantitative Methods for Economic Analysis II (Eco)
20/06/2022	BCM4B06	Corporate Regulations (B Com.)
	HIS4B06	Indian History II (History)
	ECO4B06	Macro Economics 2 (Eco)
	ENG4B06	Literacy Criticism (Eng)
	STA4C04	Statistical inference and Quality Control (Maths)
	CHE4C04	Physical and Applied Chemistry (Zoo)
	MTS4C04	Mathematics 4 (Phy, Che)
21/06/2022	BCM4C04	Quantitative Techniques for Business (B Com.)
	BOT4C04T	Plant Physiology, Ecology and Genetics (Zoo)
	CSC4C04	Data Structures using C (Phy, Chem, Maths)
	ICP4(3)C02	Indian Constitution and Politics: Federalism, Decentralization and Political Dynamics (Eco)
	HIS4(3)C01	Modern Indian History(1857 to the present):II (Eng)
	ECO4(3)C01	Introductory Economics –II (History)

4. INTERNAL EXAMINATION INVIGILATION DUTIES

Invigilation duty for II internal examination for
I & III Semester BA/BSc./BCom. Degree courses (February, 2022)

Sl. no	Venue	Date					
		15/02/2022	16/02/2022	17/02/2022	18/02/2022	21/02/2022	22/02/2022
1	Language Hall (Room No. 51)	Shyma K S	Sheeja John	Dr. Princy Anto	Jose James	Dr. Meenu Jacob	Shyma K S
2	I B A Economics (Room No. 53)	Dr. Jisha Jose Panakal	Anchu K S	Athira V	Sandra Juliet Jose	Jose James	Gayathri Suresh Babu
3	II B A Economics (Room No. 54)	Anjana Rajan	Nayana Sreedharan	Farsana P M	Dr. Shirley Jose	Dr. Tessy K L	Anjana Rajan
4	III B.Sc Maths	Sandra Juliet Jose	Divija Rajan	Keerthana T U	Revathy M S	Libin Francis	Dr. Tessy K Lathira
5	I B Sc. Maths (Room No. 59)	Dr. Sr. Mini T V	Nima Maria	Darley Mathew	Sheeja John	Dr. Princy Anto	Divija Rajan
6	III BA Economics (Room No. 62)	Dr. Neetha V	Dr. Shirley Jose	Smina M B	Anchu K S	Athira V	Sandra Juliet Jose
7	I B A History (Room No. 74)	Smina M B	Arya James	Fency K F	Nayana Sreedharan	Farsana P M	Dr. Neetha V
8	II B A History (Room No. 76)	Anna Kurian	Dr. Sr. Betty K P	Dr. Laina A L	Divija Rajan	Keerthana T U	Revathy M S
9	III B A History (Room No. 77)	Gayathri Suresh Babu	Dr. Sr. Mini T V	Sheeja John	Nima Maria	Darley Mathew	Sherin Michael
10	III B A English (Room. No. 68)	Darley Mathew	Dr. Vijitha Mukundan	Dr. Neetha V	Femin Sunny	Smina M B	Fency K F
11	II B A English (Room. No. 72)	Liby Prakash	Noble A Paliyath	Dr. Jisha Jose Panakal	Arya James	Liby Prakash	Dr. Laina A L
12	II B Com. CA (New Block)	Anju P B	Femin Sunny	Anna Kurian	Dr. Sr. Betty K P	Anju P B	Anchu K S
13	III B Com. CA (New Block)	Revathy M S	Dr. Meenu Jacob	Anju P B	Dr. Sr. Mini T V	Dr. Sr. Betty K P	Nayana Sreedharan
14	III B.Sc Chemistry (Ground Floor)	Sherin Michael	Jose James	Shyma K S	Dr. Vijitha Mukundan	Sherin Michael	Nima Maria
15	I B Sc. Physics (Ground Floor)	Fency K F	Dr. Tessy K L	Gayathri Suresh Babu	Noble A Paliyath	Dr. Jisha Jose Panakal	Arya James
16	I B.Sc Chemistry (Ground Floor)	Dr. Laina A L	Libin Francis	Liby Prakash	Anjana Rajan	Anna Kurian	Dr. Vijitha Mukundan

Sacred Heart College, Chalakudy
Time Table for I semester PG internal exam April, 2022

No	Venue	Date					
		01/04/2022	02/04/2022	04/04/2022	05/04/2022	06/04/2022	07/04/2022
1.	I B Sc. Physics	Dr. Vijitha Mukundan	Bincy Baby	Dr. Sr. Alphonsa	Keerthana T U	Rani Pauly	Heena Peethambaran
2.	III B Sc. Chemistry	Ancy Maria Varghese	Dr. Laisa C P	July P A	Jincy Jose	Sindu T	Anju Rose Anto

SACRED HEART COLLEGE CHALAKUDY
Invigilation Duty for IV Semester PG Internal Examination – June, 2022

Time (FN): 9 – 11:30 am (2/2.5 hour)

Venue	15/06/2022	16/06/2022	17/06/2022	20/06/2022	21/06/2022
III B Sc. Physics	Darly Mathew	Noble A Paliyath	Sandra Juliet Jose	Dr. Meenu Jacob	Smina M B
I B Com. CA	Fency K F	Dr. Laina A L	Smitha Davis	Dr. Vijitha Mukundan	Maria Litty Thomas
III B Com. CA	Dr. Neetha V	Dr. Sr. Betty K P	Dr. Sr. Mini T V	Dr. Jisha Jose Panackal	Sr. Jini M T
I B Com. Fin.	Dr. Anjaly Jacob K	Dr. Jesmy Jose	Shyma K S	Anju P B	Revathy M S
II B Com. Fin.	Anju P A	Farsana P M	Divya Rajan	Nayana	Femin Sunny
III B Com. Fin.	Anjana Rajan	Nima Mariya	Anna Kurian	Libi Prakash	Athira V

SACRED HEART COLLEGE CHALAKUDY

Invigilation Duty for II Semester UG Internal Examination – July, 2022

Time (FN): 9 AM – 11:30 AM (2/2.5 hour)

Venue	05/07/2022	06/07/2022	07/07/2022	08/07/2022	11/07/2022	12/07/2022
Malayalam Language Hall	Anjana Rajan	Nayana Sreedharan	Farsana P M	Noble A Paliyath	Smina M B	Anna Kurian
I B A Economics	Agna Anto	Nima Mariya	Athira V	Dr. Vijitha Mukundan	Maria Litty Thomas	Fency K F
II B A Economics	Gayathri Suresh	Dr. Sr. Betty K P	Dr. Sr. Mini T V	Dr. Jisha Jose Panackal	Dr. Anjaly Jacob K	Dr. Neetha V
III B A Economics	Sr. Jini M T	Sandra Juliet Jose	Shyma K S	Libi Prakash	Revathy M S	Dr. Laina A L

5. INTERNAL EXAMINATION QUESTION PAPERS (SOME MODELS)

Code : MTH 2C 07 Date : 13-09-2021

SACRED HEART COLLEGE, CHALAKUDY
SECOND SEMESTER M.Sc. MATHEMATICS
INTERNAL EXAMINATION, AUGUST/SEPTEMBER 2021

MTH 2C 07 : REAL ANALYSIS - II

Time: 3 hours Maximum weightage: 30

PART A (*Answer all questions. Each question carries 1 weightage.*

1. Let E have finite outer measure. Show that if E is not measurable, then there is an open set $\mathcal{O}$ containing E that has finite outer measure and for which $m^*(\mathcal{O} \sim E) > m^*(\mathcal{O}) - m^*(E)$.
2. Show that if E_1 and E_2 are measurable, then $m(E_1 \cup E_2) + m(E_1 \cap E_2) = m(E_1) + m(E_2)$.
3. Let $\{E_n\}_{n=1}^{\infty}$ be a countable collection of measurable sets for which $\sum_{k=1}^{\infty} m(E_n) < \infty$. Show that almost all $x \in \mathbb{R}$ belong to at most finitely many of the E_k's.
4. Show that there are disjoint sets of real numbers A and B for which $m^*(A \cup B) < m^*(A) + m^*(B)$.
5. Show that Lebesgue measure of Cantor set is zero.
6. Define a measurable function. Give an example of a measurable function.
7. Show that a real-valued continuous function defined on a measurable set is a measurable function.
8. Let f be a bounded measurable function on a set of finite measure E. If A and B are disjoint measurable subsets of E, then prove that
$$\int_{A\cup B} f = \int_A f + \int_B f.$$

(8 × 1 = 8 weightage)

PART B (*Answer any six questions. Each question carries 2 weightage.*)

9. Let E be a measurable set. Show that for each $\epsilon > 0$, there is an open set $\mathcal{O}$ containing E for which $m^*(\mathcal{O} \sim E) < \epsilon$.
10. Show that a set E is measurable if and only if for each $\epsilon > 0$, there is a closed set F and open set $\mathcal{O}$ for which $F \subseteq E \subseteq \mathcal{O}$ and $m^*(\mathcal{O} \sim F) < \epsilon$.
11. Show that the Lebesgue measure is countably additive.
12. Give an example of a non-measurable function. Justify.
13. If f is measurable on E and $f = g$ a.e. on E, then show that g is measurable on E.
14. Let f and g be measurable functions on E that are finite a.e. on E. Show that $f + g$ and fg are measurable on E.
15. Let $\{f_n\}$ be a sequence of measurable functions on E that converges pointwise a.e. on E to the function f. Prove that f is measurable.
16. Let f be a bounded measurable function on a set of finite measure E. Show that f is integrable over E.
17. Let f and g be bounded measurable functions on a set of finite measure E. Prove that $\int_E (f + g) = \int_E f + \int_E g$.

(6 × 2 = 12 weightage)

PART C (*Answer any two questions. Each question carries 5 weightage.*)

18. Show that
    (a) If $\{A_k\}_{k=1}^{\infty}$ is an ascending collection of measurable sets, then
    $$m\left(\bigcup_{k=1}^{\infty} A_k\right) = \lim_{k\to\infty} m(A_k).$$
    (b) If $\{B_k\}_{k=1}^{\infty}$ is a descending collection of measurable sets and $m(B_1) < \infty$, then
    $$m\left(\bigcap_{k=1}^{\infty} B_k\right) = \lim_{k\to\infty} m(B_k).$$
19. Show that there exists a nonmeasurable set.
20. (a) Define a simple function.
    (b) State and prove the simple approximation theorem.
21. (a) Let $\{f_n\}$ be a sequence of bounded measurable functions on a set of finite measure E. If $\{f_n\} \to f$ uniformly on E, then show that $\lim_{n\to\infty} \int_E f_n = \int_E f$.
    (b) State and prove the bounded convergence theorem.

(2 × 5 = 10 weightage)

* * *

SACRED HEART COLLEGE, CHALAKUDY

First Semester MSc Degree First Internal Examinations, February 2022

MTH 1C 01: Algebra I

Time: 1 hour Maximum weightage: 10

PART A
Answer all questions.
Each question carries 1 weightage.

1. Verify whether $\phi(x, y) = (y, x)$ is an isometry of the plane.
2. Give two non-isomorphic groups of order 12.
3. Find the number of orbits in $\{1, 2, 3, 4, 5, 6, 7, 8\}$ under the cyclic subgroup $\langle(1, 3, 5, 6)\rangle$ of S_8.

(3 × 1 = 3 weightage)

PART B
Answer any one question.
Each question carries 2 weightage.

4. Prove that M is a maximal normal subgroup of a group G if and only if G/M is simple.
5. Compute the factor group $(\mathbb{Z}_4 \times \mathbb{Z}_6)/\langle(2, 3)\rangle$.

(1 × 2 = 2 weightage)

PART C
Answer any one question.
Each question carries 5 weightage.

6. (a) Show that the group $\mathbb{Z}_m \times \mathbb{Z}_n$ is isomorphic to $\mathbb{Z}_{mn}$ if and only if $\gcd(m, n) = 1$.
   (b) If H is a normal subgroup of a group G, then show that $(aH)(bH) = (ab)$.
7. (a) State and prove Burnside's formula.
   (b) Show that for a G-set X, G_x is a subgroup of G, for each $x \in X$.

(1 × 5 = 5 weightage)

★

Code : MTH 4E 09 Date : .....

SACRED HEART COLLEGE, CHALAKUDY
FOURTH SEMESTER M.Sc. MATHEMATICS
(SECOND INTERNAL EXAMINATION)

MTH 4E 09: DIFFERENTIAL GEOMETRY

Time: 1.5 Hours Maximum weightage: 15

PART A (*Answer all questions. Each question carries 1 weightage.*)

1. Sketch the gradient field of the function $f(x_1, x_2) = x_1 - x_2^2$.
2. Show that the n-sphere $x_1^2 + x_2^2 + \cdots + x_{n+1}^2 = 1$ is an n-surface.
3. Show that the graph of any function $f : \mathbb{R}^n \to \mathbb{R}$ is a level set for some function $F : \mathbb{R}^{n+1} \to \mathbb{R}$.
4. Show that every oriented plane curve has a local parametrization.

(4 × 1 = 4 weightage)

PART B (*Answer any three questions. Each question carries 2 weightage.*)

5. With the usual notations prove that $(\mathbf{X} + \mathbf{Y})^{\cdot} = \dot{\mathbf{X}} + \dot{\mathbf{Y}}$.
6. Show that the velocity vector field along a parametrized curve α in S is parallel if and only if α is geodesic in S.
7. Let $\nabla_{\mathbf{v}}\mathbf{X}$ denote the derivative of a vector field $\mathbf{X}$ with respect to $\mathbf{v}$. Show that $\nabla_{\mathbf{v}}(\mathbf{X} + \mathbf{Y}) = \nabla_{\mathbf{v}}\mathbf{X} + \nabla_{\mathbf{v}}\mathbf{Y}$.
8. Let $\alpha(t) = (x(t), y(t))$, $(t \in I)$, be a local parametrization of the oriented plane curve C. Show that
$$\kappa \circ \alpha = (x'y'' - y'x'')/(x'^2 + y'^2)^{3/2}.$$
9. Let U be an open set in $\mathbb{R}^{n+1}$ and ω be a 1-form on U. Show that there exists unique functions $f_i : U \to \mathbb{R}$, $i = 1, 2, \cdots, n+1$, such that $\omega = \sum_{i=1}^{n+1} f_i dx_i$.

(3 × 2 = 6 weightage)

PART C (*Answer any one question. Each question carries 5 weightage.*)

10. Let S be an n–surface in $\mathbb{R}^{n+1}$, let $p \in S$, and let $\mathbf{v} \in S_p$. Show that there exists a maximal geodesic in S passing through p with initial velocity $\mathbf{v}$.
11. Let S be an n-surface in $\mathbb{R}^{n+1}$, let $\alpha : I \to S$ be a parametrized curve in S, let $t_0 \in I$, and let $\mathbf{v} \in S_{\alpha(t_0)}$. Show that there exists a unique vector field $\mathbf{V}$, tangent to S along α, which is parallel and has $\mathbf{V}(t_0) = \mathbf{v}$.

