



CARMEL COLLEGE (AUTONOMOUS) MALA
Re-Accredited by NAAC with 'A' Grade (4th Cycle)
Thrissur Dt. Kerala-680732, www.carmelcollegemala.ac.in, 0480-2890247



CRITERION II

Teaching-Learning and Evaluation

2.3 - Teaching- Learning Process

2.3.4 - Preparation and adherence to Academic Calendar and Teaching Plans by the institution

Submitted to



THE NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

UNIVERSITY OF CALICUT

(DOA / PAREEKSHA BHAVAN)

No.20097/EG-I-ASST-1/2014/PB

Dated 30.05.2023

REVISED ACADEMIC CUM EXAMINATION CALENDAR 2022-23

Name of Examination	Issuance of Admission Notification	Commencement of Online Registration	Date of Entrance Exam, if applicable	Date of Admission	Commencement of Semester	Date of Exam Registration	Last Date for Submission of APC	End of Semester	Date of Commencement of Examinations	Date of Conclusion of Exam (on or before) *1	Last Date for Uploading Internal Marks	Date of Publication of Result (on or before) *2
1	2	3	4	5	6	7	8	9	10	11	12	13
UG Programmes without Entrance Examination (Semester- CBCSS & CUCBCSS)												
BA/ B.Sc./ B.Com./ BBA/ BA Afsal UI Ulama/ BSW/ BTA/ BA Multimedia /BMMC/ B.Sc. Medical Biochemistry/ Microbiology/ Medical Lab Technology / B.Com. Honours (3 years)												
I Semester					30/08/22	14/11/22	04/01/23	24/01/23	24/01/23	10/02/23	20/01/23	24/04/22
II Semester					25/01/23	15/03/23	10/07/23	02/08/23	19/07/23	02/08/23	31/07/23	20/10/23
III Semester					01/07/22	23/08/22	14/11/22	21/11/22	18/11/22	05/12/22	08/12/22	28/02/23
IV Semester					22/11/22	17/01/23	08/03/23	31/03/23	19/04/23	05/05/23	31/03/23	18/07/23
V Semester					01/06/22	26/07/22	18/10/22	31/10/22	19/10/22	02/11/22	14/11/22	25/01/23
VI Semester					01/11/22	13/12/22	16/02/23	31/03/23	02/03/23	16/03/23	01/03/23	25/04/23
Practical / Project / Viva of VI semester to be completed before commencement of theory examinations												
UG Programmes with Entrance Examination (Semester - CBCSS & CUCBCSS)												
B.PEd (2 years)												
I Semester					01/11/22	27/12/22	03/03/23	29/03/23	22/03/23	29/03/23	20/03/23	10/05/23
II Semester					30/03/23	22/05/23	11/10/23	03/11/23	27/10/23	03/11/23	26/10/23	06/12/23
III Semester					29/08/22	14/10/22	27/01/23	07/02/23	15/02/23	24/02/23	24/02/23	05/04/23
IV Semester					08/02/23	27/03/23	08/08/23	05/09/23	07/09/23	14/09/23	22/08/23	20/10/23
BHM												
I YEAR					30/08/22	28/11/22	03/07/23	02/08/23	18/07/23	02/08/23	18/07/23	15/09/23
II YEAR					16/08/22	29/11/22	06/07/23	14/08/23	28/07/23	14/08/23	21/07/23	27/09/23
III YEAR					11/08/22	22/11/22	04/07/23	10/08/23	26/07/23	10/08/23	20/07/23	30/09/23
IV YEAR					01/06/22	15/11/22	02/03/23	31/03/23	20/03/23	12/04/23	17/03/23	15/05/23

B.PEd Integrated (4 years)

I YEAR					01/11/22	05/01/23	04/10/23	31/10/23	18/10/23	31/10/23	17/10/23	05/12/23
II YEAR					16/08/22	29/11/22	06/07/23	14/08/23	28/07/23	14/08/23	21/07/23	27/09/23
III YEAR					11/08/22	22/11/22	04/07/23	10/08/23	26/07/23	10/08/23	20/07/23	30/09/23
III YEAR					01/06/22	15/11/22	02/03/23	31/03/23	20/03/23	12/04/23	17/03/23	15/05/23
Name of Examination	Issuance of Admission Notification	Commencement of Online Registration	Date of Entrance Exam, if applicable	Date of Admission	Commencement of Semester	Date of Exam Registration	Last Date for Submission of APC	End of Semester	Date of Commencement of Examinations	Date of conclusion of Exam (on or before) *1	Last Date for Uploading Internal Marks	Date of Publication of Result (on or before) *2
1	2	3	4	5	6	7	8	9	10	11	12	13

PG Programmes Without Entrance Examination**(MA/ M.Sc/ M.Com/ MLISc/ MTTM/ MTHM) PG Diploma Programmes (only 2 Semesters) - CBCSS & CUCSS pattern**

I Semester					31/08/22	15/11/22	05/01/23	25/01/23	25/01/23	06/02/23	20/01/23	20/03/23
II Semester					27/01/23	20/03/23	10/07/23	03/08/23	24/07/23	02/08/23	21/07/23	22/09/23
III Semester					29/08/22	11/10/22	23/01/23	23/01/23	09/01/23	18/01/23	13/01/23	31/03/23
IV Semester					24/01/23	14/03/23	03/07/23	01/08/23	19/07/23	31/07/23	18/07/23	31/08/23

PG Programmes With Entrance Examination

(M.Sc. Food Science and Technology/ M.Sc. Applied Psychology/ Psychology/ Applied Zoology/ Applied Chemistry/ M.Sc. Radiation Physics/ M.Sc. Clinical Psychology/ M.Sc. Computer Science/ Health & Yoga/ General Bio-technology/ M.Sc. Medical Bio-Chemistry/ Medical Lab Technology/ Medical Micro Biology/ MA Folklore/ MHA/ MSW/ MA Mass Communications & Journalism/ Master of Theatre Arts/ M.Sc. Environmental Science)

(Semester - CBCSS, CUCSS & CCSS pattern)

I Semester					31/08/22	15/11/22	05/01/23	25/01/23	25/01/23	06/02/23	20/01/23	20/03/23
II Semester					27/01/23	20/03/23	10/07/23	03/08/23	24/07/23	02/08/23	21/07/23	22/09/23
III Semester					29/08/22	11/10/22	23/01/23	23/01/23	09/01/23	18/01/23	13/01/23	31/03/23
IV Semester					24/01/23	14/03/23	03/07/23	01/08/23	19/07/23	31/07/23	18/07/23	31/08/23

Calicut University Departments PG Courses (CCSS)

I Semester					25/07/22	15/11/22	01/12/22	15/12/22	12/12/22	23/12/22	15/12/22	13/03/23
II Semester					16/12/22	13/02/23	05/06/23	30/06/23	21/06/23	30/06/23	21/06/23	28/07/23
III Semester					29/08/22	11/10/22	23/01/23	23/01/23	09/01/23	18/01/23	13/01/23	31/03/23

IV Semester					24/01/23	14/03/23	03/07/23	01/08/23	19/07/23	31/07/23	18/07/23	31/08/23
Name of Examination	Issuance of Admission Notification	Commencement of Online Registration	Date of Entrance Exam, if applicable	Date of Admission	Commencement of Semester	Date of Exam Registration	Last Date for Submission of APC	End of Semester	Date of Commencement of Examinations	Date of Conclusion of Exam (on or before) *1	Last Date for Uploading Internal Marks	Date of Publication of Result (on or before) *2
1	2	3	4	5	6	7	8	9	10	11	12	13
MCA												
I Semester					31/08/22	15/11/22	05/01/23	25/01/23	25/01/23	06/02/23	20/01/23	20/03/23
II Semester					27/01/23	20/03/23	10/07/23	03/08/23	24/07/23	02/08/23	27/01/23	22/09/23
III Semester					29/08/22	11/10/22	23/01/23	23/01/23	09/01/23	18/01/23	13/01/23	31/03/23
IV Semester					24/01/23	14/03/23	05/07/23	01/08/23	19/07/23	31/07/23	18/07/23	31/08/23
MBA												
I Semester					25/10/22	20/12/23	01/02/23	08/03/23	20/02/23	08/03/23	16/03/23	21/04/23
II Semester					09/03/23	02/05/23	04/08/23	20/09/23	04/09/23	25/09/23	23/08/23	03/11/23
III Semester					17/06/22	02/08/22	11/11/22	11/11/22	21/11/22	16/12/22	30/11/22	28/02/23
IV Semester					14/11/22	05/01/23	31/03/23	31/03/23	27/03/23	17/04/23	24/03/23	31/05/23
M.P.Ed. with Entrance Examination												
I Semester					07/11/22	05/01/23	03/03/23	31/03/23	22/03/23	31/03/23	20/03/23	12/05/23
II Semester					01/06/23	18/07/23	04/10/23	07/11/23	25/10/23	06/11/23	20/10/23	13/12/23
III Semester					29/08/22	11/10/22	07/02/23	07/02/23	15/02/23	27/02/23	23/02/23	08/02/23
IV Semester					08/02/23	20/03/23	04/08/23	05/09/23	05/09/23	18/09/23	21/08/23	30/10/23
B.Ed.												
I Semester					22/09/22	21/11/22	04/01/23	03/02/23	23/01/23	03/02/23	20/01/23	28/02/23
II Semester					04/02/23	27/03/23	14/07/23	08/08/23	09/08/23	21/08/23	04/08/23	06/10/23
III Semester					16/08/22	06/10/22	07/01/23	07/01/23	No Theory Exam	No Theory Exam	23/01/23	12/04/23
IV Semester					09/01/23	28/02/23	26/06/23	14/07/23	11/07/23	19/07/23	10/07/23	25/08/23
M.Ed.												
I Semester					22/09/22	21/11/22	04/01/23	03/02/23	06/02/23	13/02/23	20/01/23	23/03/23
II Semester					04/02/23	27/03/23	14/07/23	08/08/23	31/07/23	08/08/23	04/08/23	25/09/23

III Semester					30/07/22	19/09/22	16/12/22	16/12/22	11/01/23	23/01/23	30/12/22	05/04/23
IV Semester					17/12/22	03/02/23	19/06/23	30/06/23	26/06/23	03/07/23	03/07/23	07/08/23
Name of Examination	Issuance of Admission Notification	Commencement of Online Registration	Date of Entrance Exam, if applicable	Date of Admission	Commencement of Semester	Date of Exam Registration	Last Date for Submission of APC	End of Semester	Date of Commencement of Examinations	Date of Conclusion of Exam (on or before) *1	Last Date for uploading Internal Marks	Date of Publication of Result (on or before) *2
1	2	3	4	5	6	7	8	9	10	11	12	13
Unitary LLB (3 Year)												
I Semester					01/11/22	16/12/22	09/03/23	31/03/23	30/03/23	20/04/23	23/03/23	31/05/23
II Semester					01/06/22	28/11/22	12/12/22	31/10/22	05/01/23	24/01/23	23/12/22	06/03/23
III Semester					01/11/22	16/12/22	09/03/23	31/03/23	17/04/23	28/04/23	23/03/23	06/06/23
IV Semester					01/06/22	21/11/22	02/12/22	31/10/22	04/01/23	16/01/23	19/12/22	27/02/23
V Semester					01/11/22	16/12/22	09/03/23	31/03/23	29/03/23	12/04/23	23/03/23	23/05/23
VI Semester					01/06/23	08/08/23	19/10/23	31/10/23	25/10/23	03/11/23	08/11/23	11/12/23
BBA LLB (Year)												
I Semester					01/11/22	05/01/23	13/03/23	31/03/23	15/05/23	29/05/23	30/03/23	05/07/23
II Semester					01/06/22	06/12/22	22/12/22	31/10/22	31/01/23	15/02/23	09/01/23	27/03/23
III Semester					01/11/22	05/01/23	13/03/23	31/03/23	20/03/23	03/04/23	30/03/23	18/05/23
IV Semester					01/06/22	06/12/22	22/12/22	31/10/22	10/01/23	30/01/23	09/01/23	09/03/23
V Semester					01/11/22	05/01/23	13/03/23	31/03/23	18/04/23	08/05/23	30/03/23	14/06/23
VI Semester					01/06/23	08/08/23	19/10/23	31/10/23	25/10/23	06/11/23	08/11/23	13/12/23
VII Semester					01/11/22	05/01/23	13/03/23	31/03/23	17/04/23	02/05/23	30/03/23	07/06/23
VIII Semester					01/06/22	01/12/22	15/12/22	31/10/22	11/01/23	25/01/23	27/12/22	06/03/23
IX Semester					01/11/22	05/01/23	13/03/23	31/03/23	21/03/23	20/04/23	30/03/23	18/05/23
X Semester					01/06/23	11/11/23	28/11/23	31/10/23	20/12/23	13/01/24	12/12/23	20/03/24
LLM - University Department of Law (with Entrance)												
I Semester					31/08/22	15/11/22	05/01/23	25/01/23	25/01/23	06/02/23	20/01/23	20/03/23
II Semester					27/01/23	20/03/23	10/07/23	03/08/23	24/07/23	02/08/23	27/01/23	22/09/23
III Semester					29/08/22	11/10/22	23/01/23	23/01/23	09/01/23	18/01/23	13/01/23	31/03/23
IV Semester					24/01/23	14/03/23	26/07/23	01/08/23	19/07/23	31/07/23	18/07/23	31/08/23

B.Tech.