(1 × 5 = 5 weightage)

* * *

SACRED HEART COLLEGE CHALAKUDY
FIRST SEMESTER B.COM DEGREE
EXAMINATION 2022
(CBCSS)
Hindi
HIN 1A 07(02)—PROSE FORMS IN HINDI LITERATURE

me : Two Hours and a Half — Maximum : 80 Marks

Section A

Answer atleast ten questions.
Each question carries 3 marks.
All questions can be attended Overall Ceiling 30.

1. 'रजिया' का लेखक कौन है ? रजिया किस विधा की रचना है ?
2. नंगा आर्य जाति की माँ क्यों कहलाती है ?
3. मनोहर श्याम जोशी की किन्हीं दो रचनाओं के नाम लिखिए ।
4. 'नंगा गिधा' का रचनाकार कौन है ? नंगा किस महापुरुष की माँ के रूप में पहचानते हैं ?
5. 'आइन्दा आपात से बिहो, रानी को कुछ भी देने के लिए कहूँ तो उसमें मैं कोंच में फेला देना' ...यह प्रसंग किस रचना का है ? यह प्रसंग क्यों किसने कहना है ?
6. 'रजिया' के लेखक को बचपन में मेले-ठेलों में अकेला क्यों जाने नहीं दिया जाता था ?
7. 'सभी जो एक रचना है' का मुख्य प्रतिपाद्य क्या है ?
8. 'हमको इनका मानी बोलना, इनसान का होना ही चीजू की होना है' । यह तात्पर्य किस रचना का है ? इसका रचनाकार कौन है ?
9. 'टीलिन पाडी' का रचनाकार कौन है ? इसका मुख्य प्रतिपाद्य क्या है ?
10. 'इंग्लिश मुसाफी के साथ छाई दिन' का लेखक कौन है ? इंग्लिश मुसाफी कौन है ?
11. 'सबसे बड़ा आदमी' किसकी रचना है ? इसका आर्थनी किस शिक्षकसा का प्रतिनिधि है ?
12. 'जब जब चोट होती, मैं पाता उठाके शरीर में नए नए निकाय हो रहे हैं' । यह प्रसंग किस रचना का है ? यहाँ लेखक किसके शरीर की बात कर रहा है ?

Turn ove

Sacred Heart College Chalakudy
FIRST SEMESTER BSc. OTHER PATTERN DEGREE EXAMINATION, FEBRUARY 2022
(CBCSS – UG)
Malayalam
MAL 1A 07 (3) – MALAYALA BHASHAYUM SAHITHYAVUM – I
(2022 Admissions)

Time: Two Hours and a Half — Maximum Marks: 80

Section A

Answer at least ten questions
Each question carries 3 Marks
All questions can be attended
Overall Ceiling 30

1. [illegible]
2. [illegible]
3. [illegible]
4. [illegible]
5. [illegible]
6. [illegible]
7. [illegible]
8. [illegible]
9. [illegible]
10. [illegible]
11. [illegible]
12. [illegible]

SACRED HEART COLLEGE, CHALAKUDY
THIRD SEMESTER M.Sc. MATHEMATICS
FIRST INTERNAL EXAMINATION, FEBRUARY 2022

MTHSC11: MULTIVARIABLE CALCULUS AND GEOMETRY

Time: 3 hours — Maximum weightage: 30

PART A (*Answer all questions. Each question carries 1 weightage.*)

1. (a) Suppose X is a vector space with dimension n. Prove that a set E of n vectors in X spans X if and only if E is independent.
   (b) Let $A \in L(\mathbb{R}^n, \mathbb{R}^m)$ and $\mathbf{x} \in \mathbb{R}^n$. Find $A'(\mathbf{x})$.
2. State inverse function theorem.
3. State implicit function theorem.
4. Show that $\det[I] = 1$, where I is the identity linear operator on $\mathbb{R}^n$.
5. Find the Cartesian equation of the parametrized curve $\gamma(t) = (\cos^3 t, \sin^3 t)$, $t \in \mathbb{R}$.
6. Is the curve $\gamma(t) = (\cos^3 t, \sin^3 t)$ a regular curve? Justify.
7. If $\tilde{\gamma}$ is a reparametrization of γ, then show that γ is a reparametrization of $\tilde{\gamma}$.
8. Find the speed of the curve $\gamma(t) = \left(\frac{4}{5}\cos t, 1 - \sin t, -\frac{3}{5}\cos t\right)$.

(8 × 1 = 8 weightage)

PART B (*Answer any six questions. Each question carries 2 weightage.*)

9. Prove that a linear operator A on a finite dimensional vector space X is one to one if and only if range of A is X.
10. Suppose $A \in L(\mathbb{R}^n, \mathbb{R}^m)$. Show that $\|A\| < \infty$ and A is uniformly continuous.
11. Suppose f maps a convex open set $E \subset \mathbb{R}^n$ into $\mathbb{R}^m$, f is differentiable in E, and there is a real number M such that $\|f'(x)\| \leq M$ $\forall x \in E$. Show that $|f(b) - f(a)| \leq M|b-a|$ for all $a, b \in E$.
12. State and prove linear version of the implicit function theorem.
13. (a) If the tangent vector of a parametrized curve is constant then show that the image of the curve is (part of) a straight line.
    (b) Suppose γ is a unit-speed curve. Show that γ is zero or perpendicular to γ.
14. Find the curvature of a circular helix $\gamma(\theta) = (a\cos\theta, a\sin\theta, b\theta)$.
15. Show that the curvature of a circle of radius R is $1/R$.

1

16. (a) Show that any reparametrization of a regular curve is regular.
    (b) Let $\gamma(s)$ be a unit-speed plane curve and $\varphi(s)$ be a turning angle for γ. Show that $\kappa_s = d\varphi/ds$.
17. Prove that the total signed curvature of a closed plane curve is an integer multiple of 2π.

(6 × 2 = 12 weightage)

PART C (*Answer any two questions. Each question carries 5 weightage.*)

18. (a) Show that the set of all invertible linear operators on $\mathbb{R}^n$ is an open subset of $L(\mathbb{R}^n)$.
    (b) Suppose f maps an open set $E \subset \mathbb{R}^n$ into $\mathbb{R}^m$ and $f \in \mathscr{C}'(E)$. Show that the partial derivatives $D_j f_i$ exist and are continuous on E for $1 \leq i \leq m$, $1 \leq j \leq n$.
19. (a) State and prove contraction principle.
    (b) Show that a linear operator A on $\mathbb{R}^n$ is invertible if and only if $\det[A] \neq 0$.
20. Show that a parametrized curve has a unit-speed reparametrization if and only if it is regular.
21. (a) Show that if a curve γ is T_1-periodic and T_2-periodic, then show that it is $(k_1T_1 + k_2T_2)$-periodic for any integers k_1, k_2.
    (b) Show that a unit-speed reparametrization of a regular closed curve is closed.

(2 × 5 = 10 weightage)

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SECOND SEMESTER B.A DEGREE SECOND INTERNAL EXAMINATION, JULY 2022
SACRED HEART COLLEGE, CHALAKUDY
Economics
[illegible] — Macroeconomics I
Maximum: 80 Marks

Section A
Short Answer Questions
Maximum marks in this section is 30
You can attempt all questions. Each question carries a maximum of 3 marks

1. Distinguish between endogenous and exogenous variable
2. Distinguish between stock and flow variable
3. What do you mean by neutrality of money?
4. Write a note on classical dichotomy?
5. Define money
6. Define macroeconomics.
7. What are the functions of money?
8. What is money illusion
9. Distinguish between GDP and GNP
10. What is the difference between legal tender money and options money?
11. Explain Pigou effect
12. Define voluntary unemployment
13. What are the measurements of money supply?
14. What is wage price rigidity?
15. What is GNP deflator?

(10 x

Section B

Short Essay/Paragraph Questions
Maximum marks in this section is 30
You can attempt all questions. Each question carries a maximum of 6 marks

16. Write and explain Fisher's Equation Exchange
17. Explain money multiplier
18. Explain the major pillars of classical economics
19. Write a brief note on Cambridge cash balance approach
20. Explain and criticize Say's Law of Markets.
21. Explain wage –price flexibility?
22. Examine circular flow of income in a three sector model
23. Distinguish between Microeconomics and Macroeconomics

SACRED HEART COLLEGE CHALAKUDY
FOURTH SEMESTER FIRST INTERNAL EXAMINATION JUNE 2022
BCM 4C 04 - QUANTITATIVE TECHNIQUES FOR BUSINESS

Time: 2 ½ Hrs — Maximum : 80 marks

Section A

Answer at least ten questions. Each question carries 3 marks.
Overall Ceiling 30.

1. Explain the term simple, partial and multiple correlation
2. How many words can be formed with the letters of the word RAJESH
3. Define the term random experiment
4. What is the probability that a leap year selected at random will contain 53 sundays.
5. Bring out the fallacy in the following statement. "The mean of a Binomial distribution is 5 and the S.D is 3".
6. State any three importance of poisson distribution.
7. Comment on the following :
   For a poisson distribution , mean =8, variance=7.
8. Point out any three merits of normal distribution.
9. State the conditions under which binomial distribution tends to be normal distribution.
10. 20% of all students in a university are graduates and 80% are undergraduates. The probability that graduate students are married is 0.50 and the probability that an undergraduate student is married is .10. One student is selected at random , what is the probability that the student selected at random is married?
11. What do you mean by the law of statistical regularity?
12. What are mutually exclusive events?
13. Distinguish between positive and negative correlation
14. Does correlation always signify cause and effect relationship?
15. What is inverse probability?

(10 * 3 = 30)

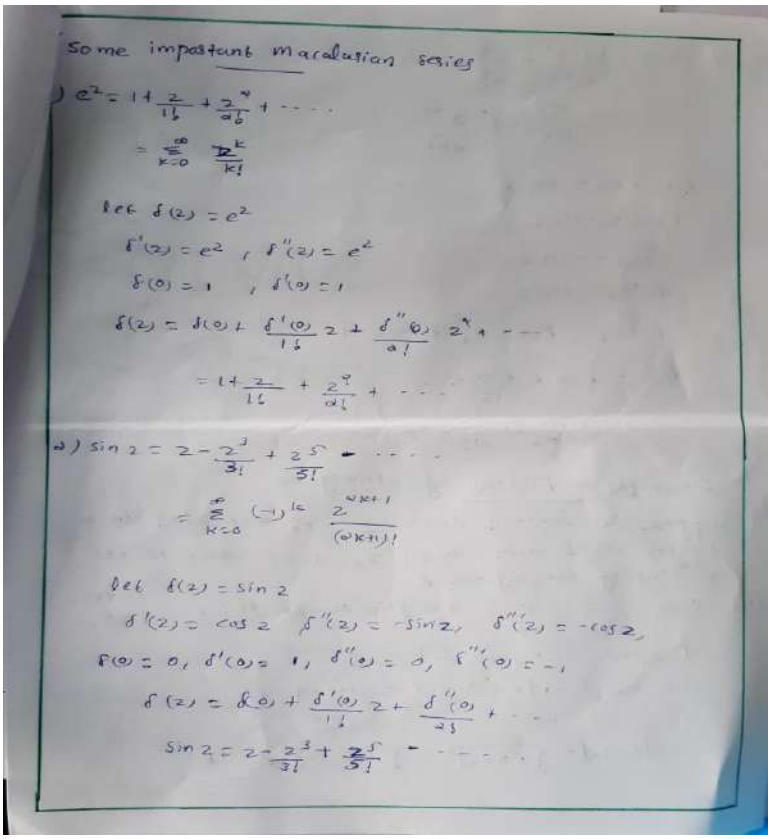
Section B

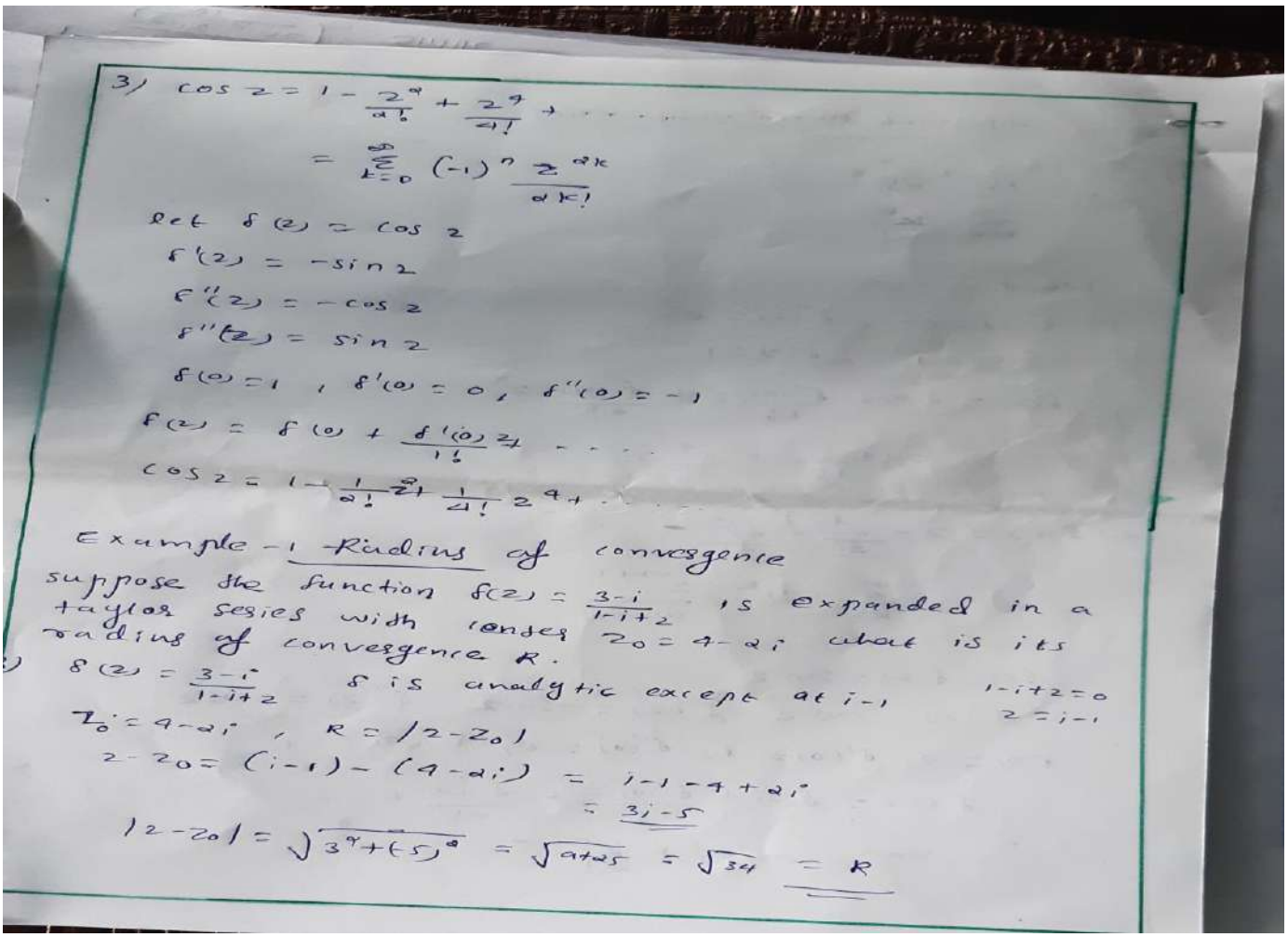
Answer at least five questions. Each question carries 6 marks.
Overall Ceiling 30.