I Semester	Admissions are done by the state Govt.				02/11/22	19/12/22	15/02/23	28/02/23	16/05/23	31/05/23	07/03/23	07/07/23
II Semester					13/03/23	25/04/23	17/06/23	30/06/23	03/07/23	12/07/23	07/07/23	22/08/23
III Semester					29/08/22	17/10/22	19/12/22	19/12/22	06/02/23	20/02/23	09/01/23	03/05/23
IV Semester					02/01/23	20/02/23	19/04/23	19/04/23	24/05/23	02/06/23	08/05/23	11/07/23
V Semester					29/08/22	17/10/22	19/12/22	19/12/22	23/01/23	03/02/23	09/01/23	21/04/23
VI Semester					02/01/23	20/02/23	19/04/23	19/04/23	10/05/23	22/05/23	08/05/23	27/06/23
VII Semester					29/08/22	17/10/22	19/12/22	19/12/22	09/01/23	20/01/23	09/01/23	31/03/23
VIII Semester					02/01/23	20/02/23	07/04/23	19/04/23	17/04/23	28/04/23	26/04/23	12/06/23

B.Arch.

I & II Semester					19/09/22	17/09/22	11/04/23	28/04/23	15/05/23	26/05/23	25/04/23	30/06/23
III Semester					11/07/22	19/12/22	06/01/23	09/12/22	04/01/23	17/01/23	23/01/23	28/02/23
IV Semester					23/01/23	20/03/23	17/04/23	12/05/23	01/06/23	14/06/23	02/05/23	21/07/23
V Semester					01/08/22	14/10/22	16/12/22	11/01/23	30/01/23	10/02/23	02/01/23	21/03/23
VI Semester					13/02/23	10/04/23	03/05/23	26/05/23	16/06/23	28/06/23	15/05/23	04/08/23
VII Semester					01/08/23	14/10/22	15/12/22	04/01/23	20/01/23	31/01/23	19/12/22	10/03/23
VIII Semester					01/02/23	03/04/23	03/05/23	31/05/23	No Theory Exam	No Theory Exam	18/05/23	14/07/23
IX Semester					01/08/23	14/10/22	01/12/22	21/12/22	16/01/23	23/01/23	12/12/22	04/03/23
X Semester					01/02/23	03/04/23	17/05/23	15/06/23	No Theory Exam	No Theory Exam	01/06/23	05/09/23

Name of Examination	Issuance of Admission Notification	Commencement of Online Registration	Date of Entrance Exam, if applicable	Date of Admission	Commencement of Semester	Date of Exam Registration	Last date for Submission of APC	End of Semester	Date of Commencement of Examinations	Date of Conclusion of Exam (on or before) *1	Last Date for Uploading Internal Marks	Date of Publication of Result (on or before) *2
1	2	3	4	5	6	7	8	9	10	11	12	13

M.Tech. Nano Science with Entrance

III Semester					29/08/22	11/10/22	23/01/23	23/01/23	09/01/23	18/01/23	13/01/23	31/03/23
IV Semester					24/01/23	14/03/23	03/07/23	01/08/23	No Theory Exam	No Theory Exam	18/07/23	31/08/23

Integrated PG Programmes in Affiliated colleges

I Semester					31/08/22	30/11/22	09/01/23	25/01/23	24/01/23	10/02/23	24/01/23	24/04/22
II Semester					27/01/23	13/03/23	13/07/23	03/08/23	02/08/23	19/09/23	02/08/23	20/10/23

III Semester					01/08/22	01/12/22	13/12/22	03/12/22	11/01/23	20/01/23	23/12/23	28/03/23																										
IV Semester					03/01/23	27/02/23	21/07/23	10/07/23	19/04/23	05/05/23	07/07/23	18/07/23																										
Integrated PG Programmes in Department																																						
I Semester					16/08/22	27/03/23	17/04/23	01/01/23	Internal examinations	Internal examinations	09/05/23	Internal examinations																										
II Semester					12/01/23	21/02/23	06/07/23	19/07/23	Internal examinations	Internal examinations	26/08/23	Internal examinations																										
III Semester					03/01/23	14/02/23	29/06/23	10/07/23	Internal examinations	Internal examinations	19/07/23	Internal examinations																										
IV Semester					21/03/23	02/05/23	28/09/23	09/10/23	Internal examinations	Internal examinations	16/10/23	Internal examinations																										
Ph.D.																																						
Name of Examination				Issuance of Admission Notification				Commencement of Online Registration				Date of Entrance Exam																										
Ph.D				19/05/22				19/05/22				16/07/22																										
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td><td style="width: 20%;"></td> </tr> <tr> <td style="text-align: center;">DIRECTOR, DOA</td><td style="text-align: center;">DEAN, SW</td><td style="text-align: center;">CONTROLLER OF EXAMINATIONS</td><td style="text-align: center;">REGISTRAR</td><td style="text-align: center;">PRO VICE CHANCELLOR</td><td colspan="8"></td> </tr> </table>																										DIRECTOR, DOA	DEAN, SW	CONTROLLER OF EXAMINATIONS	REGISTRAR	PRO VICE CHANCELLOR								
DIRECTOR, DOA	DEAN, SW	CONTROLLER OF EXAMINATIONS	REGISTRAR	PRO VICE CHANCELLOR																																		
Dr. M. K. Jayaraj																																						
Vice Chancellor																																						

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Note :

Dates are subject to change due to unforeseen contingencies. For confirmation of dates/ schedules please see University notification/ press release/ University website or contact PRO/ PB/ DSSC/ Information centers of the University.

For programmes with Practical, Viva Voce, Project etc., examinations may go beyond the stipulated date.



CARMEL COLLEGE (AUTONOMOUS)

Nationally Re-Accredited with A Grade

Mala – 680732, Thrissur (Dt), Kerala

Phone: 0480 2890 247

E-mail : mail@carmelcollegemala.ac.in web: www.carmelcollegemala.ac.in

ACADEMIC CALENDAR for 2022-2023

CCAM/ CE-02/Exam/2022

Date:- 12/07/2022

SEMESTER - I	
20 – Jul – 2022	Admission notification for PG programmes
21 – Jul – 2022	Commencement of online registration for PG
22 – Aug – 2022	Commencement of 1 st Semester UG classes
26 – Aug – 2022	Admission for PG programmes
01 – Sep – 2022	Commencement of 1 st Semester
25 – Oct – 2022	1 st Internal Examination
04 – Nov – 2022	Uploading of 1 st Internal marks
12 – Dec – 2022	2 nd Internal Examination
21 – Dec – 2022	Submission of APC
22 – Dec – 2022	Uploading of 2 nd Internal marks of UG & PG
03 – Jan – 2023	Uploading of consolidated internal marks
04 – Jan – 2023	End Semester Examination of UG & PG
20 – Jan – 2023	Publication of 1 st Semester Examination Results
SEMESTER – II	
12 – Jan – 2023	Commencement of Semester
27 – Feb – 2023	1 st Internal Examination
09 – Mar – 2023	Uploading of 1 st Internal marks
31 – Mar – 2023	Examination Notification
17 – Apr – 2023	2 nd Internal Examination
27 – Apr – 2023	Submission of APC
28 – Apr – 2023	Uploading of 2 nd Internal marks
02 – May – 2023	Uploading of consolidated internal marks
08 – May – 2023	End Semester Examination
30 – May – 2023	Publication of 2 nd Semester Examination Results

Poimay K. G. P.

CONTROLLER OF EXAMINATION

CONTROLLER OF EXAMINATION
CARMEL COLLEGE, AUTONOMOUS
MALA

W. J. AD

PRINCIPAL

PRINCIPAL
CARMEL COLLEGE, AUTONOMOUS
MALA



CARMEL COLLEGE (AUTONOMOUS)

Department: ZOOLOGY Batch: BSZO2022 Semester: S1

Subject Planner Report Of CHE1C01 General Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Analytical Chemisrtry	Atomic mass, gram atomic mass, Average atomic mass	22-08-2022	2	1	Lecture	
2	Analytical chemistry	Molecular mass, gram molecular mass	22-08-2022	5	1	Lecture	
3	Analytical chemistry	Mole concept, problems	24-08-2022	1	1	Lecture	
4	Analytical Chemistry	Problems of mole concept, molar volume	25-08-2022	3	1	Lecture	
5	Analytical Chemistry	Valency, equivalent mass of element, acid, base	29-08-2022	2	1	Lecture	
6	Analytical Chemistry	Oxidation & reduction, Equivalent mass of oxidising and reducing agents	29-08-2022	5	1	Lecture	
7	Analytical Chemistry	oxidation number, problems	31-08-2022	1	1	Lecture	
8	Analytical Chemistry	methods for expressing concentration of solution	01-09-2022	3	1	Lecture	
9	Analytical Chemistry	problems	13-09-2022	1	1	Lecture	
10	Analytical Chemistry	temperature dependence, concentration after dilution, accuracy, precision & errors	14-09-2022	3	1	Lecture	
11	Analytical Chemistry	Acid base titrations, theories	16-09-2022	2	1	Lecture	
12	Analytical Chemistry	Redox titrations	16-09-2022	5	1	Lecture	
13	Analytical Chemistry	Iodometry, iodimetry & complexometry titrations	20-09-2022	1	1	Lecture	
14	Analytical Chemistry	Double burette method of titration, solubility product	21-09-2022	3	1	Lecture	



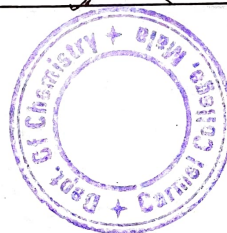
15	Analytical Chemistry	Common ion effect, principle of cation analysis	22-09-2022	3	1	Lecture
16	Analytical Chemistry	Microanalysis & advantages	23-09-2022	2	1	Lecture
17	Bioinorganic chemistry	metal ions in biological systems, important functions	23-09-2022	5	4	Lecture
18	Bioinorganic chemistry	Haemoglobin & myoglobin	27-09-2022	2	4	Lecture
19	Bioinorganic chemistry	Photosynthesis-chlorophyll	27-09-2022	5	4	Lecture
20	Bioinorganic chemistry	sodium potassium pump	29-09-2022	1	4	Lecture
21	Bioinorganic chemistry	biochemistry of zinc and cobalt	30-09-2022	3	4	Lecture
22	Atomic structure and chemical bonding	Bohr atom model, explanation of line spectrum	07-10-2022	2	2	Lecture
23	Atomic structure and chemical bonding	limitations of bohr's theory, wave mechanical model of atom	07-10-2022	5	2	Lecture
24	Atomic structure and chemical bonding	de broglie's matter waves and equation, dual nature of electron	11-10-2022	1	2	Lecture
25	Atomic structure and chemical bonding	Heisenberg's uncertainty principle	12-10-2022	3	2	Lecture
26	Atomic structure and chemical bonding	Schrodinger wave equation, Concept of orbitals	14-10-2022	2	2	Lecture
27	Atomic structure and chemical bonding	Quantum numbers, Electron arrangement in atoms	14-10-2022	5	2	Lecture
28	Atomic structure and chemical bonding	ionic bond, Lattice energy of ionic compounds	18-10-2022	1	2	Lecture
29	Atomic structure and chemical bonding	Born-Haber cycle, Applications	19-10-2022	3	2	Lecture
30	Atomic structure and chemical bonding	Covalent bond, coordinate covalent bond	21-10-2022	2	2	Lecture
31	Atomic structure and chemical bonding	VSEPR theory, shapes of molecules	21-10-2022	5	2	Lecture
32	Atomic structure and chemical bonding	Valence bond theory, types of overlapping and formation of bonds	26-10-2022	1	2	Lecture
33	Atomic structure and chemical bonding	Hybridization and its applications	27-10-2022	3	2	Lecture
34	Atomic structure and chemical bonding	MO theory, bond order, bond length & bond strength	31-10-2022	2	2	Lecture