16. Explain the methods for studying correlation
17. Two unbiased dice are thrown . find the probability that (1) both the dice show the same number (2) one die shows five (3) first die shows five (4) the total of the numbers on the dice is eight (5) total of the numbers on the dice is greater than eight (6) a sum of 10.
18. What are mutually exclusive , independent, dependent, exhaustive events.
19. The probability that A solves a problem in statistics is ⅗ and the probability that B solves it is ⅔. If they try independently to find the probability that (i) both solve the problem (ii) none solves the problem (iii) at least one solves the problem.

6. SEMINAR REPORTS (SOME MODELS)







CMOS

The term CMOS stands for complementary metal oxide semiconductors. This is one of the most popular technology in the computer chip design industry. and it is broadly used today to form integrated circuits in numerous and varied applications. Todays computer memories, CPUs and cellphones make use of this technology due to several key advantages. This technology makes use of both P channel and N channel semiconductor devices. One of the most popular technologies available today is the complementary MOS OR CMOS technology. This is the dominant semiconductor technology for microprocessors, microcontrollers chips memories like RAM, ROM, EEPROM and application-specific integrated circuits (ASICs).

Introduction to MOS technology

In the IC design, the basic and most essential component is the transistor. so MOSFET is one kind of transistor used in many applications. The formation of this transistor can be done like a sandwich by including a semiconductor layer, generally a wafer, a slice from a single crystal of silicon, a layer of silicon dioxide and a metal layer. These layers allow the transistors to be formed within the semiconductor material. A good insulator like SiO_2 has a thin layer with a hundred molecules thickness.

CMOS

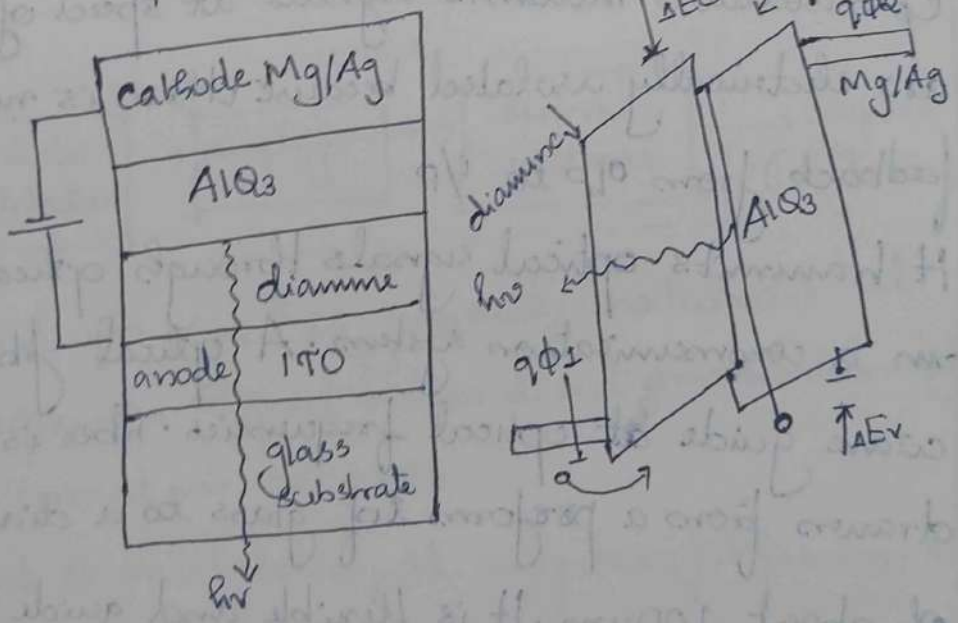
The main advantage of CMOS over NMOS and bipolar technology is the much smaller power dissipation. Unlike NMOS or bipolar circuits, a complementary MOS circuit has almost no static power dissipation. power is the only dissipated in case the circuit actually switches. This allows integrating more

Organic LED

Organic light emitting diode (OLED) is particularly useful for multicolour, large area flat panel display because of its attributes for low power consumption and excellent emissive quality with a wide viewing angle.

Molecular structure of organic semiconductor contains 6 benzene rings connected to central aluminium atom and the aromatic diamine, which also contains six benzene rings but with a different molecular arrangement

Basic OLED has a number of layers on a transparent substrate (eg glass). On to substrate deposit a sequence, a transparent conductive anode, the diamine as a hole transport layer, the AlQ_3, as e- transport layer and cathode contact.



* THE POSTPARTUM PERIOD

- The weeks after childbirth present challenges for many new parents and their offspring. This is the postpartum period.

→ Post partum period is the period after childbirth or delivery that lasts for about 6 weeks or until the mother's body has completed its adjustment and has returned to a nearly prepregnant state.

- It is a time when the woman adjusts, both physically and psychologically, to the process of childbearing.

→ PHYSICAL ADJUSTMENTS

- A woman's body makes numerous physical adjustments in the first days and weeks after childbirth.
- May have a great deal of energy or feel exhausted and let down.
- Though these changes are normal, the fatigue can undermine the new mother's sense of well-being and confidence in her ability to

cope with a new baby and a new family life.

- Primary caregiver experiences loss of sleep in the postpartum period. This can contribute to stress, marital conflict and impaired decision making.

[In the 2007 Sleep in America survey, a substantial percentage of women reported loss of sleep during pregnancy & postpartum period]

- In a recent study, worsening or minimal improvement in sleep problems from 6 weeks to 7 months postpartum were associated with an increase in depressive symptoms.

- After delivery, a mother's body undergoes sudden and dramatic changes in hormone production. When the placenta is delivered, estrogen and progesterone levels drop steeply and remain low until the ovaries start producing hormones again.

Note :- Involution is the process by which the uterus returns to its prepregnant size 5 or 6 weeks after birth. Nursing the baby helps contract the uterus at a rapid rate.

- The breasts change during pregnancy to prepare for lactation, and more changes occur immediately after birth. Progesterone is the hormone that influences the growth of breast tissue before birth. Afterwards, endocrine system shifts from producing hormones that prevent lactation to ones that trigger milk production.

The first secretions are known as Colostrum & are rich in substances that help the newborn adjust to life outside the womb.

↑ Point above is One of the Physiological changes after delivery. ↑

- Cracked nipple is a condition that can occur in breastfeeding women which can result in soreness, dryness or irritation to, or bleeding of, one or both nipples during breast feeding. The mother with a cracked nipple can have severe nipple pain when the baby is nursing.

- The postpartum period can be divided into 3 distinct stages;
  - → The initial or acute phase, 8-19 hours after birth
  - → Subacute postpartum period which lasts 2 to 6 weeks

→ Delayed postpartum period which can last up to 8 months.

- Greatest health risk in the acute phase is Postpartum bleeding.
- In subacute postpartum period, risk of deep vein thrombosis (DVT) is relatively high.

[DVT: involves formation of a blood clot in a deep vein.]

- During delayed postpatrum period, recovery from childbirth complications such as urinary and fecal incontinence (lack of control over defecation), painful intercourse & pelvic prolapse are typically very slow & in some cases may not resolve.
- Approximately 3 months after giving birth, estrogen levels drop and large amounts of hair loss is common, particularly in temple area

Note :- Postpartum physiological changes may be different for women delivering by Cesarean section.

→ # EMOTIONAL AND PSYCHOLOGICAL ADJUSTMENTS

- Emotional fluctuations are common for mothers in the postpartum period.

a) POSTPARTUM BLUES

- About 70 % of new mothers in the United States have ~~wh~~ postpartum blues.
- About two or three days after birth, they begin to feel depressed, anxious, and upset.
- Postpartum blues, also known as baby blues and maternity blues, is a very common but self-limited condition that begins shortly after childbirth and can present with a variety of symptoms such as mood swings, irritability, and tearfulness.
- Mothers may experience negative mood symptoms mixed with intense periods of joy.
- These feelings may come and go for several months after birth, often peaking about 3 to 5 days after birth.
- Treatment is supportive including ensuring adequate sleep.

- Even without treatment, these feelings usually go away after one or two weeks.

b) POSTPARTUM DEPRESSION

- Some women develop postpartum depression, which involves a major depressive episode that typically occurs about 4 weeks after delivery.
- In other words, women with postpartum depression have such strong feelings of sadness, anxiety or despair that for atleast a two-week period they have trouble coping with their daily tasks.
- Without treatment, postpartum depression may become worse and last for many months.
- Many women with postpartum depression don't seek help (in recent study - 15% of women reported postpartum depression symptoms but less than half sought help). Estimates indicate ~~to~~ 10 to 14 % of new mothers experience this.
- Several anti depressant drugs are effective in treating postpartum depression & appear to be safe for breast feeding ~~—~~ women.
- Psychotherapy, especially cognitive therapy, is an effective treatment.

- Also engaging in regular exercise may help in treating this depression.
- A recent research review concluded that the interaction difficulties of depressed mothers & their infants occur across cultures, and encompass less sensitivity of the mothers and less responsiveness on the part of their infants.
- Several caregiving activities also are compromised, including feeding (especially breast feeding), sleep routines and safety practices.

c) POST PARTUM PSYCHOSIS

- Postpartum psychosis or puerperal psychosis is a severe mental illness which starts suddenly in the days, or weeks after having a baby.
- Symptoms vary and can change rapidly. They can include high mood (mania), depression, confusion, hallucinations and delusions.
- Several things seem to play a part in post-partum psychosis. Family history and genetic factors are important and you are more likely to have it if a close relative has had it.

- Hormone levels and disturbed sleep patterns may also be involved.

Symptoms :-

- feeling 'high', ~~mania~~ 'manic' or 'on top of the world'.
- low mood and fearfulness
- ~~Axiel~~ Anxiety or irritability
- Racing thoughts
- Losing your inhibitions, doing things you usually would not do.
- feeling paranoid, suspicious, fearful
- delusions : odd thoughts or beliefs that are unlikely to be true
- hallucinations : you see, hear, ~~feel~~ feel or smell things that aren't really there.
- severe confusion and disorientation.
- finding it hard to sleep
- Reduced hygiene
- Obsessive thoughts about baby.

Treatment

- Antipsychotics – to help with manic & psychotic symptoms (delusions / hallucinations)
- Mood stabilisers – to stabilise mood and prevent symptoms recurring
- Antidepressants – to help ease symptoms of depression.

- Electro convulsive therapy (ECT)
- Cognitive behavioural therapy (CBT) - talking therapy that can help you manage your problems by chaging the way you think and behave.

- Fathers also undergo considerable adjustment during the postpartum period, even when they work away from home all day.
- Many fathers feel that the baby comes first and gets all of the mother's attention; some ~~feel~~ feel that they have been replaced by the baby.
- Postpartum period is a time of considerable adjustment and adaptation for both the mother and father.
- Fathers can provide an important support system for mothers, especially in helping mothers care for young infants.
- Father's support and caring can play a role in ~~whether~~ whether the mother develops postpartum depression. Recent study ~~rev~~ revealed that higher support by fathers was related to lower incidence of postpartum depression in women.

* BONDING

- A special component of the parent-infant relationship is Bonding, the formation of a connection, especially a physical bond between parents and the newborn in the period shortly after birth.
- Sometimes hospitals seem determined to deter bonding.
- Drugs given to the mother to make her delivery less painful can make the mother drowsy, interfering with her ability to respond to and stimulate the newborn. Mothers and newborns are often separated shortly after delivery, and preterm infants are isolated from mothers ~~more~~ even more than full-term infants.
- Some physicians believe that during the period shortly after birth, the parents and newborn need to form an emotional attachment as a foundation for optimal development in the years to come.
- The extreme form of this bonding hypothesis — that the newborn must have close contact with the mother in the first few days of life to develop optimally — simply is not true.
- This weakness of the bonding hypothesis should not be used as an excuse to keep motivated mothers from interacting with their newborns. Such contact brings pleasure to many mothers. In some

mother - infant pairs — including preterm infants, adolescent mothers, and mother from disadvantaged circumstances - early close contact may establish a climate for improved interaction after the mother and infant leave the hospital.

→ Rooming - in arrangement

Many hospitals now offer a rooming - in arrangement, in which the baby remains in the mother's room most of the time during its hospital stay. However, if parents choose not to use this rooming - in arrangement, the weight of the research suggests that this decision will not harm the infant emotionally.

→ EARLY EMOTIONAL DEVELOPMENT: ATTACHMENT

- Attachment refers to the close, emotional bonds of affection that develop between infants and their caregivers.
- At 2-3 months of age, infants may smile and laugh more when they interact with their mothers. But they generally can be handed over to strangers (baby-sitters) with little difficulty. By 6-8 months, they begin to show a pronounced preference for their mother's company & often protest

when separated from her.

- This is the first manifestation of separation Anxiety – emotional distress seen in many infants when they are separated from people with whom they have formed an attachment.

→ Theories Of Attachment

- In the 1950's behaviorists argued that infant-mother attachment develops because mothers are associated with the powerful, reinforcing event of being fed. Thus, the mother becomes a conditioned reinforcer. This theory came into question as a result of Harry Harlow's famous studies of attachment in infant ~~thesus~~ rhesus monkeys.

- In Harlow's theory, contact comfort is believed to be the foundation for attachment. The infant's need for physical closeness and touching is referred to as contact comfort. His studies confirmed that babies ~~th~~ have social as well as physical needs.

- ~~theorist~~ Influenced by evolutionary theory, theorist John Bowlby argued that there must be a biological basis for attachment. According to his view, infants are biologically programmed to emit behavior (smiling, cooing, clinging...) that triggers an affectionate, protective

response from adults. He also asserted that adults are programmed by evolutionary forces to be captivated by this behavior and to respond with warmth, love and protection. Obviously these characteristics would be adaptive in terms of promoting children's survival.

- Research by Mary Ainsworth (a student of Bowlby) showed that infant-mother attachments vary in quality. She used a method called the Strange Situation Procedure, in which infants are exposed to a series of eight separation and reunion episodes to assess the quality of their attachment. She found that attachments fall into 3~~4~~ categories :-

a) Secure attachment : infant uses the mother as a ~~se~~ secure base from which to explore and as a support in time of trouble. When the mother leaves the room, infant is moderately distressed and happy when she returns.

b) Anxious / avoidant attachment : infant is unresponsive with the mother & is usually indifferent when she leaves the room & when she returns.

c) Anxious (ambivalent or resistent attachment :- infant reacts strongly when mother leaves the room. When she returns, infant shows mixed emotions

seeking close contact.

d) Disorganized / disoriented attachment : infant displays confused & contradictory behavior when mother returns, eg, ignoring the mother while being held, appearing flat and depressed, crying out and/or showing a rigid posture.