35	Atomic structure and chemical bonding	MO electronic configuration of homo and hetero nuclear diatomic molecules	31-10-2022	5	2	Lecture
36	Atomic structure and chemical	inter molecular forces	02-11-2022	1	2	Lecture
37	Atomic structure and chemical	Hydrogen bonding	03-11-2022	3	2	Lecture
38	Nuclear chemistry	Natural radioactivity, types of radioactive rays	07-11-2022	2	3	Lecture
39	Nuclear chemistry	Modes of decay, group displacement law	07-11-2022	5	3	Lecture
40	Nuclear chemistry	Nuclear forces, N/P ratio and nuclear stability	09-11-2022	1	3	Lecture
41	Nuclear chemistry	Mass defect, binding energy, problems	10-11-2022	3	3	Lecture
42	Nuclear chemistry	isotopes, isobars, isotones, nuclear fission	14-11-2022	2	3	Lecture
43	Nuclear chemistry	Nuclear fusion	14-11-2022	5	3	Lecture
44	Nuclear chemistry	Atom bomb and hydrogen bomb, nuclear reactor	16-11-2022	1	3	Lecture
45	Nuclear chemistry	Radio carbon dating, problems	17-11-2022	3	3	Lecture
46	Nuclear chemistry	Rock dating, problems	21-11-2022	2	3	Lecture
47	Nuclear chemistry	Application of isotopes	21-11-2022	5	3	Lecture
48	Nuclear chemistry	Revision Class	23-11-2022	1	3	Lecture
49	Nuclear chemistry	Revision Class	24-11-2022	3	3	Lecture
50	Nuclear chemistry	Examination	28-11-2022	2	3	Lecture

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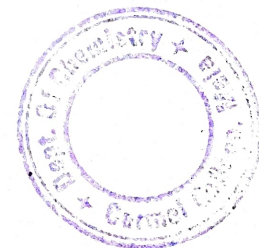
Princy K.G. P

CARMEL COLLEGE (AUTONOMOUS)

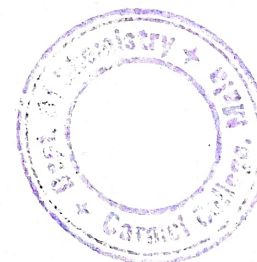
Department:BOTANY Batch:BSBO2021 Semester:S3

Subject Planner Report Of CHE3C03 Organic Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
	Homolysis & Heterolysis - Electrophile &						
1	Nucleophile		07-07-2022	5	1	Lecture	
2	Reaction Intermediates		08-07-2022	1	1	Lecture	
3	Practical		11-07-2022	1	1	Practical	
	Inductive effect: Explanation of substituent						
4	effect on acidity of aliphatic carboxylic acid		12-07-2022	3	1	Lecture	
5	Mesomeric Effect: Application		14-07-2022	5	1	Lecture	
	Comparison of electron density in different						
6	molecules		15-07-2022	1	1	Lecture	
7	Practical		18-07-2022	1	1	Practical	
8	Hyperconjugation: Characteristics, Examples		11-08-2022	3	1	Lecture	
	Comparison of stability of 1-butene & 2-						
9	butene, Electromeric effect		16-08-2022	5	1	Lecture	
10	Types of organic reactions		17-08-2022	1	1	Lecture	
11	Practicals		19-08-2022	1	1	Practical	
	Alkaloids: Source, structure, Terpenes:						
12	Classification, Isoprene rule		22-08-2022	3	6	Lecture	
	Isolation of essential oils, Citral & Menthol,						
13	Natural rubber & vulcanization		24-08-2022	5	6	Lecture	



14	Structure & Stability of benzene, resonance & molecular orbital description		25-08-2022	1	3	Lecture
15	Practical		26-08-2022	1	1	Practical
16	Mechanism of aromatic electrophilic substitution: Halogenation, nitration, sulphonation		29-08-2022	3	3	Lecture
17	Friedel-Craft's alkylation & acylation, Orientation effect of substituents		31-08-2022	5	3	Lecture
18	Orientation effect of substituents, Aromaticity & Huckel rule	No Details	01-09-2022	1	3	Lecture
19	Conformational & configurational isomerism		13-09-2022	5	2	Lecture
20	Conformations of ethane: Staggered, eclipsed & Gauche		14-09-2022	1	2	Lecture
21	Practical		15-09-2022	1	1	Practical
22	Conformations of cyclohexane & methyl cyclohexane, stability		16-09-2022	3	2	Lecture
23	Geometrical Isomerism, cis & trans form, physical properties		20-09-2022	5	2	Lecture
24	optical activity, specific rotation, elements of symmetry		22-09-2022	1	2	Lecture
25	Asymmetric and dyssymmetric molecules, chirality, enantiomerism		27-09-2022	3	2	Lecture
26	Diastereoisomers, optical isomerism in lactic acid and tartaric acid		29-09-2022	5	2	Lecture
27	Meso compounds, Racemisation		30-09-2022	1	2	Lecture
28	Preparation & reactions of alkyl halides		06-10-2022	3	4	Lecture
29	SN1 and SN2 reactions, stereochemistry & factors affecting		10-10-2022	5	4	Lecture



30	Alcohols: types of alcohols, preparation, comparison of acidity of alcohols haloform reaction, iodoform test, Luca's test, methanol poisoning	11-10-2022	1	4	Lecture
31	preparation & acidity of phenol,	13-10-2022	3	4	Lecture
32	Substituent effect, phenolphthalein	17-10-2022	5	4	Lecture
33	Aldehydes & ketones, Carboxylic acids	18-10-2022	1	5	Lecture
34	Amines, Diazonium Salts	20-10-2022	3	5	Lecture
35	Carbohydrates	25-10-2022	5	6	Lecture
36	Proteins, Enzymes	26-10-2022	1	6	Lecture
37	Nucleic acids	28-10-2022	3	6	Lecture

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(Dheepthi.N.O)



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CARMEL COLLEGE (AUTONOMOUS)

Department: ZOOLOGY Batch: BSZO2021 Semester: S3

Subject Planner Report Of CHE3C03 Organic Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Nucleophile	Homolysis & Heterolysis - Electrophile & Nucleophile	07-07-2022	5	1	Lecture	
2	Reaction Intermediates		08-07-2022	1	1	Lecture	
3	Inductive effect: Explanation of substituent effect on acidity of aliphatic carboxylic acid		12-07-2022	3	1	Lecture	
4	Mesomeric Effect: Application		14-07-2022	5	1	Lecture	
5	Comparison of electron density in different molecules		15-07-2022	1	1	Lecture	
6	Hyperconjugation: Characteristics, Examples		11-08-2022	3	1	Lecture	
7	Comparison of stability of 1-butene & 2-butene, Electromeric effect		16-08-2022	5	1	Lecture	
8	Types of organic reactions		17-08-2022	1	1	Lecture	
9	Alkaloids: Source, structure, Terpenes: Classification, Isoprene rule		22-08-2022	3	6	Lecture	
10	Isolation of essential oils, Citral & Menthol, Natural rubber & vulcanization		24-08-2022	5	6	Lecture	
11	Structure & Stability of benzene, resonance & molecular orbital description		25-08-2022	1	3	Lecture	



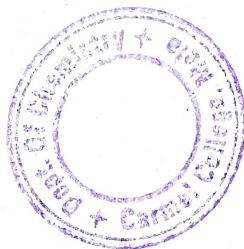
12	Mechanism of aromatic electrophilic substitution: Halogenation, nitration, sulphonation	29-08-2022	3	3	Lecture
13	Friedel-Craft's alkylation & acylation, Orientation effect of substituents	31-08-2022	5	3	Lecture
14	Orientation effect of substituents, Aromaticity & Huckel rule	01-09-2022	1	3	Lecture
15	Conformational & configurational isomerism	13-09-2022	5	2	Lecture
16	Conformations of ethane: Staggered, eclipsed & Gauche	14-09-2022	1	2	Lecture
17	Conformations of cyclohexane & methyl cyclohexane, stability	16-09-2022	3	2	Lecture
18	Geometrical Isomerism, cis & trans form, physical properties	20-09-2022	5	2	Lecture
19	optical activity, specific rotation, elements of symmetry	22-09-2022	1	2	Lecture
20	Asymmetric and dyssymmetric molecules, chirality, enantiomerism	27-09-2022	3	2	Lecture
21	Diastereoisomers, optical isomerism in lactic acid and tartaric acid	29-09-2022	5	2	Lecture
22	Meso compounds, Racemisation	30-09-2022	1	2	Lecture
23	Preparation & reactions of alkyl halides	06-10-2022	3	4	Lecture
24	SN1 and SN2 reactions, stereochemistry & factors affecting	10-10-2022	5	4	Lecture
25	Alcohols: types of alcohols, preparation, comparison of acidity of alcohols	11-10-2022	1	4	Lecture
26	haloform reaction, iodoform test, Luca's test, methanol poisoning	13-10-2022	3	4	Lecture



	preparation & acidity of phenol,				
27	Substituent effect, phenolphthalein	17-10-2022	5	4	Lecture
28	Aldehydes & ketones, Carboxylic acids	18-10-2022	1	5	Lecture
29	Amines, Diazonium Salts	20-10-2022	3	5	Lecture
30	Carbohydrates	25-10-2022	5	6	Lecture
31	Proteins, Enzymes	26-10-2022	1	6	Lecture
32	Nucleic acids	28-10-2022	3	6	Lecture

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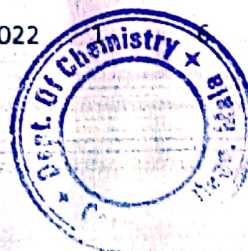
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CARMEL COLLEGE (AUTONOMOUS)

Department: BOTANY Batch: BSBO2021 Semester: S4

Subject Planner Report Of CHE4C04 Physical and Applied Chemistry

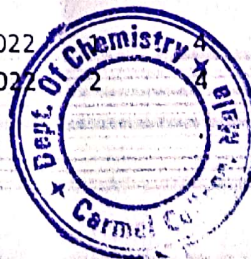
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Chemistry in Daily life	petrochemicals- Octane number	02-11-2022	5	7	Lecture	PowerPoint presentation
2	Chemistry in Daily life	petrochemicals-cetane number, LPG, CNG, flash point	03-11-2022	1	7	Lecture	PowerPoint presentation
3	Practical	Salt Analysis	04-11-2022	1	7	Practical	Practical
4	Practical	Salt analysis	04-11-2022	2	7	Practical	Practical
5	Chemistry in Daily life	Pharmaceuticals	07-11-2022	3	7	Lecture	PowerPoint presentation
6	Chemistry in Daily life	Dyes: Witt's theory, Types of dyes	09-11-2022	5	7	Lecture	PowerPoint presentation
7	Chemistry in Daily life	Dyes: Valency bond theory, Glass	10-11-2022	1	7	Lecture	PowerPoint presentation, Seminar
8	Practical	Salt Analysis	11-11-2022	1	7	Practical	Practical
9	Practical	Salt Analysis	11-11-2022	2	7	Practical	Practical
10	Chemistry in Daily life	Food additives: Preservatives, sweeteners, antioxidants	14-11-2022	3	7	Lecture	PowerPoint presentation
11	Chemistry in Daily life	Food colours, Cement	16-11-2022	5	7	Lecture	PowerPoint presentation
12	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
13	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
14	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
15	Practical	Salt Analysis	18-11-2022			Lecture	Practical



16	Practical	Salt Analysis	18-11-2022	1	6	Lecture	Practical
17	Practical	Salt Analysis	18-11-2022	1	6	Lecture	Practical
18	Practical	Salt Analysis	18-11-2022	1	6	Lecture	Practical
19	Practical	Salt Analysis	18-11-2022	2	6	Lecture	Practical
20	Practical	Salt Analysis	18-11-2022	2	6	Lecture	Practical
21	Practical	Salt Analysis	18-11-2022	2	6	Lecture	Practical
22	Practical	Salt Analysis	18-11-2022	2	6	Lecture	Practical
23	Environmental pollution	Enhanced green house effect, Global warming, Acid rain, Water pollution	21-11-2022	3	6	Lecture	PowerPoint presentation
24	Environmental pollution	Enhanced green house effect, Global warming, Acid rain, Water pollution	21-11-2022	3	6	Lecture	PowerPoint presentation
25	Environmental pollution	Eutrophication, Blue baby syndrome, Bioaccumulation & biomagnification	23-11-2022	5	6	Lecture	PowerPoint presentation
26	Environmental pollution	Eutrophication, Blue baby syndrome, Bioaccumulation & biomagnification	23-11-2022	5	6	Lecture	PowerPoint presentation
27	Environmental pollution	Water quality parameters, Soil pollution, Thermal pollution	24-11-2022	1	6	Lecture	PowerPoint presentation
28	Environmental pollution	Water quality parameters, Soil pollution, Thermal pollution	24-11-2022	1	6	Lecture	PowerPoint presentation
29	Practical	Salt Analysis	25-11-2022	1	6	Practical	Practical
30	Practical	Salt Analysis	25-11-2022	2	6	Practical	Practical
31	Environmental pollution	Thermal pollution, Radioactive pollution	28-11-2022	3	6	Lecture	PowerPoint presentation, Seminar
32	Polymers	Natural & synthetic polymers, linear, branched and cross linked polymers	30-11-2022	5	5	Lecture	Lecture



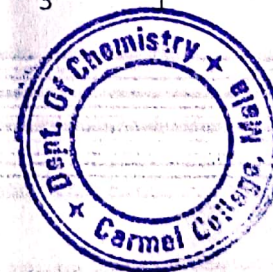
33	Polymers	Addition polymerisation & condensation polymerisation	01-12-2022	1	5	Lecture	Lecture
34	Practical	Salt Analysis	02-12-2022	1	5	Practical	Practical
35	Practical	Salt Analysis	02-12-2022	2	5	Practical	Practical
36	Polymers	Classification based on molecular forces, Commercially important synthetic polymers	05-12-2022	3	5	Lecture	Lecture
37	Polymers	Synthetic fibres, plastics	07-12-2022	5	5	Lecture	Lecture
38	Polymers	Kevlar, Nomex, Lexan, Biodegradable polymers	08-12-2022	1	5	Lecture	Lecture
39	Practical	Salt Analysis	09-12-2022	1	5	Practical	Practical
40	Practical	Salt Analysis	09-12-2022	2	5	Practical	Practical
41	Practical	Salt Analysis	09-12-2022	2	5	Practical	Practical
42	Polymers	PGA, PLA, PHBV	12-12-2022	3	5	Lecture	Lecture
43	Chromatography	Basic principle of chromatography, Classification	14-12-2022	5	3	Lecture	Lecture
44	Chromatography	Column chromatography: Adsorption & Partition	15-12-2022	1	3	Lecture	Lecture
45	Chromatography	Column chromatography: Adsorption & Partition	15-12-2022	1	3	Lecture	PowerPoint Presentation
46	Practical	Salt Analysis	16-12-2022	1	3	Practical	Practical
47	Practical	Salt Analysis	16-12-2022	2	3	Practical	Practical
48	Chromatography	Paper chromatography, Thin layer chromatography	19-12-2022	3	3	Lecture	PowerPoint Presentation
49	Chromatography	Gas Chromatography, Merits & Demerits	21-12-2022	5	3	Lecture	PowerPoint Presentation
50	Spectroscopy	Electromagnetic Radiation, General features of spectroscopy	22-12-2022	1	4	Lecture	Lecture
51	Practical	Salt Analysis	23-12-2022			Practical	Practical
52	Practical	Salt Analysis	23-12-2022	2		Practical	Practical



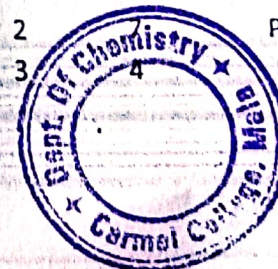
53	Spectroscopy	Different spectroscopic techniques, Born-Oppenheimer Approximation, IR spectroscopy	03-01-2023	3	4	Lecture	Lecture
54	Spectroscopy	IR: Fundamental Bands & overtones, Normal modes of vibration, Group frequencies and its application	05-01-2023	5	4	Lecture	Lecture
55	Spectroscopy	IR spectroscopy, UV-Visible spectroscopy, Beer-Lambert Law	06-01-2023	1	4	Lecture	Lecture
56	Practical	Volumetric Analysis	09-01-2023	1	4	Practical	Practical
57	Practical	Volumetric Analysis	09-01-2023	2	4	Practical	Practical
58	Spectroscopy	Electronic spectra of polyatomic molecules, important terms, Application of electronic spectroscopy	10-01-2023	3	4	Lecture	Lecture
59	Spectroscopy	NMR spectroscopy, Fundamental principles and selection rule	12-01-2023	5	4	Lecture	Lecture
60	Spectroscopy	Theory of chemical shift: shielding and deshielding	13-01-2023	1	4	Lecture	Lecture
61	Practical	Volumetric Analysis	16-01-2023	1	4	Practical	Practical
62	Practical	Volumetric Analysis	16-01-2023	2	4	Practical	Practical
63	Spectroscopy	Spin-spin coupling, Pascal's triangle, Application	17-01-2023	3	4	Lecture	Lecture
64	Spectroscopy	Elucidating structures of organic molecules	19-01-2023	5	4	Lecture	Lecture
65	Spectroscopy	Elucidating structures of organic molecules	20-01-2023	1	4	Lecture	Lecture
66	Practical	Volumetric Analysis	23-01-2023	1	5	Practical	Practical
67	Practical	Volumetric Analysis	23-01-2023	2	5	Practical	Practical
68	Polymers	Classification: Addition & Condensation polymers	24-01-2023	5	5	Lecture	Lecture



69	Polymers	Thermoplastic and thermosetting polymer, Structure & application of important polymers	26-01-2023	1	5	Lecture	Lecture
70	Polymers	Structure & application of important polymers	26-01-2023	2	5	Lecture	Lecture
71	Polymers	Uses of Kevlar, nomex, lexan	27-01-2023	5	5	Lecture	Lecture
72	Polymers	Biodegradable polymers and application	30-01-2023	1	5	Lecture	Lecture
73	Practical	Volumetric Analysis	31-01-2023	1	2	Lecture	Practical
74	Practical	Volumetric Analysis	31-01-2023	2	2	Lecture	Practical
75	New Vistas in Chemistry	Classification of nanomaterials, size dependence of optical properties	01-02-2023	3	2	Lecture	Lecture
76	New Vistas in Chemistry	size dependence of electrical properties & catalytic properties	03-02-2023	5	2	Lecture	Lecture
77	New Vistas in Chemistry	Surface to volume ratio and its significance, Application of nanomaterials	06-02-2023	1	2	Lecture	Lecture
78	Practical	Volumetric Analysis	07-02-2023	1	2	Practical	Practical
79	Practical	Volumetric Analysis	07-02-2023	2	2	Practical	Practical
80	New Vistas in Chemistry	Green chemistry and its principles	08-02-2023	3	2	Lecture	Lecture
81	New Vistas in Chemistry	Atom economy, green solvents	10-02-2023	5	2	Lecture	Lecture
82	New Vistas in Chemistry	Green synthesis of Ibuprofen	13-02-2023	1	2	Lecture	Lecture
83	Practical	Volumetric Analysis	14-02-2023	1	1	Practical	Practical
84	Practical	Volumetric Analysis	14-02-2023	2	1	Practical	Practical
85	Colloidal Chemistry	True solution, colloidal solution and suspension, classification of colloids	15-02-2023	3	1	Lecture	Lecture



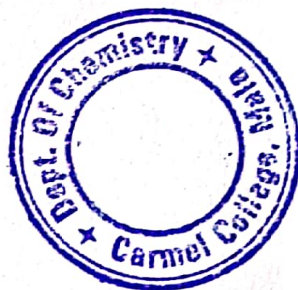
86	Colloidal Chemistry	macromolecular, multimolecular and associated colloids and examples	17-02-2023	5	1	Lecture	Lecture
87	Colloidal Chemistry	Purification of colloids, Properties of colloids	20-02-2023	1	1	Lecture	Lecture
88	Practical	Volumetric Analysis	21-02-2023	1	1	Lecture	Practical
89	Practical	Volumetric Analysis	21-02-2023	2	1	Lecture	Practical
90	Colloidal Chemistry	Brownian motion, Tyndall effect	22-02-2023	3	1	Lecture	Lecture
91	Colloidal Chemistry	Electrophoresis, Origin of charge and stability of colloids	24-02-2023	5	1	Lecture	Lecture
92	Colloidal Chemistry	Coagulation, Hardy-Schulze rule	27-02-2023	1	1	Lecture	Lecture
93	Practical	Volumetric Analysis	28-02-2023	1	1	Practical	Practical
94	Practical	Volumetric Analysis	28-02-2023	2	1	Practical	Practical
95	Colloidal Chemistry	Emulsions, Application of colloids	03-03-2023	5	1	Lecture	Lecture
96	Colloidal Chemistry	Delta formation, medicines, emulsification	06-03-2023	1	1	Lecture	Lecture
97	Practical	Volumetric Analysis	07-03-2023	1	1	Practical	Practical
98	Practical	Volumetric Analysis	07-03-2023	2	1	Practical	Practical
99	Colloidal Chemistry	Cleaning action of detergents and soaps	08-03-2023	3	1	Lecture	Lecture
100	Chemistry in daily life	Revision	10-03-2023	5	7	Lecture	Lecture
101	Chemistry in daily life	Examination	13-03-2023	1	7	Lecture	Examination
102	Practical	Volumetric Analysis	14-03-2023	1	7	Practical	Practical
103	Practical	Volumetric Analysis	14-03-2023	2	7	Practical	Practical
104	Polymers	Revision	15-03-2023	3	5	Lecture	Lecture
105	Polymers	Examination	17-03-2023	5	5	Lecture	Examination
106	Spectroscopy	Revision	20-03-2023	1	4	Lecture	Lecture
107	Practical	Salt analysis: Exam	21-03-2023	1	7	Practical	Practical
108	Practical	Salt analysis: Exam	21-03-2023	2		Practical	Practical
109	Spectroscopy	Examination	22-03-2023	3		Lecture	Examination



110	Colloidal Chemistry	Revision	24-03-2023	5	1	Lecture	Lecture
111	Colloidal Chemistry	Examination	27-03-2023	1	1	Lecture	Examination
112	Practical	Volumetric Analysis: Exam	28-03-2023	1	1	Practical	Practical
113	Practical	Volumetric Analysis: Exam	28-03-2023	2	1	Practical	Practical
114	Remaining Chapter Revis	Revision	29-03-2023	3	3	Lecture	Lecture
115	Model Examination	Model Examination	31-03-2023	5	3	Lecture	Model Examination

Staffname & Signature:

Date & Time: 07-03-2023 1:26 pm



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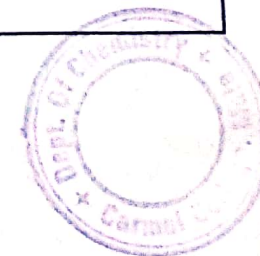
Department: BOTANY Batch: BSBO2021 Semester: S4

Subject Planner Report Of CHE4C04 Physical and Applied Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of	Teaching Pedagogy
1	Chemistry in Daily life	petrochemicals- Octane number	02-11-2022	5	7	Lecture	PowerPoint presentation
2	Chemistry in Daily life	petrochemicals-cetane number, LPG, CNG, flash point	03-11-2022	1	7	Lecture	PowerPoint presentation
3	Chemistry in Daily life	Pharmaceuticals	07-11-2022	3	7	Lecture	PowerPoint presentation
4	Chemistry in Daily life	Dyes: Witt's theory, Types of dyes	09-11-2022	5	7	Lecture	PowerPoint presentation
5	Chemistry in Daily life	Dyes: Valency bond theory, Glass	10-11-2022	1	7	Lecture	PowerPoint presentation,
6	Chemistry in Daily life	Food additives: Preservatives, sweeteners, antioxidants	14-11-2022	3	7	Lecture	PowerPoint presentation
7	Chemistry in Daily life	Food colours, Cement	16-11-2022	5	7	Lecture	PowerPoint presentation
8	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
9	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
10	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
11	Environmental pollution	Enhanced green house effect, Global warming, Acid rain, Water pollution	21-11-2022	3	6	Lecture	PowerPoint presentation
12	Environmental pollution	Enhanced green house effect, Global warming, Acid rain, Water pollution	21-11-2022	3	6	Lecture	PowerPoint presentation
13	Environmental pollution	Eutrophication, Blue baby syndrome, Bioaccumulation & biomagnification	23-11-2022	5	6	Lecture	PowerPoint presentation
14	Environmental pollution	Eutrophication, Blue baby syndrome, Bioaccumulation & biomagnification	23-11-2022	5	6	Lecture	PowerPoint presentation



15	Environmental pollution	Water quality parameters, Soil pollution, Thermal pollution	24-11-2022	1	6	Lecture	PowerPoint presentation
16	Environmental pollution	Water quality parameters, Soil pollution, Thermal pollution	24-11-2022	1	6	Lecture	PowerPoint presentation
17	Environmental pollution	Thermal pollution, Radioactive	28-11-2022	3	6	Lecture	PowerPoint presentation,
18	Polymers	Natural & synthetic polymers, linear, branched and cross linked polymers	30-11-2022	5	5	Lecture	Lecture
19	Polymers	Addition polymerisation & condensation polymerisation	01-12-2022	1	5	Lecture	Lecture
20	Polymers	Classification based on molecular forces, Commercially important	05-12-2022	3	5	Lecture	Lecture
21	Polymers	Synthetic fibres, plastics	07-12-2022	5	5	Lecture	Lecture
22	Polymers	Kevlar, Nomex, Lexan, Biodegradable polymers	08-12-2022	1	5	Lecture	Lecture
23	Polymers	PGA, PLA, PHBV	12-12-2022	3	5	Lecture	Lecture
24	Chromatography	Basic principle of chromatography, Classification	14-12-2022	5	3	Lecture	Lecture
25	Chromatography	Column chromatography: Adsorption & Partition	15-12-2022	1	3	Lecture	Lecture
26	Chromatography	Column chromatography: Adsorption & Partition	15-12-2022	1	3	Lecture	PowerPoint Presentation
27	Chromatography	Paper chromatography, Thin layer chromatography	19-12-2022	3	3	Lecture	PowerPoint Presentation
28	Chromatography	Gas Chromatography, Marits &	21-12-2022	5	3	Lecture	PowerPoint Presentation
29	Spectroscopy	Electromagnetic Radiation, General features of spectroscopy	22-12-2022	1	4	Lecture	Lecture
30	Spectroscopy	Different spectroscopic techniques, Born-Oppenheimer Approximation, IR spectroscopy	03-01-2023	3	4	Lecture	Lecture