* POST PARTUM CARE

→ Kangaroo Care

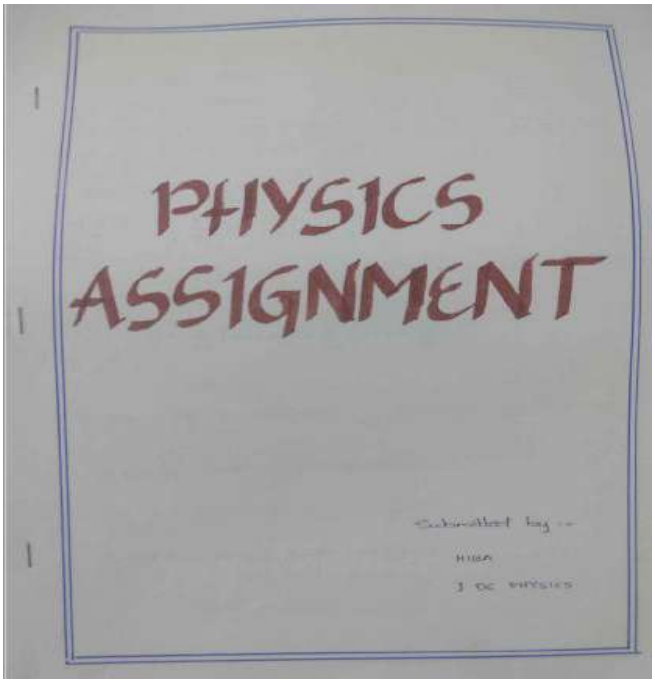
- Two increasingly used interventions in the neonatal intensive care unit (NICU) are kangaroo care and massage therapy.
- Kangaroo care involves skin-to-skin contact in which the baby wearing only a diaper, is held upright against the parent's bare chest, much as a baby kangaroo is carried inside its mother's pouch.
- Kangaroo care is typically practiced for two or three hours per day, skin-to-skin, over an extended time in early infancy.
- Preterm infants often have difficulty coordinating their breathing and heart rate, and the close physical contact with the parent provided by kangaroo care can

help to stabilize the preterm infant's heartbeat, temperature, and breathing.

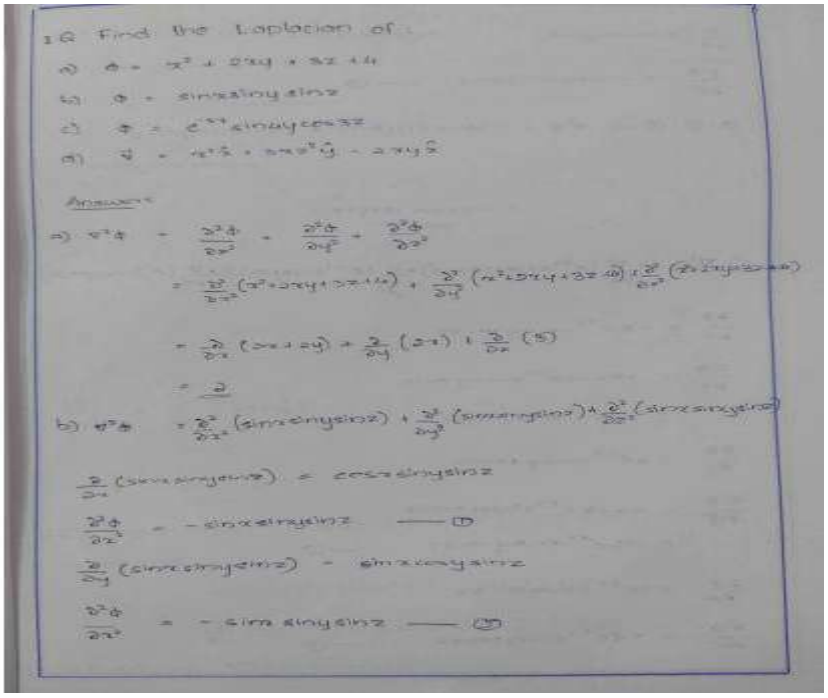
- Preterm infants who experienced kangaroo care also gain more weight than their counterparts who are not given this care.
- A recent study also revealed that this care decreased pain responses in preterm infants.
- Both mothers and fathers can do kangaroo care.
- When a mother is practicing kangaroo care, her infant typically snuggles into her breasts and fall asleep within a few minutes. The breasts themselves have been shown to change in temperature to match your baby's temperature needs. ie, your breasts can increase in temperature when your baby's body is cool and can decrease in temperature when the baby is warm.
- The extra ~~s~~ sleep that your infant gets while snuggling with mom and the assistance in regulating body temperature helps your baby conserve ~~ene~~ energy and redirect caloric expenditures toward growth and weight gain.

Note :- Some health professionals refer to postpartum period as the 'fourth trimester.' though the timespan of this period does not necessarily cover 3 months, the term 'fourth trimester' suggests continuity & importance of the first several months after birth for mother.

7. ASSIGNMENTS (SOME MODELS)


PHYSICS
ASSIGNMENT

Submitted by --


1Q Find the Laplacian of

a) $\phi = x^2 + 2xy + 3z + 4$

b) $\phi = \sin x \sin y \sin z$

c) $\phi = e^{-5x} \sin y \cos 3z$

d) $\phi = x^3 y + xz^2 y - 2xyz$

Answer:

a) $\nabla^2\phi = \frac{\partial^2\phi}{\partial x^2} + \frac{\partial^2\phi}{\partial y^2} + \frac{\partial^2\phi}{\partial z^2}$

$= \frac{\partial}{\partial x}(x^2+2xy+3z+4) + \frac{\partial}{\partial y}(x^2+2xy+3z+4) + \frac{\partial}{\partial z}(x^2+2xy+3z+4)$

$= \frac{\partial}{\partial x}(2x+2y) + \frac{\partial}{\partial y}(2x) + \frac{\partial}{\partial z}(3)$

$= 2$

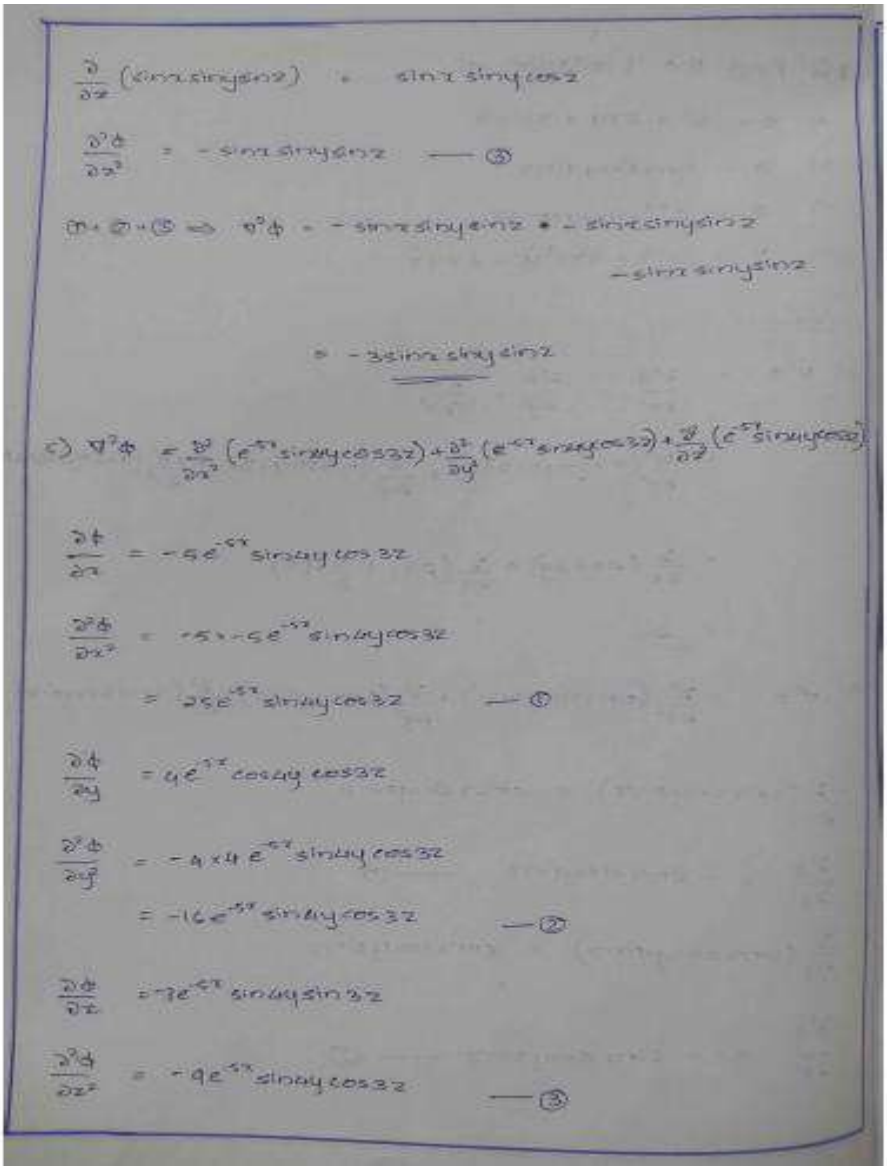
b) $\nabla^2\phi = \frac{\partial^2}{\partial x^2}(\sin x \sin y \sin z) + \frac{\partial^2}{\partial y^2}(\sin x \sin y \sin z) + \frac{\partial^2}{\partial z^2}(\sin x \sin y \sin z)$

$\frac{\partial}{\partial x}(\sin x \sin y \sin z) = \cos x \sin y \sin z$

$\frac{\partial^2\phi}{\partial x^2} = -\sin x \sin y \sin z$ —— ①

$\frac{\partial}{\partial y}(\sin x \sin y \sin z) = \sin x \cos y \sin z$

$\frac{\partial^2\phi}{\partial y^2} = -\sin x \sin y \sin z$ —— ②


$\frac{\partial}{\partial z}(\sin x \sin y \sin z) = \sin x \sin y \cos z$

$\frac{\partial^2\phi}{\partial z^2} = -\sin x \sin y \sin z$ —— ③

① + ② + ③ $\Rightarrow \nabla^2\phi = -\sin x \sin y \sin z + -\sin x \sin y \sin z$

$-\sin x \sin y \sin z$

$= -3 \sin x \sin y \sin z$

c) $\nabla^2\phi = \frac{\partial^2}{\partial x^2}(e^{-5x}\sin y \cos 3z) + \frac{\partial^2}{\partial y^2}(e^{-5x}\sin y \cos 3z) + \frac{\partial^2}{\partial z^2}(e^{-5x}\sin y \cos 3z)$

$\frac{\partial\phi}{\partial x} = -5e^{-5x}\sin y \cos 3z$

$\frac{\partial^2\phi}{\partial x^2} = -5 \times -5e^{-5x}\sin y \cos 3z$

$= 25e^{-5x}\sin y \cos 3z$ — ①

$\frac{\partial\phi}{\partial y} = 4e^{-5x}\cos y \cos 3z$

$\frac{\partial^2\phi}{\partial y^2} = -4 \times 4e^{-5x}\sin y \cos 3z$

$= -16e^{-5x}\sin y \cos 3z$ — ②

$\frac{\partial\phi}{\partial z} = -3e^{-5x}\sin y \sin 3z$

$\frac{\partial^2\phi}{\partial z^2} = -9e^{-5x}\sin y \cos 3z$ — ③

Assignment

TOPIC :- GREEN REVOLUTION STRATEGIES

Submitted by

Deepa P. A

IInd MA. English

Roll No : 21

The green revolution refers to a series of research and development and technology transfer initiated occured between 1930s and late 1960s that increased agricultural production world wide. The green revolution took place in the developing world countries India, mostly in the 1960s. It took place in the 1960s but it is confirmed that it began in India in 1953 itself through the introduction of high-yield crop varieties and application of modern agricultural techniques and led to an increase in food production. Norman Borlaug is generally considered as the father of this revolution in the world. He got the nobel prize in 1970 for saving a billion people from starvation. Dr. M.S. Swaminathan and S.K Datt considered as the father of this revolution in India.

Due to the famine in 1961. Indian government and Ford foundation collaborated to import wheat seed from the international Maize and wheat Improvement center. Panjab was selected by the Indian government as the first site to try the new variety of crop because of its reliable water supply and high agricultural success.

India soon adopted 'IR8' a semi-dwarf rice variety developed by the International Rice Research Institute that could produce more grains of rice per plant when grown with certain fertilizers and irrigation. It gave more profit to the country. So that it hailed as the 'Miracle rice'. By the beginning of the 21st century India became one of the world's successful rice producers in the world.

The green revolution has been a unique event in the history of agriculture in India. In fact it has saved the country from the disaster of hunger and starvation. It has made the peasants of India more confident than ever before. It also bear some of the weaknesses. They are; they resulted the loss of fertility of the soil, Increase in cost of production, larger scale depletion of ground water. And also paved the way for breeding new pests and creating new diseases and environmental degradation. In brief the revolution brings many of the advantages and also disadvantages to the country.

Assignment

Post - Colonial literature

Submitted to,

Ms. Keerthana kannan

S. H. chalakudy

submitted by,

Jyothi krishna

I st M A English

S. H. chalakudy

About the Author

Girish Raghunath Karnad was an Indian actor, playwright, director, Kannada writer. His plays were written in Kannada, have been widely translated into English and all major Indian languages. He is the recipient of Jnanpith award for Kannada, the highest literary honour conferred in India. For four decades, he had been composing plays, often using history and mythology to tackle contemporary issues. He is also active in the world of Indian Cinema as an actor, director and Screenwriter. He was conferred Padma shri and Padma Bhushan by the government of India.

The play opens with a prayer ritual performed by Hindus to the god Ganesha, who has the head of an elephant and the body of a boy. Bhagavata asks that Ganesha bless the performance that he and the assembled company are about to perform, and then tells the audience that the play is set in Dharmapura, and the central characters are close friends Devadatta and Kapila. They fall in love with same woman named Padmini, then the story continues to the death of the close friends and Padmini.

Friendship & Love

The narration speaks of the like mindedness of the two friends who are about to meet a girl. Then, female chorus is heard representing the girl. The chorus sing in bewilderment about the state of love, where it is expected to happen with a single soul and compares it to a flower. The chorus desires a head for each breast without any shame or fear. Devadatta is shown sitting in a chair when Kapila approaches him questioning his absence at the gym. Devadatta seems preoccupied while Kapila brags about his wrestling match against a great wrestler of Gandhara.

Kapila is delighted to say that the wrestler praised the technique of him and said that he would have a great future. He observes that Devadatta is thinking of something else and questions him about the details. Devadatta reveals that he saw a girl and could not stop thinking of her since. Kapila is familiar with this sort of situations as Devadatta does this quite often. However, he feels by listening to the words of devadatta that he is serious this time. He offers to

help and knowing some details about the place of her living, kapila leaves Devadatta to his thoughts. But, Devadatta feels really tensed as he thinks that kapila is not suitable for this type of job. He prays to God Rudra and offers him his head if everything goes right. He prays to God Kali and offers her his arms if everything goes right.