31	Spectroscopy	IR: Fundamental Bands & overtones, Normal modes of vibration, Group frequencies and its application	05-01-2023	5	4	Lecture	Lecture
32	Spectroscopy	IR spectroscopy, UV-Visible spectroscopy, Beer-Lambert Law	06-01-2023	1	4	Lecture	Lecture
33	Spectroscopy	Electronic spectra of polyatomic molecules, important terms, Application of electronic spectroscopy	10-01-2023	3	4	Lecture	Lecture
34	Spectroscopy	NMR spectroscopy, Fundamental principles and selection rule	12-01-2023	5	4	Lecture	Lecture
35	Spectroscopy	Theory of chemical shift: shielding and deshielding	13-01-2023	1	4	Lecture	Lecture
36	Spectroscopy	Spin-spin coupling, Pascal's triangle, Application	17-01-2023	3	4	Lecture	Lecture
37	Spectroscopy	Elucidating structures of organic	19-01-2023	5	4	Lecture	Lecture
38	Spectroscopy	Elucidating structures of organic	20-01-2023	1	4	Lecture	Lecture
39	Polymers	Classification: Addition & Condensation polymers	24-01-2023	3	5	Lecture	Lecture
40	Polymers	Thermoplastic and thermosetting polymer, Structure & application of important polymers	26-01-2023	1	5	Lecture	Lecture
41	Polymers	Structure & application of important polymers	26-01-2023	2	5	Lecture	Lecture
42	Polymers	Uses of Kevlar, nomex, lexan	27-01-2023	5	5	Lecture	Lecture
43	Polymers	Biodegradable polymers and	30-01-2023	1	5	Lecture	Lecture
44	New Vistas in Chemistry	Classification of nanomaterials, size dependence of optical properties	01-02-2023	3	2	Lecture	Lecture
45	New Vistas in Chemistry	size dependence of electrical properties & catalytic properties	03-02-2023	5	2	Lecture	Lecture
46	New Vistas in Chemistry	Surface to volume ratio and its significance, Application of	06-02-2023	1	2	Lecture	Lecture

47	New Vistas in Chemistry	Green chemistry and its principles	08-02-2023	3	2	Lecture	Lecture
48	New Vistas in Chemistry	Atom economy, green solvents	10-02-2023	5	2	Lecture	Lecture
49	New Vistas in Chemistry	Green synthesis of Ibuprofen	13-02-2023	1	2	Lecture	Lecture
50	Colloidal Chemistry	True solution, colloidal solution and suspension, classification of colloids	15-02-2023	3	1	Lecture	Lecture
51	Colloidal Chemistry	macromolecular, multimolecular and associated colloids and examples	17-02-2023	5	1	Lecture	Lecture
52	Colloidal Chemistry	Purification of colloids, Properties of	20-02-2023	1	1	Lecture	Lecture
53	Colloidal Chemistry	Brownian motion, Tyndall effect	22-02-2023	3	1	Lecture	Lecture
54	Colloidal Chemistry	Electrophoresis, Origin of charge and stability of colloids	24-02-2023	5	1	Lecture	Lecture
55	Colloidal Chemistry	Coagulation, Hardy-Schulze rule	27-02-2023	1	1	Lecture	Lecture
56	Colloidal Chemistry	Emulsions, Application of colloids	03-03-2023	5	1	Lecture	Lecture
57	Colloidal Chemistry	Delta formation, medicines,	06-03-2023	1	1	Lecture	Lecture
58	Colloidal Chemistry	Cleaning action of detergents and	08-03-2023	3	1	Lecture	Lecture
59	Chemistry in daily life	Revision	10-03-2023	5	7	Lecture	Lecture
60	Chemistry in daily life	Examination	13-03-2023	1	7	Lecture	Examination
61	Polymers	Revision	15-03-2023	3	5	Lecture	Lecture
62	Polymers	Examination	17-03-2023	5	5	Lecture	Examination
63	Spectroscopy	Revision	20-03-2023	1	4	Lecture	Lecture
64	Spectroscopy	Examination	22-03-2023	3	4	Lecture	Examination
65	Colloidal Chemistry	Revision	24-03-2023	5	1	Lecture	Lecture
66	Colloidal Chemistry	Examination	27-03-2023	1	1	Lecture	Examination
67	Remaining Chapter	Revision	29-03-2023	3	3	Lecture	Lecture
68	Model Examination	Model Examination	31-03-2023	5	3	Lecture	Model Examination

Staffname & Signature: DHEEPTHI N U

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CARMEL COLLEGE (AUTONOMOUS)

Department ZOOLOGY Batch B5/2021 Semester 5A

Subject Planner Report Of CHEACQA Physical and Applied Chemistry

Sl no	Topic Name	Description	Date	Hour	Module	Mode of	Teaching Pedagogy
1	Chemistry in Daily life	petrochemicals Octane number	02-11-2022	5	7	Lecture	PowerPoint presentation
2	Chemistry in Daily life	petrochemicals cetane number, LPG, CNG, flash point	03-11-2022	1	7	Lecture	PowerPoint presentation
3	Chemistry in Daily life	Pharmaceuticals	07-11-2022	3	7	Lecture	PowerPoint presentation
4	Chemistry in Daily life	Dyes: Witt's theory, Types of dyes	09-11-2022	5	7	Lecture	PowerPoint presentation
5	Chemistry in Daily life	Dyes: Valency bond theory, Glass	10-11-2022	1	7	Lecture	PowerPoint presentation
6	Chemistry in Daily life	Food additives: Preservatives, sweeteners, antioxidants	14-11-2022	3	7	Lecture	PowerPoint presentation
7	Chemistry in Daily life	Food colours, Cement	16-11-2022	5	7	Lecture	PowerPoint presentation
8	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
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10	Environmental pollution	Types of pollution, Air pollution, Ozone layer depletion	17-11-2022	1	6	Lecture	PowerPoint presentation
11	Environmental pollution	Enhanced green house effect, Global warming, Acid rain, Water pollution	21-11-2022	3	6	Lecture	PowerPoint presentation
12	Environmental pollution	Enhanced green house effect, Global warming, Acid rain, Water pollution	21-11-2022	3	6	Lecture	PowerPoint presentation
13	Environmental pollution	Eutrophication, Blue baby syndrome, Bioaccumulation & biomagnification	23-11-2022	5	6	Lecture	PowerPoint presentation
14	Environmental pollution	Eutrophication, Blue baby syndrome, Bioaccumulation & biomagnification	23-11-2022	5	6	Lecture	PowerPoint presentation

15	Environmental pollution	Water quality parameters, Soil pollution, Thermal pollution	24-11-2022	1	6	Lecture	PowerPoint presentation
16	Environmental pollution	Water quality parameters, Soil pollution, Thermal pollution	24-11-2022	1	6	Lecture	PowerPoint presentation
17	Environmental pollution	Thermal pollution, Radioactive	28-11-2022	3	6	Lecture	PowerPoint presentation,
18	Polymers	Natural & synthetic polymers, linear, branched and cross linked polymers	30-11-2022	5	5	Lecture	Lecture
19	Polymers	Addition polymerisation & condensation polymerisation	01-12-2022	1	5	Lecture	Lecture
20	Polymers	Classification based on molecular forces, Commercially important	05-12-2022	3	5	Lecture	Lecture
21	Polymers	Synthetic fibres, plastics	07-12-2022	5	5	Lecture	Lecture
22	Polymers	Kevlar, Nomex, Lexan, Biodegradable polymers	08-12-2022	1	5	Lecture	Lecture
23	Polymers	PGA, PLA, PHBV	12-12-2022	3	5	Lecture	Lecture
24	Chromatography	Basic principle of chromatography, Classification	14-12-2022	5	3	Lecture	Lecture
25	Chromatography	Column chromatography: Adsorption & Partition	15-12-2022	1	3	Lecture	Lecture
26	Chromatography	Column chromatography: Adsorption & Partition	15-12-2022	1	3	Lecture	PowerPoint Presentation
27	Chromatography	Paper chromatography, Thin layer chromatography	19-12-2022	3	3	Lecture	PowerPoint Presentation
28	Chromatography	Gas Chromatography, Marits &	21-12-2022	5	3	Lecture	PowerPoint Presentation
29	Spectroscopy	Electromagnetic Radiation, General features of spectroscopy	22-12-2022	1	4	Lecture	Lecture
30	Spectroscopy	Different spectroscopic techniques, Born-Oppenheimer Approximation, IR spectroscopy	03-01-2023	3	4	Lecture	Lecture

31	Spectroscopy	IR: Fundamental Bands & overtones, Normal modes of vibration, Group frequencies and its application	05-01-2023	5	4	Lecture	Lecture
32	Spectroscopy	IR spectroscopy, UV-Visible spectroscopy, Beer-Lambert Law	06-01-2023	1	4	Lecture	Lecture
33	Spectroscopy	Electronic spectra of polyatomic molecules, important terms, Application of electronic spectroscopy	10-01-2023	3	4	Lecture	Lecture
34	Spectroscopy	NMR spectroscopy, Fundamental principles and selection rule	12-01-2023	5	4	Lecture	Lecture
35	Spectroscopy	Theory of chemical shift: shielding and deshielding	13-01-2023	1	4	Lecture	Lecture
36	Spectroscopy	Spin-spin coupling, Pascal's triangle, Application	17-01-2023	3	4	Lecture	Lecture
37	Spectroscopy	Elucidating structures of organic	19-01-2023	5	4	Lecture	Lecture
38	Spectroscopy	Elucidating structures of organic	20-01-2023	1	4	Lecture	Lecture
39	Polymers	Classification: Addition & Condensation polymers	24-01-2023	3	5	Lecture	Lecture
40	Polymers	Thermoplastic and thermosetting polymer, Structure & application of important polymers	26-01-2023	1	5	Lecture	Lecture
41	Polymers	Structure & application of important polymers	26-01-2023	2	5	Lecture	Lecture
42	Polymers	Uses of Kevlar, nomex, lexan	27-01-2023	5	5	Lecture	Lecture
43	Polymers	Biodegradable polymers and	30-01-2023	1	5	Lecture	Lecture
44	New Vistas in Chemistry	Classification of nanomaterials, size dependence of optical properties	01-02-2023	3	2	Lecture	Lecture
45	New Vistas in Chemistry	size dependence of electrical properties & catalytic properties	03-02-2023	5	2	Lecture	Lecture
46	New Vistas in Chemistry	Surface to volume ratio and its significance, Application of	06-02-2023	1	2	Lecture	Lecture

47	New Vistas in Chemistry	Green chemistry and its principles	08-02-2023	3	2	Lecture	Lecture
48	New Vistas in Chemistry	Atom economy, green solvents	10-02-2023	5	2	Lecture	Lecture
49	New Vistas in Chemistry	Green synthesis of Ibuprofen	13-02-2023	1	2	Lecture	Lecture
50	Colloidal Chemistry	True solution, colloidal solution and suspension, classification of colloids	15-02-2023	3	1	Lecture	Lecture
51	Colloidal Chemistry	macromolecular, multimolecular and associated colloids and examples	17-02-2023	5	1	Lecture	Lecture
52	Colloidal Chemistry	Purification of colloids, Properties of	20-02-2023	1	1	Lecture	Lecture
53	Colloidal Chemistry	Brownian motion, Tyndall effect	22-02-2023	3	1	Lecture	Lecture
54	Colloidal Chemistry	Electrophoresis, Origin of charge and stability of colloids	24-02-2023	5	1	Lecture	Lecture
55	Colloidal Chemistry	Coagulation, Hardy-Schulze rule	27-02-2023	1	1	Lecture	Lecture
56	Colloidal Chemistry	Emulsions, Application of colloids	03-03-2023	5	1	Lecture	Lecture
57	Colloidal Chemistry	Delta formation, medicines,	06-03-2023	1	1	Lecture	Lecture
58	Colloidal Chemistry	Cleaning action of detergents and	08-03-2023	3	1	Lecture	Lecture
59	Chemistry in daily life	Revision	10-03-2023	5	7	Lecture	Lecture
60	Chemistry in daily life	Examination	13-03-2023	1	7	Lecture	Examination
61	Polymers	Revision	15-03-2023	3	5	Lecture	Lecture
62	Polymers	Examination	17-03-2023	5	5	Lecture	Examination
63	Spectroscopy	Revision	20-03-2023	1	4	Lecture	Lecture
64	Spectroscopy	Examination	22-03-2023	3	4	Lecture	Examination
65	Colloidal Chemistry	Revision	24-03-2023	5	1	Lecture	Lecture
66	Colloidal Chemistry	Examination	27-03-2023	1	1	Lecture	Examination
67	Remaining Chapter	Revision	29-03-2023	3	3	Lecture	Lecture
68	Model Examination	Model Examination	31-03-2023	5	3	Lecture	Model Examination

Staffname & Signature: DHEEPTHI N U

[Handwritten Signature]

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CARMEL COLLEGE, MALA

DEPARTMENT OF CHEMISTRY

ACADEMIC YEAR 2022-23

Faculty : Dr. Princy K.G.