But at the same time, when kapila came to every door in search of Padmini to tell about the love of his friend Devadatta, instead he fell in love as love at first sight. But he gave importance to his friend's love and therfore Padmini and Devadatta got married. But at the very moment, Padmini was also having a crush to kapila because he was a strong man will well fitted body.

In this case, a love triangle was happening between the three of them. Because she took a chance to marry Devadatta, because he was so intelligent and good looking but at the same time, she loved kapila. Devadatta comes to know that his friend kapila is having feeling for his wife

Marriage

Marriage is considered to be the purest and soulful of the all relationships. Marriage is something that has its own importance in one's lives. But in here, It can be said just a mask to cover the real feelings and to prioritize themselves. Padmini marries Devadatta but lusts after his best friend, she is discontented with her husband's brain and lack of brown and finds what she thinks she wants in kapila. However, even when she miraculously ends up with what she thinks she wants, she is unhappy. Devadatta is not enought of kapila, and he begins to lose even even that small vestige, but at the end, she is wondering why the three of them cannot just be together even though it defies all social norms.

Marriage, then is a contract that is not necessarily fulfilling. Aparna Bhargava writes that the play shows how conjugal passion dissipates invariably into disappointment and creates the desire for other unions, however hard the individual male self may try to prevent its ideal nature. Women donot have the power to prevent this downward slide, but they do have agency in the drama of discontent.

Complexities

The major conflict represented in this story is between the mind and the body or between logic and lust. Although initially the head (personifies Devadatta) wins, eventually the body (personifies Kapila) demonstrates its equal power over human emotions and actions. This complex situation leads to the other major conflict, that of the identity crisis, after the exchange of the heads, they were not knowning themselves and even padmini was in a situation which was difficult to choose between them as her husband.

Also, this play can be said as or addressed as man's quest for perfection amid imperfection, but this search is futile as life isn't ever complete, leaving much to be sought, "The desire for perfection is insatiable". The complexities in relationships is also explored here. The play focuses on the incompleteness in terms of desire of Kapila, Devadatta and Padmini. Padmini wants a perfect husband, but Devadatta doesn't match up to this and so she starts liking Kapila, Devadatta's friend, who fulfills the idea of her

idea of perfect man. But even Kapila isn't perfect so padmini veers towards Devadatta. The constant search for fulfilment of desires results in a tragic end.

Another aspect of the play is the difference between the head and the body. It also arises question that why should we love just one person? As humans we have multiple desires, so why should we, in the name of an institution, be attracted to one person? It is an revelant question that arises out of one of the complexity.

The other complexities is because of all the complexities mentioned above. It can be said so because the difficulty in choosing the husband material and the conflict between the mind and the body all are because of the main complexity that is relationship because of friendship, love and marriage and the concepts made by them created more and more pressure in the individuals and it caused the situation more complex and led to conflict.

Conclusion

Hayavadana, the play can be said as full of relationships and complexities because the play constitutes its story because of the relationships and thus, these relationships leads to the complexities and therefore both relationship and complexities can be identified throughout.

Assignment

By Maria Varghese
1st MA English
Roll No - 5

To

Keerthana Miss
ENG12C05

Twentieth Century British Literature upto 1940.

—.

1) Discuss 'Juno and Paycock' as a Modern Tragedy/ Tragic Comedy.

Juno and Paycock is a Play by Sean O'Casey. Sean O'Casey is an Irish Playwright who paved his career in a literary drama during the Modern Period. It was an age of modernism and the escalation of various Avant Garde Movement that influenced his literary style of writing. Casey was an expressionistic in a sense that he depicts the reality of human life through different lens. He uses symbols, repeated themes and exaggeration of certain themes that continuously repeat in the play that shows expressionistic style. Expressionism in arts used heavy brushes and heavy colours to depict the various flow of emotions and in literature the repeated themes, continuous flow of symbols, images and events make up the expressionistic writing.

Juno and the Paycock deals with the modern tragedy. There are different kinds of tragic events that takes place in the play. It is a tragedy in terms of society, politics and tragedy in life and death and others. The play can be considered

as a modern Tragedy because there are depictions of various tragedy of Boyle family. The entire Boyle family was heavily affected by various tragedy succumbed due to political and social instability as well as personal spaces that led to their tragedy.

The play showed that tragedy in Boyle family begins due to the social and economic condition after the outbreak of civil War and Easter uprising. These upsprings led to various strikes and workers protesting against the Capitalist. Due to the ongoing ~~strike~~ protest, the workers could not financially support their family and hence lived in poverty. The very living in poverty in itself is a modern tragedy and it is portrayed clearly where the Boyle family lives in poverty and Mary who is on a strike believes in "principle's a principle" do not contribute any finance to the family. Her existence in the family is less contributing to the family needs and demands. This is one of the aspects of tragedy that one can see in Boyle family due to the social and economic instability.

While Juno is gone, two men labeled "irregulars" appear and drag Johnny away.

A brief break occurs, and when the curtain rises again, Mary and Juno are seated sans furniture. Mrs. Madigan arrives to tell them two police officers are downstairs and need to talk to Juno about Johnny. Juno realizes that Johnny has been killed and takes Mary down with her, stating that the two of them will live with her sister and leave Jack behind. Jack and Joxer arrive drunk and incoherent, to a practically empty apartment in the final moments of the play. The curtain closes.

Various themes emerged from the play, including the cost of patriotism to Ireland, the questioning of religion's role, and the concept of death and rebirth.

ASSIGNMENT

Topic: Analyse Caesar and Cleopatra as a historical novel.

Submitted to,
Miss. KEERTHANA P.K
ENGLISH DEPT.

Submitted by,
LAKSHMI N. MENON
ROLL NO: 02
1st MA ENGLISH

INTRODUCTION

George Bernard Shaw was born in Dublin, Ireland. He lived for ninety-four years and wrote more than fifty plays. He is usually considered to be the greatest writer of plays in the English language since Shakespeare. He also wrote many volumes of literary criticism, art criticism, and music criticism, as well as numerous essays on social and political problems. an example of such an essay is the one called "The crime of imprisonment".

The plays of Bernard Shaw are stage plays; they are splendid to read but they are made to be seen. Shaw knows just what will "go" when a play is performed - what dialogue and action will help it to do move swiftly and keep the attention of the audience.

Here, — Caesar and Cleopatra, G.B. Shaw's play was written for sir Johnston Forbes-Robertson, a famous nineteenth-century actor. Forbes-Robertson's own natural dignity and majestic personality no doubt helped Shaw to some extent in creating Caesar.

The play was first published in a volume called Three plays for puritans. There is a general preface to the volume. Part of the preface deals specifically with caesar and cleopatra. This section is called "Better Than Shakspeare?". Shaw states that one reason he has written Caesar and cleopatra is his dissatisfaction with Shakespeare's Antony and cleopatra and Julius caesar. The trouble with Antony and cleopatra is that shakespeare has used all the resources of his great genius to glorify a rather sordid sexual infatuation.

The play itself is chronicle, that is, it deals with certain events in the relationship between caesar and cleopatra arbitrarily chosen because these events give insight into the characters and their effect on one another. It is also a historical play based on the events that actually happened in the first century before christ.

Analyse Caesar and cleopatra as a historical play.

Gaius Julius Caesar came to Egypt shortly before the end of an eventful life. He was born in about 102 B.C. of an aristocratic family with a traditional interest in politics. Caesar allied himself with the popular party in politics. His Uncle by marriage was the great leader of the popular party, Marius. Caesar's life was early and spectacular. He became famous for the huge amounts of money he spent on entertainments for the people of Rome. He was greatly in debt because of this.

By complex maneuvering, Caesar brought together Crassus, the richest man in Rome, and Pompey, a popular general, both of these men opposed the rule of the Roman Senate, a narrow, aristocratic group. The three of them, Caesar, Pompey, and Crassus, joined Together to form the first Triumvirate in 60 B.C.

Caesar now became military commander in Gaul, apparently only because he wanted to have legal exemption from prosecution for his political acts, military leaders were exempt from legal prosecution. He was already in his forties. His great genius in waging war soon made itself seen. For ten years he conducted brilliant campaigns against rebellious Gallic tribes and other enemies of Rome. His most original tactic was to proceed with his army at unbelievable speed and arrive before his enemies expected him.

Cleopatra was the last of the ptolemies, a line of kings who ruled Egypt from 323 to 30 BC. The first ptolemy was a general who served with Alexander the Great. The history of the dynasty was filled with bloodshed and treachery. There were many instances of parents murdering children, children killing parents, and brothers and sisters who were deadly enemies. Cleopatra's own father, ptolemy XI, was exiled between 58 and 55 B.C, while his daughter Berenice ruled in his place. ptolemy killed Berenice when he got back in power, while he died with the help of the Romans. when he himself XII, and to his daughter, cleopatra. This ptolemy is the boy king who appears in Shaw's play.

It was the Egyptian custom in the reign of the ptolemies for members of the royal family to intermarry. Thus cleopatra was destined to marry her younger brother. By the time Caesar arrived in Egypt, cleopatra had been deprived of most of her power by ptolemy's party. She lived in syria, virtually in exile. when Julius Caesar came to Egypt in 48 BC. cleopatra was probably twenty-one years old, since she was born, according to most estimates, in 69 BC. She induced him to delay his own affairs and fight a war for her against her brother. In this war, her brother was killed, and Caesar placed cleopatra on the throne with her younger brother, ptolemy XIII. She had a son, who, she sa

CONCLUSION

G. B Shaw's, Caesar and Cleopatra, the play is generally considered as one of Shaw's masterpieces. Archibald Henderson, the chief authority on Shaw, states that Caesar is Shaw's greatest character portrait, with the exception of Saint Joan, in the play of that name. Henderson points out that with this portrait Bernard Shaw changed the whole concept of how heroes and heroic deeds should be shown. Before this, heroes were portrayed as superhuman, their joys, sufferings, speeches, fighting were all more than life size. They were totally incredible. But Shaw's Caesar is a convincing human being. He is a great man, but he also has his human weakness. Henderson states that we see him as if he were in his dressing gown.

Hesketh Pearson remarks, in his biography of Shaw, that Caesar is the most satisfying masculine character in the English drama since Shakespeare. Pearson also mentions regretfully that the portrait is somewhat naive, if all caesars in real life were like Shaw's Caesar, human history would be much pleasanter. In real life, they turn out to be like Mussolini,

ASSIGNMENT

Anakha chandra Prasad.
IInd DC. English.

Aristotle [384-322 BC]

- Aristotle spent twenty years studying under plato at Athens. His reputation was such that philip of macedon called him to macedonia for eight years to act as tutor to his son, Alexander the Great.
- Aristotle's philosophical thinking diverged crucially from that of plato. where Plato's doctrine of universal forms of focuses primary significants on to the eternal of which the natural is but a reflection or copy, Aristotle's thinking concentrates on the reality to be discerned in individual things.
- Where plato's thinking is poetic to the extent that his idealistic flights verge on mysticism, Aristotle's bent is scientific, and he endows natural phenomena with a validity that plato transferred to the timeless.
- Aristotle on the other hand, presents a solution for the dilema.
- He does this by undertaking to examine the nature and characteristics of the imaginative literature that plato shunned as useless and false.
- His concern was ontological, that of describing what literature is rather than epistemological and normative

Longinus

- Who longinus was and when he lived are alike unknown but the famous treatise, on the Sublime, is generally attributed to him, although it is sometimes doubted, too, whether it was written by a person of that name.
- Longinus on the Sublime, as the treatise is called, is written in Greek and addressed to one postmus Terentianus, obviously a Roman, while his declared subject is rhetoric, its central argument is what constitutes sublimity in literature.

Sublimity in literature.

- If it was poetry, was to instruct or to delight or to do both, sublimity, he says consists in a certain distinction and consummate excellence in expression. It is this capacity to transport or move the reader to ecstasy that marks the irresistible magic of speech which Longinus call the sublime. It not only pleases but excites, moves, transports, elevates. It does so not once but every time it is heard or read.

ASSIGNMENT

Submitted by

Linu. e. S

Bsc zoology

S_N1 Reaction

Mechanism

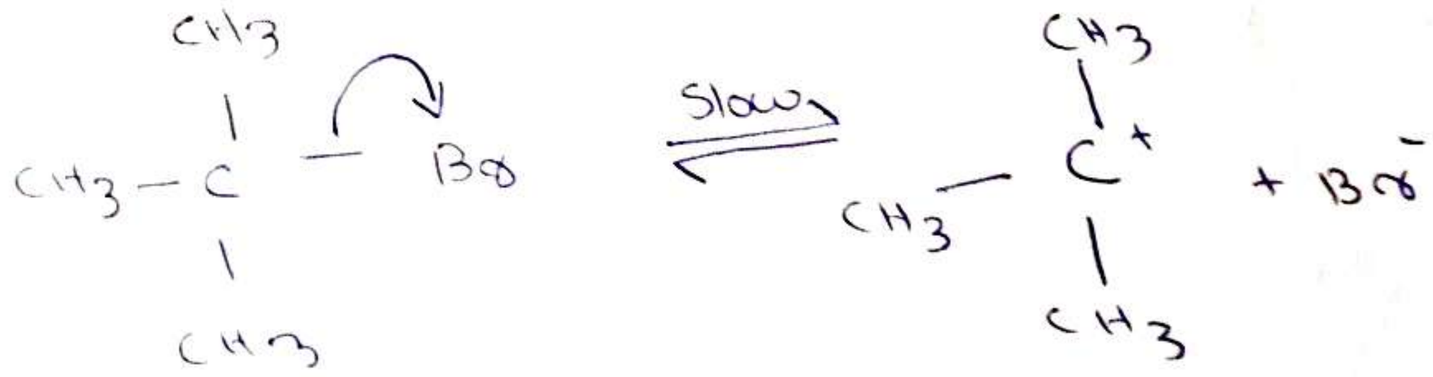
The S_N1 mechanism involves two steps and we shall consider these with respect to the reaction

$$(CH_3)_3C-Br + OH^- \rightarrow (CH_3)_3C-OH + Br^-$$

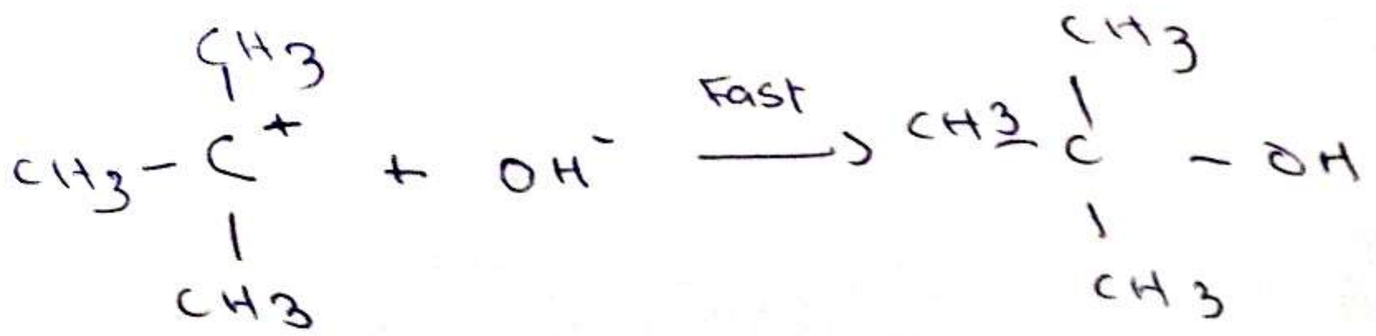
Tert-butyl bromide — Tert-butyl alcohol

Step 1 :- The leaving group breaks away by the heterolytic fission of the carbon halogen (C-Br) bond, producing a carboration (tert-butyl cation)

- This step is slow & rate determining step



Step - 2 :- The carbocation (t-butyl cation) rapidly reacts with the nucleophile to yield the product (tert-butyl alcohol)



Tert-butyl cation — Tert-butyl alcohol

Kinetics

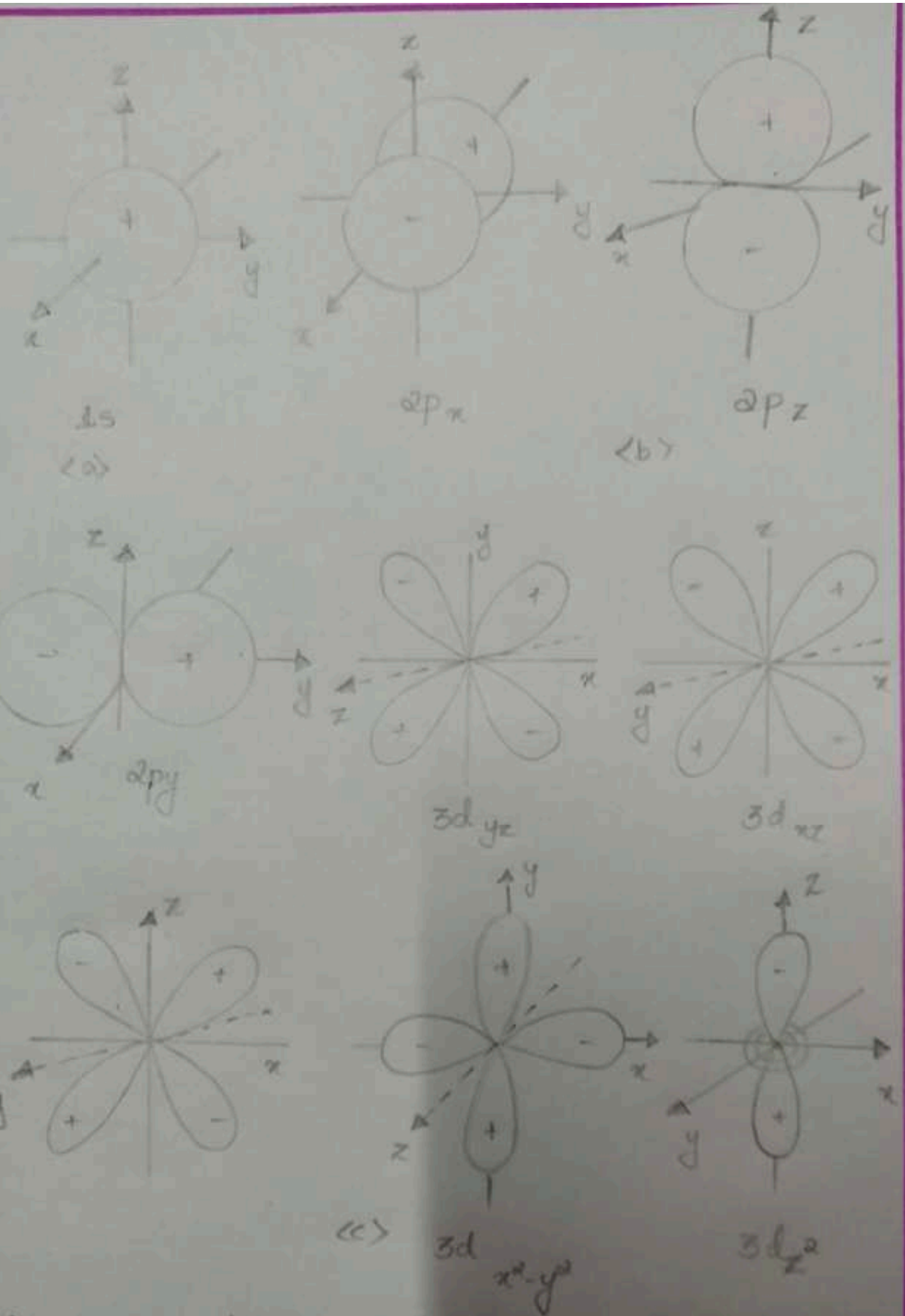
The kinetics of the SN1 reaction

- step I involves the slow heterolytic cleavage of C-Br bond to yield a carbocation is the rate determining step
- step II involve the rapid attack of -OH group on the carbocation to yield the product alcohol
- The rate of the overall reaction is determined by its slow first step in which only the alkyl halide is involved, not -OH
- Thus in SN1 reaction, the rate depends only on the concentration of the substrate, not on that of the nucleophile

The rate law for a SN1 reaction, thus

$$\text{rate} = K(\text{substrate})$$

K = rate constant, It is a first order process



Polar diagrams showing the boundary surfaces for the angular part of the H atom wave functions for the a) 1s b) 2p c) 3d orbitals



s-orbital - Spherically symmetrical

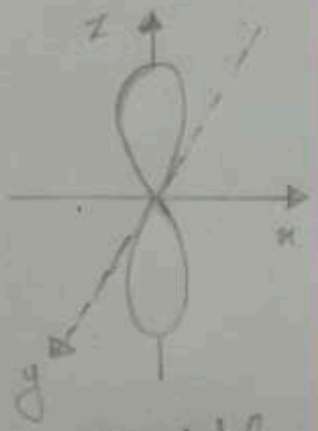
Shape of s-orbital



P_x orbital



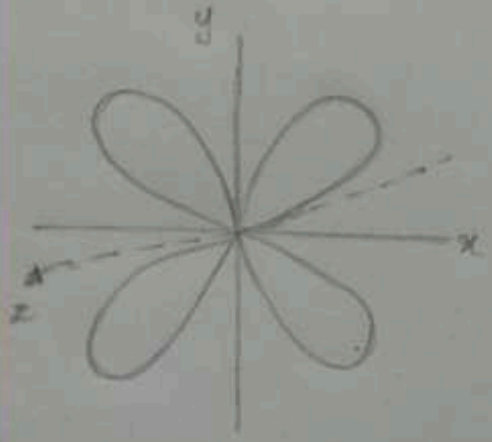
P_y orbital



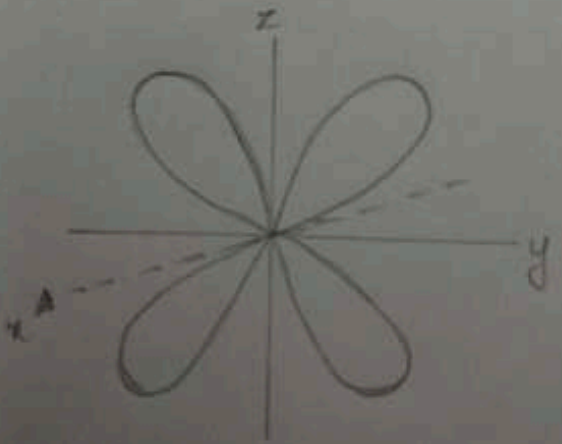
P_z orbital

Dumb-bell shaped

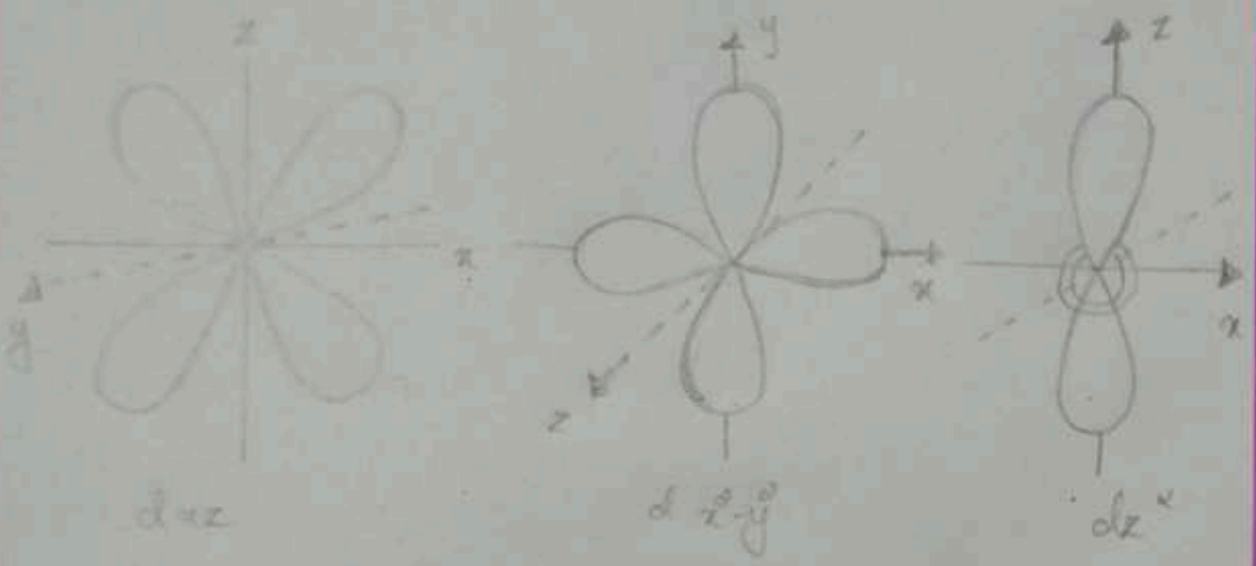
Shapes of p-orbitals



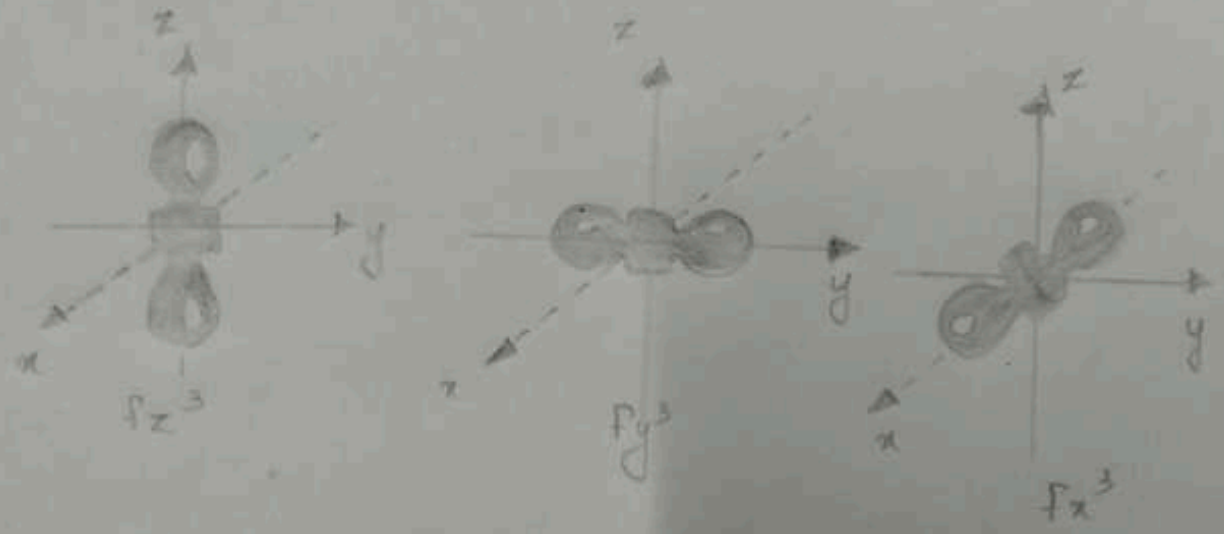
d_{xy}

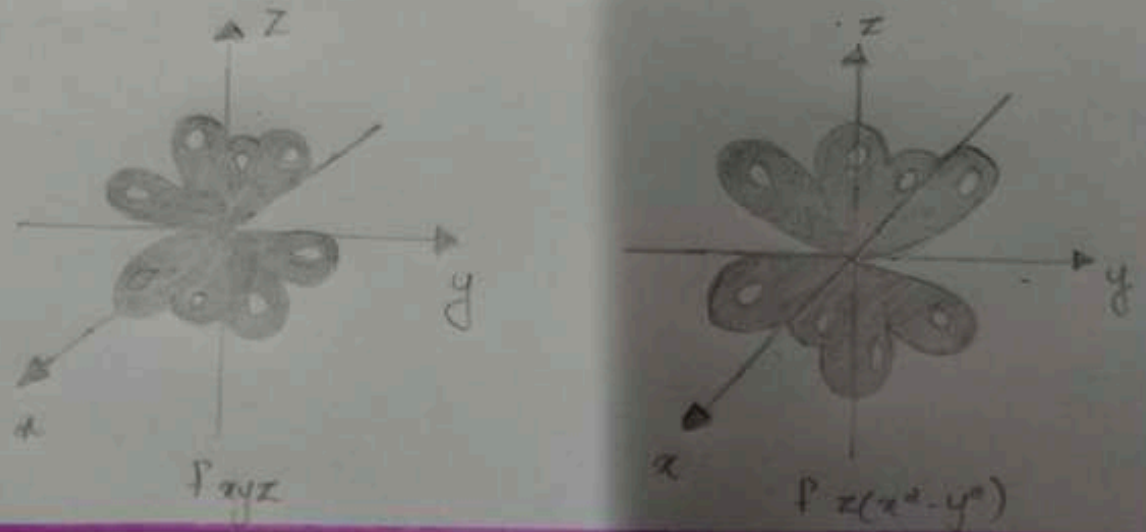


d_{yz}



Shapes of d-orbitals







$P_y(z^2 - x^2)$ $P_x(y^2 - z^2)$

Shapes of P orbits

Activity : a = partial pressure in gaseous system

a = concentration in liquid system.

chemical potential / partial molar gibs energy / partial molar free energy.

It represented as 'μ'

chemical potential of a component in a mixture is the contribution per mole of that particular component to the total gibbs energy of the system under conditions of constant temp and pressure.

$$(G)_{T,P} = n_1\mu_1 + n_2\mu_2 + \ldots\ldots$$

G - Gibbs energy of mixture of components 1, 2, etc.

n_1, n_2, etc = no of mole of components 1, 2, etc

$\mu_1, \mu_2, \ldots$ = chemical potential of the components 1, 2, etc.