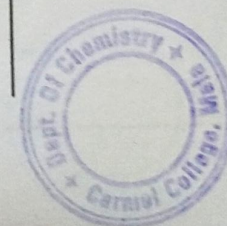
Department: CHEMISTRY Batch: BSCH2020 Semester: S5

Subject Planner Report of CHE5B06 Inorganic Chemistry-III

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Analytical Principles II	Qualitative Analysis	01-06-2022	1	1	Lecture	Discussion
2	Qualitative Analysis	Solubility product	02-06-2022	1	1	Lecture	Discussion
3	Qualitative Analysis	Common ion effect	03-06-2022	4	1	Lecture	Discussion
4	Qualitative Analysis	Interfering acid radicals	07-06-2022	2	1	Lecture	Discussion
5	Qualitative Analysis	Micro scale experiments	08-06-2022	1	1	Lecture	PPT
6	Qualitative Analysis	Sodium carbonate extract	09-06-2022	1	1	Lecture	PPT
7	Gravimetric analysis	Precipitate formation	10-06-2022	4	1	Lecture	PPT
8	Gravimetric analysis	Co-precipitation and post precipitation digestion, washing, drying and ignition of precipitates.	14-06-2022	2	1	Lecture	PPT
9	Gravimetric analysis	precipitates.	15-06-2022	1	1	Lecture	PPT
10	Analytical Principles II	Revision	16-06-2022	1	1	Lecture	Test paper
11	Metallurgy	Prerequisites	17-06-2022	4	2	Lecture	Seminar
12	Metallurgy	Electrometallurgy	21-06-2022	2	2	Lecture	Seminar
13	Metallurgy	Hydrometallurgy	22-06-2022	1	2	Lecture	Seminar
14	Metallurgy	Refining of metals	23-06-2022	1	2	Lecture	Seminar
15	Metallurgy	Ellingham diagrams	24-06-2022	4	2	Lecture	Seminar
16	Metallurgy	Extractive metallurgy of Al	28-06-2022	2	2	Lecture	Seminar
17	Metallurgy	Extractive metallurgy of Fe	29-06-2022	1	2	Lecture	Seminar
18	Metallurgy	Extractive metallurgy of Ni and U	30-06-2022	1	2	Lecture	Seminar
19	Metallurgy	Extractive metallurgy of Cu, Ti	01-07-2022	4	2	Lecture	Seminar
20	Metallurgy	Alloys	05-07-2022	2	2	Lecture	Seminar
21	Metallurgy	Steel	06-07-2022	1	2	Lecture	Seminar



22	Metallurgy	Intramedullary rods	07-07-2022	1	2	Lecture	Seminar
23	Metallurgy	Revision	08-07-2022	4	2	Lecture	Test paper
24	Interhalogen compounds	Prerequisites	12-07-2022	2	3	Lecture	Discussion
25	Interhalogen compounds	Electropositive character of iodine	13-07-2022	1	3	Lecture	PPT
26	Interhalogen compounds	Interhalogen compound	14-07-2022	1	3	Lecture	PPT
27	Interhalogen compounds	ClF ₃ and IF ₇	15-07-2022	4	3	Lecture	PPT
28	Interhalogen compounds	ICl ₃ , IF ₅	19-07-2022	2	3	Lecture	PPT
29	Interhalogen compounds	Pseudohalogens	20-07-2022	1	3	Lecture	Discussion
30	Interhalogen compounds	Polyhalide ions	21-07-2022	1	3	Lecture	PPT
31	Interhalogen compounds	Revision	22-07-2022	4	3	Lecture	Test paper
32	Noble Gases	Prerequisites	26-07-2022	2	4	Lecture	Discussion
33	Noble Gases	Discovery & Occurrence	27-07-2022	1	4	Lecture	Discussion
34	Noble Gases	Charcoal adsorption method	29-07-2022	1	4	Lecture	Discussion
35	Noble Gases	oxides and fluorides of xenon	01-08-2022	4	4	Lecture	Discussion
36	Noble Gases	Oxy fluorides of xenon	03-08-2022	2	4	Lecture	Discussion
37	Noble Gases	Uses	04-08-2022	1	4	Lecture	Discussion
38	Noble Gases	Revision	05-08-2022	1	4	Lecture	Test paper
39	Inorganic Polymers	Pre-requisites	09-08-2022	4	4	Lecture	Discussion
40	Inorganic Polymers	Silicones	11-08-2022	2	4	Lecture	PPT
41	Inorganic Polymers	Silicates	12-08-2022	1	4	Lecture	PPT
42	Inorganic Polymers	Polyphosphazenes	16-08-2022	1	4	Lecture	PPT
43	Inorganic Polymers	SN compounds	17-08-2022	4	4	Lecture	PPT
44	Non-aqueous Solvents:	liquid ammonia	22-08-2022	2	4	Lecture	PPT
45	Non-aqueous Solvents:	Liquid HF	23-08-2022	1	4	Lecture	PPT
46	Non-aqueous Solvents:	Liquid NH ₃	24-08-2022	1	4	Lecture	PPT
47	Non-aqueous Solvents:	Liquid SO ₂	25-08-2022	4	4	Lecture	PPT
48	Inorganic Polymers & Non-aqueous Solvents	Revision	29-08-2022	2	4	Lecture	Test paper
49	Environmental Pollution	Prerequisites	30-08-2022	1	5	Lecture	Discussion
50	Air pollution	Major air pollutants	31-08-2022	1	5	Lecture	PPT
51	Air pollution	London smog and photochemical smog	01-09-2022	4	5	Lecture	PPT

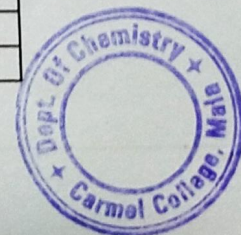


52	Air pollution	Effects of air pollution	05-09-2022	2	5	Lecture	PPT
53	Air pollution	Control of air pollution	06-09-2022	1	5	Lecture	PPT
54	Air pollution	Alternate refrigerants	12-09-2022	1	5	Lecture	PPT
55	Air pollution	Bhopal Tragedy	13-09-2022	4	5	Lecture	Discussion
56	Water pollution	Causes of Water pollution	15-09-2022	2	5	Lecture	PPT
57	Water pollution	Quality of drinking water	16-09-2022	1	5	Lecture	PPT
58	Water pollution	DO, BOD and COD	19-09-2022	1	5	Lecture	PPT
59	Water pollution	Toxic metals in water	20-09-2022	4	5	Lecture	PPT
60	Water pollution	Minamata disaster	23-09-2022	2	5	Lecture	PPT
61	Water pollution	Control of water pollution	26-09-2022	1	5	Lecture	PPT
62	Thermal pollution	Sources, effects and consequences	27-09-2022	1	5	Lecture	PPT
63	Noise pollution	Sources, effects and consequences	28-09-2022	4	5	Lecture	PPT
64	Radioactive pollution	Sources, effects and consequences	30-09-2022	2	5	Lecture	PPT
65	Radioactive pollution	Hiroshima, Nagasaki accidents	03-10-2022	1	5	Lecture	PPT
66	Radioactive pollution	Chernobyl accident	06-10-2022	1	5	Lecture	PPT
67	Local environmental	Silent Valley	07-10-2022	4	5	Lecture	PPT
68	Local environmental	Plachimada	11-10-2022	2	5	Lecture	PPT
69	Local environmental	Narmada	12-10-2022	1	5	Lecture	PPT
70	Environmental Pollution	REVISION	13-10-2022	1	5	Lecture	Test paper
71	Analytical principles	REVISION	14-10-2022	4	1	Lecture	Test paper
72	Metallurgy	REVISION	18-10-2022	2	2	Lecture	Test paper
73	Interhalogen compounds	REVISION	19-10-2022	1	3	Lecture	Test paper
74	Noble gases	REVISION	20-10-2022	1	4	Lecture	Test paper
75	Nonaqueous solvents	REVISION	21-10-2022	4	4	Lecture	Test paper
76	Inorganic polymers	REVISION	26-10-2022	2	4	Lecture	Test paper
77	Environmental Pollution	REVISION	27-10-2022	1	5	Lecture	Test paper
78	Model Exam		28-10-2022	1	1		

Staffname & Signature: Dr. Princy K.G.

Princy K.G.

Date & Time: 1-06-2022 11:46 am



CARMEL COLLEGE, MALA

DEPARTMENT OF CHEMISTRY

ACADEMIC YEAR-2022-23

Name of the Faculty : Dr. Princy K.G.

Department:CHEMISTRY

Batch:BSCH2021

Semester:S3

Subject Planner Report of CHE3B03 Physical Chemistry-I

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Teaching	
						Teaching	Pedagogy
1	Chemical Thermodynamics	- Thermodynamic terms	02-06-22	3	2	Lecture	Oral
2	Chemical Thermodynamics	Zeroth law of thermodynamics	06-06-22	3	2	Lecture	PPT
3	Chemical Thermodynamics	Heat capacities	09-06-22	3	2	Lecture	PPT
4	Chemical Thermodynamics	Isothermal expansion	13-06-22	3	2	Lecture	PPT
5	Chemical Thermodynamics	Liquifaction of gases	16-06-22	3	2	Lecture	PPT
6	Chemical Thermodynamics	Thermochemistry	20-06-22	3	2	Lecture	PPT
7	Chemical Thermodynamics	Second law of thermodynamics	23-06-22	3	2	Lecture	PPT
8	Chemical Thermodynamics	entropy change	27-06-22	3	2	Lecture	PPT
9	Chemical Thermodynamics	free energy functions	30-06-22	3	2	Lecture	PPT
10	Chemical Thermodynamics	Criteria for spontaneity and equilibrium	04-07-22	3	2	Lecture	PPT
11	Thermodynamics	- Carnot's cycle	07-07-2022	3	2	Lecture	PPT
12	Thermodynamics	Permutation and combination]	11-07-22	3	3	Lecture	Oral
13	Chemical Thermodynamics	Gibbs-Helmholtz equation	14-07-22	3	3	Lecture	PPT
14	Chemical Thermodynamics	Gibbs-Duhem equation	18-07-22	3	3	Lecture	PPT
15	Chemical Thermodynamics	Maxwell relations	21-07-22	3	3	Lecture	PPT
16	Statistical Thermodynamics	Probability	25-07-22	3	3	Lecture	Oral
17	Chemical Thermodynamics	Partition function	29-07-22	3	3	Lecture	Oral
18	Chemical Thermodynamics	Boltzmann distribution	02-08-22	3	3	Lecture	Oral
19	Chemical Thermodynamics	Third law of thermodynamics	05-08-22	3	3	Lecture	Oral
20	Chemical Thermodynamics-II	Revision	10-08-22	3	3	Lecture	Test paper
21	Chemical Equilibria	Law of mass action	16-08-22	3	4	Lecture	Discussion



22	Chemical Equilibria	law of chemical equilibrium	19-08-22	3	4	Lecture	PPT
23	Chemical Equilibria	Equilibrium constants	24-08-22	3	4	Lecture	PPT
24	Chemical Equilibria	Van't Hoff's equation	26-08-22	3	4	Lecture	PPT
25	Chemical Equilibria	Le Chatelier principle	31-08-22	3	4	Lecture	Discussion
26	Chemical Equilibria	Homogeneous equilibria.	02-09-22	3	4	Lecture	Discussion
27	Chemical Equilibria	Heterogenous equilibria.	12-09-22	3	4	Lecture	Discussion
28	Chemical Equilibria	Relations between the various equilibrium constants	14-09-22	3	4	Lecture	PPT
29	Chemical Equilibria	Reaction quotient.	19-09-22	3	4	Lecture	PPT
30	Chemical Equilibria	Revision	22-09-22	3	4	Lecture	Test paper
31	Chemical Thermodynamics -II	Revision	27-09-22	3	2	Lecture	Test paper
32	Chemical Thermodynamics -II	Revision	29-09-22	3	3	Lecture	Test paper
33	Chemical Equilibria	Revision	06-10-22	3	4	Lecture	Test paper

Staffname & Signature: Dr. Princy K.G.

Princy K.G.

Date & Time: 1-06-2022 2:59 pm



Princy K.G.