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RELATIONSHIP BETWEEN ACTIVITY AND CHEMICAL POTENTIAL

$$\mu_i = \mu_i^\circ + RT \ln a_i$$

a_i = activity of ith constituent

μ_i = chemical potential of ith constituent

μ_i° = standard chemical potential of ith constituent.

$$aA + bB + \ldots \rightleftharpoons lL + mM + \ldots$$

G Reactants $= a\mu_A + b\mu_B + \ldots$

G products $= l\mu_L + m\mu_M + \ldots$

$$\boxed{\Delta G = G_{\text{products}} - G_{\text{Reactants}}}$$

$$\Delta G = (l\mu_L + m\mu_M + \ldots) - (a\mu_A + b\mu_B + \ldots)$$

$$\boxed{\mu = \mu^\circ + RT \ln a}$$

R is universal gas constant.

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$$\Delta G = \left[l\left(\mu_L^\circ + RT \ln a_L\right) + m\left(\mu_m^\circ + RT \ln a_M\right) + \ldots \right] - \left[a\left(\mu_A^\circ + RT \ln a_A\right) + b\left(\mu_b^\circ + RT \ln a_B\right) + \ldots \right]$$

$$\Delta G = \left[\left(l\mu_L^\circ + m\mu_M^\circ + \ldots\right) - \left(a\mu_A^\circ + b\mu_B^\circ + \ldots\right) \right] + \left[\left(RT \ln a_L^l + RT \ln a_M^m + \ldots\right) - \left(RT \ln a_A + RT \ln a_B + \ldots\right) \right]$$

$$\boxed{\Delta G = \Delta G^\circ + RT \ln \left[\frac{a_L^l \times a_M^m \times \ldots}{a_A^a \times a_B^b \times \ldots} \right]}$$

$\log a - \log b = \log (a/b)$

$\log a + \log b = \log (a \times b)$

This equation is known as "Reaction Isotherm"

$$\boxed{\Delta G = \Delta G^\circ + RT \ln Q}$$

$$Q = \frac{a_L^l \times a_M^m \times \ldots}{a_A^a \times a_B^b \times \ldots}$$

Q is known as activity quotient / Reaction quotient

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when reactants - gases

Activity = partial pressure :

$$\Delta G = \Delta G^\circ + RT \ln \frac{P_L^l \times P_M^m \times \dots}{P_A^a \times P_B^b \times \dots}$$

$$\boxed{\Delta G = \Delta G^\circ + RT \ln Q_P}$$

$$Q_P = \frac{P_L^l \times P_M^m \times \dots}{P_A^a \times P_B^b \times \dots}$$

Q_P is known as pressure quotient / reaction quotient

These equations also known as 'Vant Hoff Reaction Isotherm

$$\Delta G = \Delta G^\circ + RT \ln \left[\frac{a_L^l \times a_M^m \times \dots}{a_A^a \times a_B^b \times \dots} \right]$$

when $\Delta G = 0$ at equilibrium

$$0 = \Delta G^\circ + RT \ln \left[\frac{a_L^l \times a_M^m \times \dots}{a_A^a \times a_B^b \times \dots} \right]_{eqbm}$$

$$\Delta G^\circ = -RT \ln \left[\frac{a_L^l \times a_M^m \times \dots}{a_A^a \times a_B^b \times \dots} \right]_{eqbm}$$

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$$K = \left[\frac{a_L^l \times a_M^m \times \cdots}{a_A^a \times a_B^b \times \cdots}\right]_{eqbrm}$$

* K is known as thermodynamic equilibrium constant
* This equation known as 'law of chemical equilibrium'

$$\left[\frac{P_L^l \times P_M^m \times \cdots}{P_A^a \times P_B^b \times \cdots}\right]_{eqbrm} = K_p, \text{ a constant}$$

$$\Delta G = \Delta G^\circ + RT \ln\left[\frac{a_L^l \times a_M^m \times \cdots}{a_A^a \times a_B^b \times \cdots}\right]$$

$\Delta G = 0$ at equilibrium

$$0 = \Delta G^\circ + RT \ln\left[\frac{a_L^l \times a_M^m \times \cdots}{a_A^a \times a_B^b \times \cdots}\right]_{eqbrm}$$

$$\Delta G^\circ = -RT \ln\left[\frac{a_L^l \times a_M^m \times \cdots}{a_A^a \times a_B^b \times \cdots}\right]_{eqbrm}$$

$$\boxed{\Delta G^\circ = -RT \ln K}$$

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$$\Delta G^\circ = -RT \ln K_p$$

$$\Delta G^\circ = -2.303 RT \log K_p$$

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ECONOMICS - ASSIGNMENT



Aparna P.V

ELASTICITY OF SUPPLY

The price elasticity of supply is a measure used in economics to show the responsiveness or electricity of the quantity supplied of a good or services to change in its price.

Price elasticity of supply is defined as the ratio of the percentage change in quantity supplied to the percentage change in price.

$$ES = \frac{\text{Percentage change in quantity supplied}}{\text{percentage change in price.}}$$

Mathematically, the coefficient of price elasticity of supply is,

$$ES = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P} = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$$

Alfred Marshall, a British economist game the concept of elasticity of demand and supply in his book 'Principles of economics' in 1890. He was the one to define the elasticity of supply and deduced the price elasticity of the supply Formula.

It is an important parameter in determining how the supply of a particular is affected by fluctuations in its market price. It also gives and idea about the profit that could be made by selling that product at its price

deffince. In this article, we will discuss the elasticity supply.

The price elasticity of supply refers to the response to a change in a good or service price by the supply of that good or service. According to basice economic theory, the supply of goods decreasess when its price increasess.

An example of an elastic supply is the supply of non-necessity goods such as soft drinks where there are many substitutes and choices. A drastic change in price will not have a toll on the supply since consumers would opt for others brands of soft drinks or prefer close subtitutes.

Importance : Price elasticity of supply measures the responsiveness of quantity supplied to a change in price. It is necessary for a firm to known how quickly and effectiency it can respond to changing market conditions especially to price change.

Slope : If higher ~~weg~~ wages include people to work more, the labour supply curve is upward sleping and the price elasticity of supply is positive. In some very high paying prefessionals or other unusual circumstances, the labours supply curve may have a negative slope which leads to negative price elasticity of supply.

Calculation of elasticity of supply:

We already discuss the method to calculate the elasticity of supply. There are 2 more others ways to calculate the electricity of supply.

We can either supply curve, known as point elasticity or between 2 prices known as are elasticity.

Formula for calculating point elasticity of supply.

$$ES : (dq/dp) \times (P/q)$$

Here, dq/dp is the slope of the supply curve.

Formula for calculating the are elasticity of supply

$$ES : [(q_1 - q_2)/(q_1 + q_2)] \times [(P_1 + P_2)]/[(P_1 - P_2)]$$

ECONOMICS ASSIGNMENT



SUMANYA. K
BA . HISTORY

ASSIGNMENT TOPIC

* ELASTICITY OF SUPPLY
* Types of price elasticity of supply
* perfectly inelastic supply ($E_S = 0$)
* prefectly elastic supply ($E = \infty$)
* elastic supply ($E > 1$)
* inelastic supply ($E < 1$)
* unitary elastic supply ($E_S = 1$)

ELASTICITY OF SUPPLY

ഉൽപാദന പരിമാണത്തിലെ മാറ്റശതമാനവും വിലയിലെ മാറ്റശതമാനവും തമ്മിലുള്ള അനുപാതത്തെയാണ് ഉൽപാദനത്തിന്റെ വില ഇലാസ്തികത എന്ന് പറയുന്നത്. ഒരു വസ്തുവിന്റെ വിലയിലുണ്ടാകുന്നമാറ്റത്തിനോട് അതിന്റെ ഉൽപാദനത്തിന്റെ അളവ് എത്രമത്രം പ്രതികരിക്കുന്നു എന്നതാണ് ഉൽപാദനത്തിന്റെ വില ഇലാസ്തികത കാണിക്കുന്നത്.

$$ES = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

ഉൽപാദനത്തിന്റെ വില ഇലാസ്തികതയുടെ ഗുണാങ്കത്തെ ഈ സമവാക്യം ഉപയോഗിച്ച് കണ്ടെത്താം.

$$ES = \frac{\frac{\Delta Q}{Q}}{\frac{\Delta P}{P}} = \frac{\Delta Q}{Q} \times \frac{P}{\Delta P} = \frac{P}{Q} \times \frac{\Delta Q}{\Delta P}$$

ASSIGNMENT



BY

Sruthi raj. P

1BA History

INDEX

* Introduction
* Type of price elasticity Supply
* Perfectly Inelatic Supply
* Perfectly Elastic Supply
* Elastic Supply
* Inelastic Supply
* unitary Elastic Supply
* Conclusion

ELASTICITY OF SUPPLY

ചരക്കിന്റെ വിലയിലെ മാറ്റശതമാനവും വിലയിലെ മാറ്റശതമാനവും തമ്മിലുള്ള അനുപാതത്തെയാണ് ചരക്കിന്റെ വില ഇലാസ്തികത എന്ന് പറയുന്നത്. ഒരു വസ്തുവിന്റെ വിലയിലുണ്ടാകുന്ന മാറ്റത്തിനോട് അതിന്റെ ചരക്കിന്റെ അളവ് ചരക്കിന്റെ അളവ് എത്രമാത്രം പ്രതികരിക്കുന്നു എന്നതാണ് ചരക്കിന്റെ വില ഇലാസ്തികത കാണിക്കുന്നത്.

$$Es = \frac{\text{Percentage change in quantity supplied}}{\text{Percentage change in price}}$$

ASSIGNMENT

Submitted by : Sandra Shajan

B.A economics

1 year

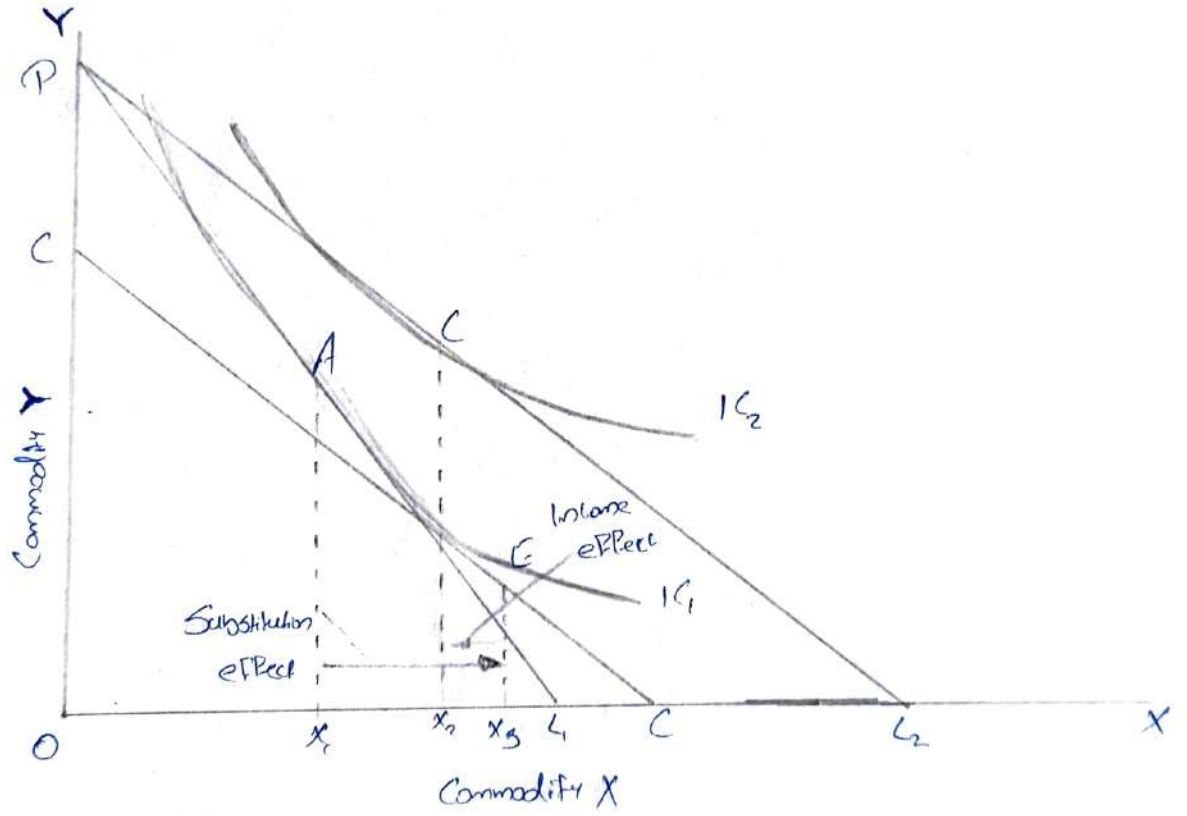
Submitted to : Miss Mishma

INCOME EFFECT AND SUBSTITUTION EFFECT FOR AN INFERIOR GOOD

A good is inferior when the income effect is negative. Thus an inferior good is one that consumers buy less of when their incomes go up and more of when their incomes go down. When the price of an inferior good falls, the substitution effect leads to an increase in the quantity demanded. However, the increase in real income resulting from the price decline leads the consumer to purchase less of an inferior good. Thus in the case of an inferior good, the income effect moves in the opposite direction from the substitution effect. But since the positive substitution effect is usually larger than the negative income effect, the quantity demanded of the inferior good increases when its price falls and the demand curve is still negatively sloped. The income and substitution effect for an inferior good is

illustrated in the following figure.

The consumer is initially in equilibrium at Point A where the indifference curve IC_1 is tangent to the Price line PL_1. If the price of X falls, the Price line shifts from PL_1 to PL_2. The consumer moves to the new equilibrium Point C which is on a higher indifference curve IC_2.



The movement from the initial equilibrium Point A to the new equilibrium Point C is termed as the Price effect.