Dr. PRINCY K.G.
ASSOCIATE PROFESSOR & HEAD
DEPT. OF CHEMISTRY
CARMEL COLLEGE, MALA

CARMEL COLLEGE (AUTONOMOUS)

Department: CHEMISTRY Batch:BSCH2022 Semester:S1

Subject Planner Report of CHE1B01 Theoretical and Inorganic Chemistry- I

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Periodic table	Bridge course	25-08-22	1	4	Lecture	Discussion
2	S- Block elements	Bridge course	01-09-22	1	4	Lecture	Discussion
3	p-Block elements	Bridge course	14-09-22	1	4	Lecture	Discussion
4	S- Block - Properties	Standard electrode potential	21-09-22	1	4	Lecture	Oral Questions
5	p- Block - Properties	diagonal relationships - Inert pair effect	22-09-22	1	4	Lecture	Oral Questions
6	Ionic compounds	Lattice energy	30-09-22	1	4	Lecture	Oral Questions
7	Covalent compounds	Dipole moment	12-10-22	1	4	Lecture	Oral Questions
8	Covalent compounds	Fajans rule	19-10-22	1	4	Lecture	Oral Questions
9	Oxygen family	Hydrogen peroxide	20-10-22	1	4	Lecture	Oral Questions
10	Boron Compounds	Boron halides, diborane	27-10-22	1	4	Lecture	Oral Questions
11	Boron Compounds	Boric acid, Borazine	03-11-22	1	4	Lecture	Oral Questions
12	Boron Compounds	BN, AlCl ₃	10-11-22	1	4	Lecture	Oral Questions
13	Nitrogen family	oxides and oxy acids of N and P	17-11-22	1	4	Lecture	Oral Questions
14	Oxygen family	oxides and oxy acids of S and Cl	24-11-22	1	4	Lecture	Oral Questions
15	Nitrogen family	Ammonia, Nitric acid	01-12-22	1	4	Lecture	Oral Questions
16	Oxygen family	Ozone, sulphuric acid	08-12-22	1	4	Lecture	Oral Questions
17	Halogen family	Hydrogen peroxide and hydrochloric acid	15-12-22	1	4	Lecture	Oral Questions

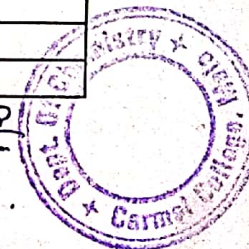
Staffname & Signature: Dr. Princy K.G

Princy K.G.

Date & Time: 21-8-2022 9:57 am

Dr. PRINCY K.G.
ASSOCIATE PROFESSOR & HEAD
DEPT. OF CHEMISTRY
CARMEL COLLEGE, MALA

Princy K.G.



CARMEL COLLEGE, MALA

DEPARTMENT OF CHEMISTRY

ACADEMIC YEAR-2022-23

Name of the Faculty : Dr. Princy K.G.

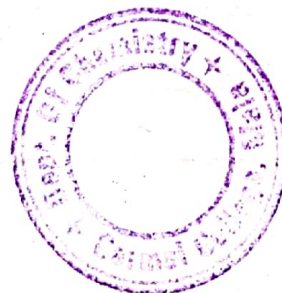
Department:CHEMISTRY

Batch:BSCH2021

Semester:S3

Subject Planner Report of CHE3B03 Physical Chemistry-I

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Teaching	Teaching Pedagogy
1	Chemical Thermodynamics	- Thermodynamic terms	02-06-22	3	2	Lecture	Oral
2	Chemical Thermodynamics	Zeroth law of thermodynamics	06-06-22	3	2	Lecture	PPT
3	Chemical Thermodynamics	Heat capacities	09-06-22	3	2	Lecture	PPT
4	Chemical Thermodynamics	isothermal expansion	13-06-22	3	2	Lecture	PPT
5	Chemical Thermodynamics	Liquifaction of gases	16-06-22	3	2	Lecture	PPT
6	Chemical Thermodynamics	Thermochemistry	20-06-22	3	2	Lecture	PPT
7	Chemical Thermodynamics	Second law of thermodynamics	23-06-22	3	2	Lecture	PPT
8	Chemical Thermodynamics	entropy change	27-06-22	3	2	Lecture	PPT
9	Chemical Thermodynamics	free energy functions	30-06-22	3	2	Lecture	PPT
10	Chemical Thermodynamics	Criteria for spontaneity and equilibrium	04-07-22	3	2	Lecture	PPT
11	Thermodynamics	- Carnot's cycle	07-07-2022	3	2	Lecture	PPT
12	Thermodynamics	Permutation and combination]	11-07-22	3	3	Lecture	Oral
13	Chemical Thermodynamics	Gibbs-Helmholtz equation	14-07-22	3	3	Lecture	PPT
14	Chemical Thermodynamics	Gibbs-Duhem equation	18-07-22	3	3	Lecture	PPT
15	Chemical Thermodynamics	Maxwell relations	21-07-22	3	3	Lecture	PPT
16	Statistical Thermodynamics	Probability	25-07-22	3	3	Lecture	Oral
17	Chemical Thermodynamics	Partition function	29-07-22	3	3	Lecture	Oral
18	Chemical Thermodynamics	Boltzmann distribution	02-08-22	3	3	Lecture	Oral
19	Chemical Thermodynamics	Third law of thermodynamics	05-08-22	3	3	Lecture	Oral
20	Chemical Thermodynamics-II	Revision	10-08-22	3	3	Lecture	Test paper
21	Chemical Equilibria	Law of mass action	16-08-22	3	4	Lecture	Discussion

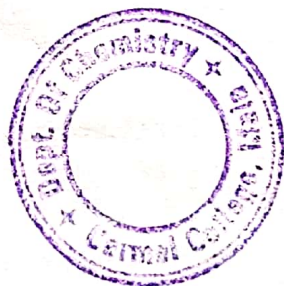


22	Chemical Equilibria	law of chemical equilibrium	19-08-22	3	4	Lecture	PPT
23	Chemical Equilibria	Equilibrium constants	24-08-22	3	4	Lecture	PPT
24	Chemical Equilibria	Van't Hoff's equation	26-08-22	3	4	Lecture	PPT
25	Chemical Equilibria	Le Chatelier principle	31-08-22	3	4	Lecture	Discussion
26	Chemical Equilibria	Homogeneous equilibria.	02-09-22	3	4	Lecture	Discussion
27	Chemical Equilibria	Heterogenous equilibria.	12-09-22	3	4	Lecture	Discussion
28	Chemical Equilibria	Relations between the various equilibrium constants	14-09-22	3	4	Lecture	PPT
29	Chemical Equilibria	Reaction quotient.	19-09-22	3	4	Lecture	PPT
30	Chemical Equilibria	Revision	22-09-22	3	4	Lecture	Test paper
31	Chemical Thermodynamics -II	Revision	27-09-22	3	2	Lecture	Test paper
32	Chemical Thermodynamics -II	Revision	29-09-22	3	3	Lecture	Test paper
33	Chemical Equilibria	Revision	06-10-22	3	4	Lecture	Test paper

Staffname & Signature: Dr. Princy K.G.

Princy K.G.

Date & Time: 1-06-2022 2:59 pm



Princy K.G.

Dr. PRINCY K.G.
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CARMEL COLLEGE, MALA

DEPARTMENT OF CHEMISTRY

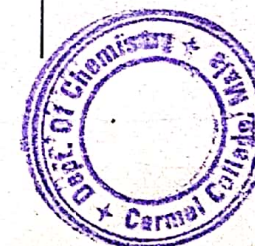
ACADEMIC YEAR 2022-23

Faculty : Dr. Princy K.G.

Department: CHEMISTRY Batch: BSCH2020 Semester: S5

Subject Planner Report of CHE5B06 Inorganic Chemistry-III

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Analytical Principles II	Qualitative Analysis	01-06-2022	1	1	Lecture	Discussion
2	Qualitative Analysis	Solubility product	02-06-2022	1	1	Lecture	Discussion
3	Qualitative Analysis	Common ion effect	03-06-2022	4	1	Lecture	Discussion
4	Qualitative Analysis	Interfering acid radicals	07-06-2022	2	1	Lecture	Discussion
5	Qualitative Analysis	Micro scale experiments	08-06-2022	1	1	Lecture	PPT
6	Qualitative Analysis	Sodium carbonate extract	09-06-2022	1	1	Lecture	PPT
7	Gravimetric analysis	Precipitate formation	10-06-2022	4	1	Lecture	PPT
8	Gravimetric analysis	Co-precipitation and post precipitation digestion, washing, drying and ignition of precipitates.	14-06-2022	2	1	Lecture	PPT
9	Gravimetric analysis		15-06-2022	1	1	Lecture	PPT
10	Analytical Principles II	Revision	16-06-2022	1	1	Lecture	Test paper
11	Metallurgy	Prerequisites	17-06-2022	4	2	Lecture	Seminar
12	Metallurgy	Electrometallurgy	21-06-2022	2	2	Lecture	Seminar
13	Metallurgy	Hydrometallurgy	22-06-2022	1	2	Lecture	Seminar
14	Metallurgy	Refining of metals	23-06-2022	1	2	Lecture	Seminar
15	Metallurgy	Ellingham diagrams	24-06-2022	4	2	Lecture	Seminar
16	Metallurgy	Extractive metallurgy of Al	28-06-2022	2	2	Lecture	Seminar
17	Metallurgy	Extractive metallurgy of Fe	29-06-2022	1	2	Lecture	Seminar
18	Metallurgy	Extractive metallurgy of Ni and U	30-06-2022	1	2	Lecture	Seminar
19	Metallurgy	Extractive metallurgy of Cu, Ti	01-07-2022	4	2	Lecture	Seminar
20	Metallurgy	Alloys	05-07-2022	2	2	Lecture	Seminar
21	Metallurgy	Steel	06-07-2022	1	2	Lecture	Seminar



22	Metallurgy	Intramedullary rods	07-07-2022	1	2	Lecture	Seminar
23	Metallurgy	Revision	08-07-2022	4	2	Lecture	Test paper
24	Interhalogen compounds	Prerequisites	12-07-2022	2	3	Lecture	Discussion
25	Interhalogen compounds	Electropositive character of iodine	13-07-2022	1	3	Lecture	PPT
26	Interhalogen compounds	Interhalogen compound	14-07-2022	1	3	Lecture	PPT
27	Interhalogen compounds	ClF ₃ and IF ₇	15-07-2022	4	3	Lecture	PPT
28	Interhalogen compounds	ICl ₃ , IF ₅	19-07-2022	2	3	Lecture	PPT
29	Interhalogen compounds	Pseudohalogens	20-07-2022	1	3	Lecture	Discussion
30	Interhalogen compounds	Polyhalide ions	21-07-2022	1	3	Lecture	PPT
31	Interhalogen compounds	Revision	22-07-2022	4	3	Lecture	Test paper
32	Noble Gases	Prerequisites	26-07-2022	2	4	Lecture	Discussion
33	Noble Gases	Discovery "Occurrence	27-07-2022	1	4	Lecture	Discussion
34	Noble Gases	Charcoal adsorption method	29-07-2022	1	4	Lecture	Discussion
35	Noble Gases	oxides and fluorides of xenon	01-08-2022	4	4	Lecture	Discussion
36	Noble Gases	Oxy fluorides of xenon	03-08-2022	2	4	Lecture	Discussion
37	Noble Gases	Uses	04-08-2022	1	4	Lecture	Discussion
38	Noble Gases	Revision	05-08-2022	1	4	Lecture	Test paper
39	Inorganic Polymers	Pre-requisites	09-08-2022	4	4	Lecture	Discussion
40	Inorganic Polymers	Silicones	11-08-2022	2	4	Lecture	PPT
41	Inorganic Polymers	Silicates	12-08-2022	1	4	Lecture	PPT
42	Inorganic Polymers	Polyphosphazenes	16-08-2022	1	4	Lecture	PPT
43	Inorganic Polymers	SN compounds	17-08-2022	4	4	Lecture	PPT
44	Non-aqueous Solvents:	liquid ammonia	22-08-2022	2	4	Lecture	PPT
45	Non-aqueous Solvents:	Liquid HF	23-08-2022	1	4	Lecture	PPT
46	Non-aqueous Solvents:	Liquid NH ₃	24-08-2022	1	4	Lecture	PPT
47	Non-aqueous Solvents:	Liquid SO ₂	25-08-2022	4	4	Lecture	PPT
48	Inorganic Polymers & Non- aqueous Solvents	Revision	29-08-2022	2	4	Lecture	Test paper
49	Environmental Pollution	Prerequisites	30-08-2022	1	5	Lecture	Discussion
50	Air pollution	Major air pollutants	31-08-2022	1	5	Lecture	PPT
51	Air pollution	London smog and photochemical smog	01-09-2022	4	5	Lecture	PPT