ASSIGNMENT

submitted by :-

Krishna priya PP

BA. Economics

1 year

submitted to :-

miss mishma

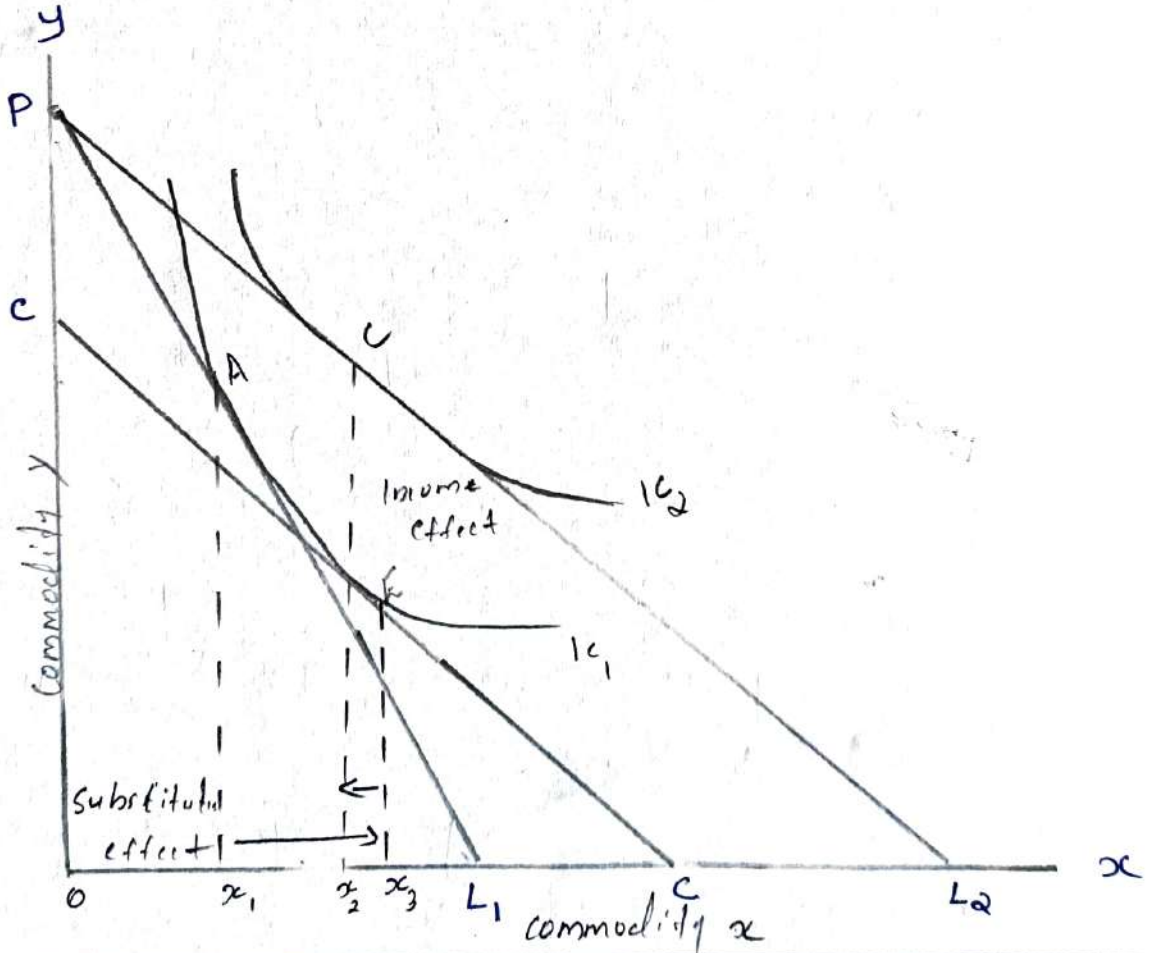
INCOME EFFECT AND SUBSTITION EFFECT FOR A GIFFEN GOOD (GRIFFEN'S PARADOX)

A Giffen good is defined as a good of which the quantity demanded increases as its price increases and falls as its price falls. Giffen's paradox refers to a good whose quantity demanded varies directly with price. Thus the demand curve of a Giffen good is positively sloping curve.

Giffen's paradox is explained with the help of the following diagram. Given the budget constraint AA, the consumer is in equilibrium at A' where the indifference curve IC_1 is tangent to the budget line. If the price of X falls, the price line shifts From AA to AB. The substitution effect is isolated by keeping the real income of the consumer constant. The money income of the consumer is reduced by an amount just sufficient to maintain his real income constant. This is shown by the parallel shift in the price line to cc. The substitution effect of a decrease in price of X

substitution effect for an inferior good is illustrated in the following figure.

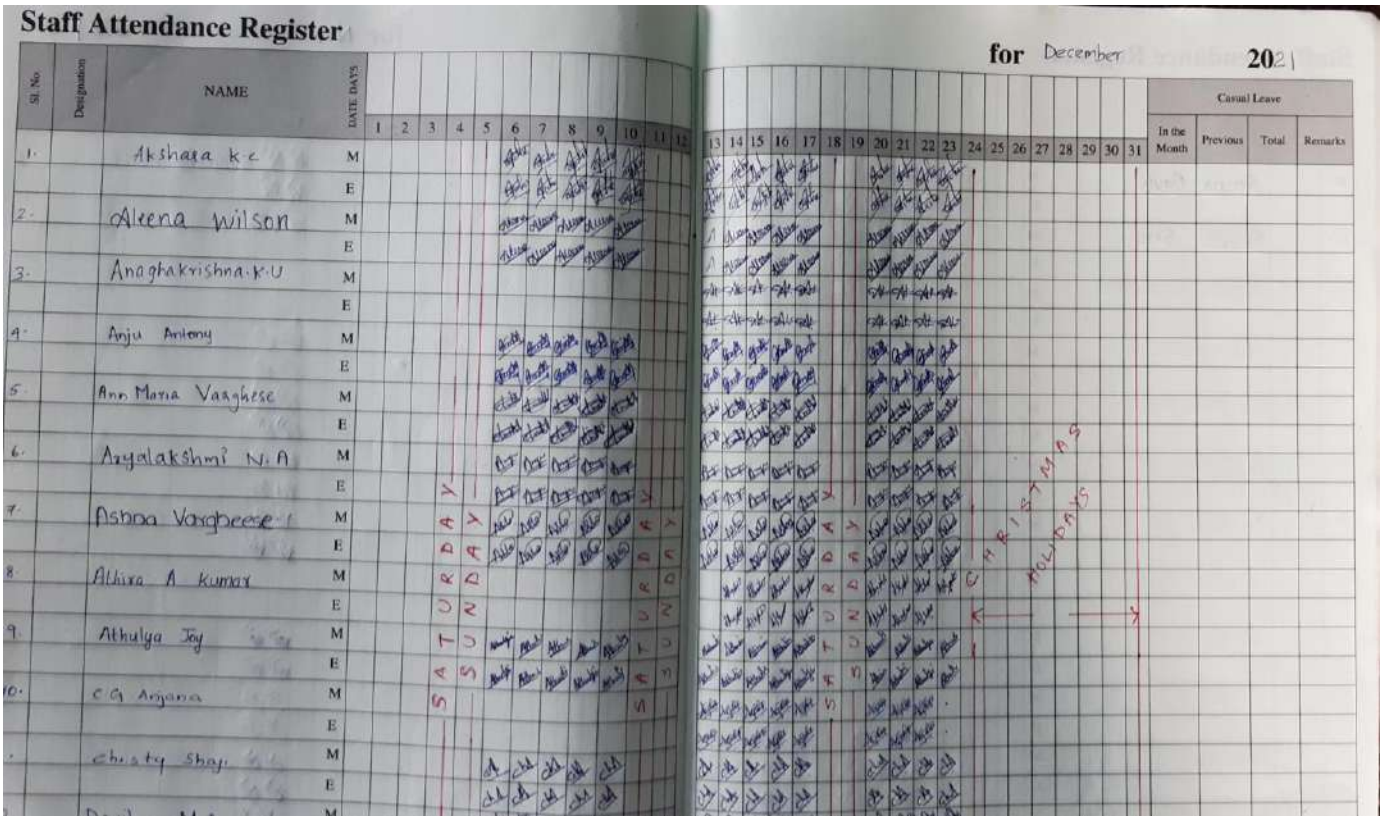
The consumer is initially in equilibrium at point A where the indifference curve IC_1 is tangent to the price line PL_1. If the price of x falls, the price line shifts from PL_1 to PL_2. The consumer moves to the new equilibrium point C which is on a higher indifference curve IC_2. The movement from the initial equilibrium point A to the new equilibrium point C is termed as the price effect.



The substitution effect can be isolated from the income effect by keeping the real income of the consumer constant. when the price of a good falls, the consumer's real income increases which affects the consumption of the good. The money income of the consumer is reduced by an amount just sufficient to maintain his real income constant. This shown by the parallel shift in the price line to the left hand side by the line cc. The point of tangency between the new price line and the original indifference curve is attained at point E. The movement along the indifference curve IC_1 from the original equilibrium point A to the point E is the substitution effect. As a result of the substitution effect, the consuption of good x increases From x_1 to x_3.

The income effect is shown by the change in consuption when the consumer moves From E to c. Thus the fall in the consupmption of commodity x From x_3 to x_2 shows the income effect. in this case x is inferior good because the income effect exceeds the negative. However, because the positive substitution price of x leads to an increase in the quantity demanded

8. ATTENDANCE REGISTER



Staff Attendance Register

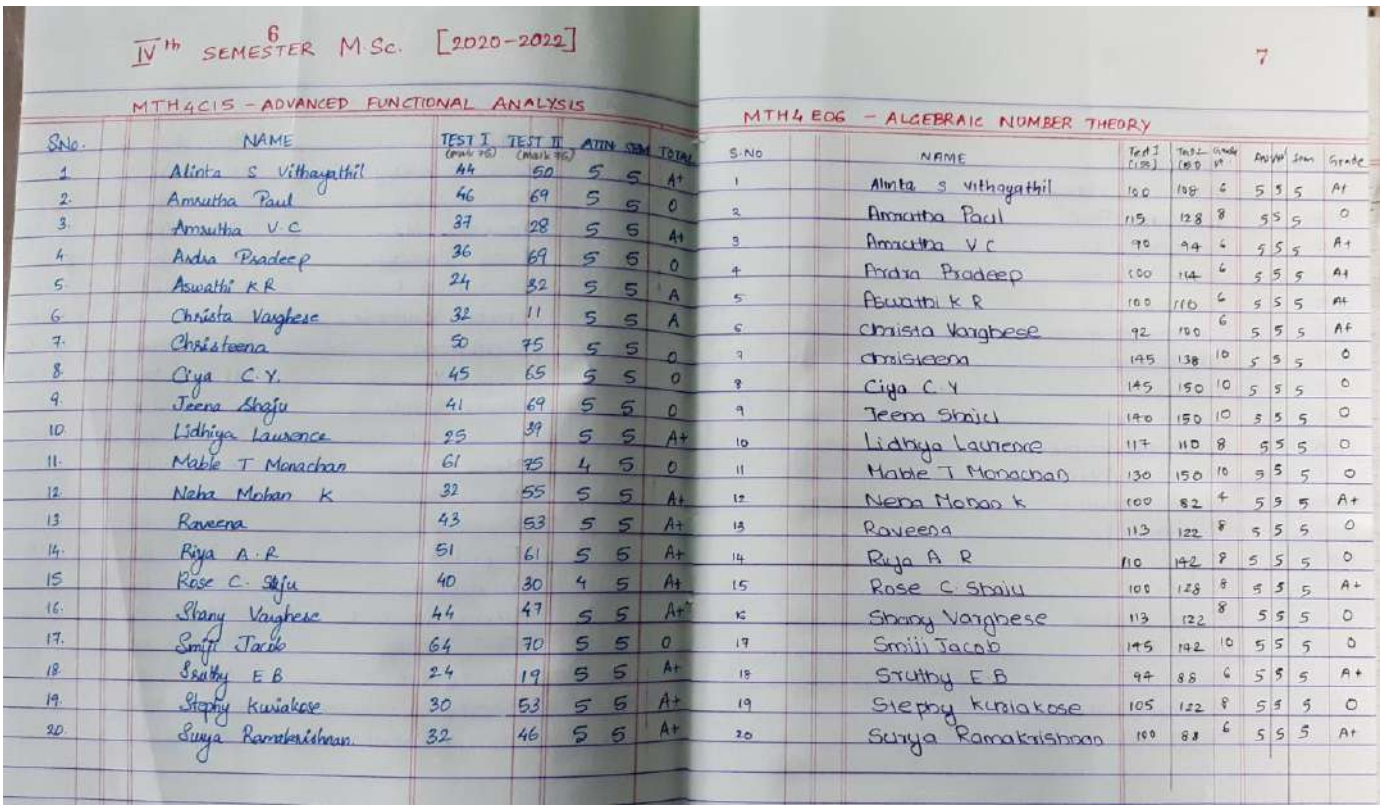
for December 2021

Sl. No	Designation	NAME	DATE DAYS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Casual Leave: In the Month	Previous	Total	Remarks
1.		Akshaya k.c	M																																			
			E																																			
2.		Aleena Wilson	M																																			
			E																																			
3.		Anaghakrishna.K.U	M																																			
			E																																			
4.		Anju Antony	M																																			
			E																																			
5.		Ann Maria Varghese	M																																			
			E																																			
6.		Aryalakshmi N.A	M																																			
			E																																			
7.		Asnaa Varghese	M																																			
			E																																			
8.		Athira A Kumar	M																																			
			E																																			
9.		Athulya Joy	M																																			
			E																																			
10.		C G Anjana	M																																			
			E																																			
.		Christy Shaji	M																																			
			E																																			

SATURDAY SUNDAY

CHRISTMAS HOLIDAYS

9. MARK BOOK



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IV th SEMESTER M.Sc. [2020-2022]

MTH4CIS - ADVANCED FUNCTIONAL ANALYSIS

SNo.	NAME	TEST I (max 75)	TEST II (max 75)	ATTN	SEM	TOTAL
1.	Alinta S Vithayathil	44	60	5	5	A+
2.	Amsutha Paul	46	69	5	5	O
3.	Amsutha V.C	37	28	5	5	A+
4	Ardra Pradeep	36	69	5	5	O
5	Aswathi K R	24	32	5	5	A
6	Christa Varghese	32	11	5	5	A
7.	Christeena	50	75	5	5	O
8.	Ciya C.Y.	45	65	5	5	O
9.	Jeena Shaju	41	69	5	5	O
10.	Lidhiya Laurence	25	39	5	5	A+
11.	Mable T Monachan	61	75	4	5	O
12.	Neha Mohan K	32	55	5	5	A+
13	Raveena	43	53	5	5	A+
14.	Riya A.R	51	61	5	5	A+
15	Rose C. Shaju	40	30	4	5	A+
16.	Shany Varghese	44	47	5	5	A+
17.	Smiji Jacob	64	70	5	5	O
18.	Sruthy E.B	24	19	5	5	A+
19.	Stephy Kuriakose	30	53	5	5	A+
20.	Surya Ramakrishnan	32	46	5	5	A+

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MTH4 EOG - ALGEBRAIC NUMBER THEORY

S.NO	NAME	Test I (125)	Test II (150)	Grade pt	Attn	Sem	Grade
1	Alinta S Vithayathil	100	108	6	5	5	A+
2	Amsutha Paul	115	128	8	5	5	O
3	Amsutha V C	90	94	6	5	5	A+
4	Ardra Pradeep	100	114	6	5	5	A+
5	Aswathi K R	100	110	6	5	5	A+
6	christa Varghese	92	100	6	5	5	A+
7	christeena	145	138	10	5	5	O
8	Ciya C Y	145	150	10	5	5	O
9	Jeena Shaiu	140	150	10	5	5	O
10	Lidhiya Laurence	117	110	8	5	5	O
11	Mable T Monachan	130	150	10	5	5	O
12	Neha Mohan k	100	82	4	5	5	A+
13	Raveena	113	122	8	5	5	O
14	Riya A R	110	142	8	5	5	O
15	Rose C Shaiu	100	128	8	5	5	A+
16	Shany Varghese	113	122	8	5	5	O
17	Smiji Jacob	145	142	10	5	5	O
18	Sruthy E B	94	88	6	5	5	A+
19	Stephy kuriakose	105	122	8	5	5	O
20	Surya Ramakrishnan	100	88	6	5	5	A+