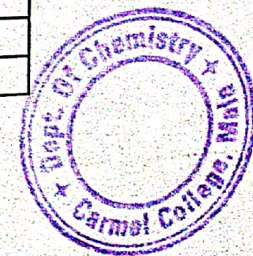
52	Air pollution	Effects of air pollution	05-09-2022	2	5	Lecture	PPT
53	Air pollution	Control of air pollution	06-09-2022	1	5	Lecture	PPT
54	Air pollution	Alternate refrigerants	12-09-2022	1	5	Lecture	PPT
55	Air pollution	Bhopal Tragedy	13-09-2022	4	5	Lecture	Discussion
56	Water pollution	Causes of Water pollution	15-09-2022	2	5	Lecture	PPT
57	Water pollution	Quality of drinking water	16-09-2022	1	5	Lecture	PPT
58	Water pollution	DO, BOD and COD	19-09-2022	1	5	Lecture	PPT
59	Water pollution	Toxic metals in water	20-09-2022	4	5	Lecture	PPT
60	Water pollution	Minamata disaster	23-09-2022	2	5	Lecture	PPT
61	Water pollution	Control of water pollution	26-09-2022	1	5	Lecture	PPT
62	Thermal pollution	Sources, effects and consequences	27-09-2022	1	5	Lecture	PPT
63	Noise pollution	Sources, effects and consequences	28-09-2022	4	5	Lecture	PPT
64	Radioactive pollution	Sources, effects and consequences	30-09-2022	2	5	Lecture	PPT
65	Radioactive pollution	Hiroshima, Nagasaki accidents	03-10-2022	1	5	Lecture	PPT
66	Radioactive pollution	Chernobyl accident	06-10-2022	1	5	Lecture	PPT
67	Local environmental	Silent Valley	07-10-2022	4	5	Lecture	PPT
68	Local environmental	Plachimada	11-10-2022	2	5	Lecture	PPT
69	Local environmental	Narmada	12-10-2022	1	5	Lecture	PPT
70	Environmental Pollution	REVISION	13-10-2022	1	5	Lecture	Test paper
71	Analytical principles	REVISION	14-10-2022	4	1	Lecture	Test paper
72	Metallurgy	REVISION	18-10-2022	2	2	Lecture	Test paper
73	Interhalogen compounds	REVISION	19-10-2022	1	3	Lecture	Test paper
74	Noble gases	REVISION	20-10-2022	1	4	Lecture	Test paper
75	Nonaqueous solvents	REVISION	21-10-2022	4	4	Lecture	Test paper
76	Inorganic polymers	REVISION	26-10-2022	2	4	Lecture	Test paper
77	Environmental Pollution	REVISION	27-10-2022	1	5	Lecture	Test paper
78	Model Exam		28-10-2022	1	1		

Staffname & Signature: Dr. Princy K.G.

Princy K.G.

Date & Time: 1-06-2022 11:46 am

Dr. PRINCY K.G.
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DEPT. OF CHEMISTRY
CARMEL COLLEGE, MALA

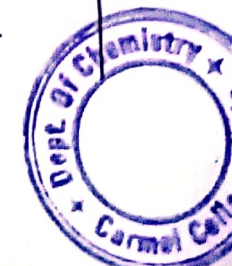


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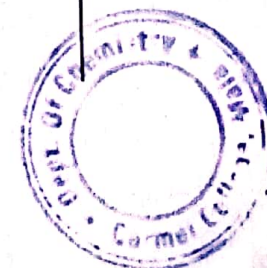
Department:CHEMISTRY Batch:BSCH2020 Semester:S6

Subject Planner Report Of CHE6B09 Inorganic Chemistry-IV

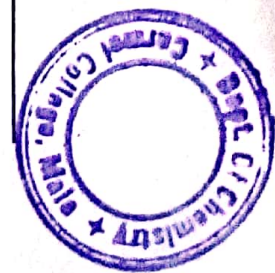
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Coordination Chemistry	Introduction	01-11-2022	1	3	Lecture	Discussion
2	Coordination Chemistry	Werner's theory	03-11-2022	4	3	Lecture	PPT
3	Coordination Chemistry	Isomerism	04-11-2022	3	3	Lecture	Oral Questions
4	Coordination Chemistry	Valence Bond theory	07-11-2022	2	3	Lecture	Oral Questions
5	Coordination Chemistry	Crystal field theory	08-11-2022	1	3	Lecture	Oral Questions
6	Coordination Chemistry	Factors affecting crystal field splitting	10-11-2022	4	3	Lecture	Oral Questions
7	Coordination Chemistry	Jahn-Teller Theorem	11-11-2022	3	3	Lecture	Oral Questions
8	Coordination Chemistry	Spectrochemical series	14-11-2022	2	3	Lecture	Oral Questions
9	Coordination Chemistry	CFSE of low spin and high spin octahedral complexes	15-11-2022	1	3	Lecture	Oral Questions
10	Coordination Chemistry	Molecular orbital theory	17-11-2022	4	3	Lecture	PPT
11	Coordination Chemistry	Stability of complexes	18-11-2022	3	3	Lecture	Oral Questions
12	Coordination Chemistry	Factors influencing stability	21-11-2022	2	3	Lecture	Oral Questions
13	Coordination Chemistry	Application of complexes in qualitative and quantitative analysis	22-11-2022	1	3	Lecture	Oral Questions
14	Coordination Chemistry	Revision	24-11-2022	4	3	Lecture	Test Paper
15	Transition Metals	Metallic character, oxidation states, size, density	25-11-2022	3	2	Lecture	Seminar
16	Transition Metals	Melting point, boiling point, ionization energy, colour	28-11-2022	2	2	Lecture	Seminar
17	Transition Metals	Magnetic properties, reducing properties, catalytic properties	29-11-2022	1	2	Lecture	Seminar



18	Transition Metals	Non-stoichiometric compounds, complex formation and alloy formation	01-12-2022	4	2	Lecture	Seminar
19	Transition Metals- Metallic Bonding	Free electron theory	02-12-2022	3	2	Lecture	Seminar
20	Transition Metals- Metallic Bonding	Valence bond theory and band theory	05-12-2022	2	2	Lecture	Seminar
21	Lanthanides	General characteristics	06-12-2022	1	2	Lecture	Seminar
22	Lanthanides	Beach sands of Kerala- Importance, isolation, separation	08-12-2022	4	2	Lecture	Seminar
23	Lanthanides	Lanthanide contraction	09-12-2022	3	2	Lecture	Seminar
24	Actinides	General characteristics	12-12-2022	2	2	Lecture	Seminar
25	Instrumental Methods of Analysis	Atomic Absorption Spectroscopy	13-12-2022	1	1	Lecture	PPT
26	Instrumental Methods of Analysis	Flame Emission Spectroscopy	15-12-2022	4	1	Lecture	PPT
27	Instrumental Methods of Analysis	Spectrophotometry	16-12-2022	3	1	Lecture	PPT
28	Instrumental Methods of Analysis	Atomic Force Microscopy	19-12-2022	2	1	Lecture	PPT
29	Instrumental Methods of Analysis	Scanning Electron Microscopy	20-12-2022	1	1	Lecture	PPT
30	Instrumental Methods of Analysis	Transmission Electron Microscopy	22-12-2022	4	1	Lecture	PPT
31	Instrumental Methods of Analysis	Thermogravimetry	23-12-2022	3	1	Lecture	PPT
32	Instrumental Methods of Analysis	Differential Scanning Calorimetry	03-01-2023	2	1	Lecture	PPT
33	Instrumental Methods of Analysis	Cyclic Voltammetry	04-01-2023	1	1	Lecture	PPT



34	Instrumental Methods of Analysis	Revision	06-01-2023	4	1	Lecture	Discussion
35	Instrumental Methods of Analysis	Revision	09-01-2023	3	1	Lecture	Test paper
36	Organometallic Compounds	Introduction	10-01-2023	2	4	Lecture	Discussion
37	Organometallic Compounds	Classification	11-01-2023	1	4	Lecture	Oral Questions
38	Organometallic Compounds	18- electron rule.	13-01-2023	4	4	Lecture	Oral Questions
39	Organometallic Compounds	Metal carbonyls	16-01-2023	3	4	Lecture	Oral Questions
40	Organometallic Compounds	Bonding in metal carbonyls.	17-01-2023	2	4	Lecture	Oral Questions
41	Organometallic Compounds	Bonding in metal carbonyls.	18-01-2023	1	4	Lecture	Oral Questions
42	Organometallic Compounds	Ferrocene	20-01-2023	4	4	Lecture	Oral Questions
43	Organometallic compounds	Wilkinson catalyst	23-01-2023	3	4	Lecture	Oral questions
44	Organometallic compounds	Zeigler Natta catalyst	24-01-2023	2	4	Lecture	Oral questions
45	Organometallic compounds	Revision	25-01-2023	1	4	Lecture	Test paper
46	Bioinorganic chemistry	Metal ions in biological system	30-01-2023	4	5	Lecture	Oral questions
47	Bioinorganic Chemistry	Trace and bulk metal ions.	31-01-2023	3	5	Lecture	Oral questions
48	Bioinorganic Chemistry	Haemoglobin	01-02-2023	2	5	Lecture	Oral questions
49	Bioinorganic Chemistry	Myoglobin	02-02-2023	1	5	Lecture	Oral questions
50	Bioinorganic Chemistry	Oxygen binding mechanism	06-02-2023	4	5	Lecture	Oral questions
51	Bioinorganic Chemistry	Chlorophyll and photosynthesis	07-02-2023	3	5	Lecture	Oral questions
52	Bioinorganic Chemistry	Sodium-potassium pump	08-02-2023	2	5	Lecture	Oral questions
53	Bioinorganic Chemistry	Biochemistry of Ca	09-02-2023	1	5	Lecture	Oral questions
54	Bioinorganic Chemistry	Biochemistry of Zn and Co	13-02-2023	4	5	Lecture	Oral questions
55	Bioinorganic Chemistry	Toxicity of metal ions	14-02-2023	3	5	Lecture	Oral questions
56	Bioinorganic Chemistry	Anticancer drugs	15-02-2023	2	5	Lecture	Oral questions
57	Bioinorganic Chemistry	Revision	16-02-2023	1	5	Lecture	Test paper
58	Instrumental Methods of Analysis	Revision	20-02-2023	4	1	Lecture	Test paper
59	Transition and Inner Transition Elements	Revision	21-02-2023	3	2	Lecture	Test paper



60	Coordination Chemistry	Revision	22-02-2023	2	3	Lecture	Test paper
61	Organometallic Compounds	Revision	27-02-2023	4	4	Lecture	Test paper
62	Bioinorganic Chemistry	Revision	28-02-2023	3	5	Lecture	Test paper
63	Revision		01-03-2023	2	1	Lecture	
64	Test paper		06-03-2023	4	3	Lecture	
65	Test paper		09-03-2023	1	5	Lecture	
66	Test paper		16-03-2023	1	1	Lecture	
67	Test paper		27-03-2023	4	5	Lecture	
68	Test paper		30-03-2023	1	5	Lecture	

Name of the Faculty : Dr. Princy K.G.

Signature: Princy K.G.

Date & Time: 2-11-2022 10:16 am



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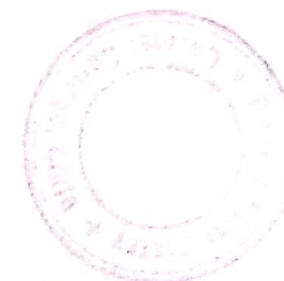


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Department: CHEMISTRY Semester: S4 Faculty Name: Saranya M P

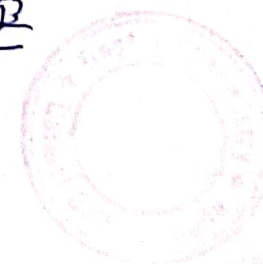
Subject Planner Report Of CHE4C12 Instrumental Methods of Analysis

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Errors in chemical analysis	Treatment of analytical data. Accuracy and precision	04-11-2022	2	1	Lecture
2	Errors in chemical analysis	Absolute and relative errors.	11-11-2022	2	1	Lecture
3	Errors in chemical analysis	Classification and minimization of errors.	18-11-2022	2	1	Lecture
4	Errors in chemical analysis	Significant figures.	25-11-2022	2	1	Lecture
5	Errors in chemical analysis	Statistical treatment- mean and standard deviation	02-12-2022	2	1	Lecture
6	Errors in chemical analysis	variance	09-12-2022	2	1	Lecture
7	Errors in chemical analysis	confidence limits	16-12-2022	2	1	Lecture
8	Errors in chemical analysis	student-t and f tests	23-12-2022	2	1	Lecture
9	Errors in chemical analysis	Detection of gross errors	09-01-2023	2	1	Lecture
10	Errors in chemical analysis	rejection of a result-Q test.	16-01-2023	2	1	Lecture
11	Errors in chemical analysis	Least square method	23-01-2023	2	1	Lecture
12	Errors in chemical analysis	linear regression; covariance and correlation coefficient	26-01-2023	2	1	Lecture
13	Conventional analytical procedures	Gravimetry: solubility product and properties of precipitates-nucleation, growth and aging,	31-01-2023	2	2	Tutorial
14	Conventional analytical procedures	co- precipitation and post precipitation, drying and ignition. Inorganic precipitating agents: NH ₃ , H ₂ S, H ₂ SO ₄ , (NH ₄) ₂ MoO ₄ and NH ₄ SCN	07-02-2023	2	2	Tutorial



15	Conventional analytical procedures	Organic precipitating agents: oxine, cupron, cupferron, 1-nitroso-1-naphthol, dithiocarbamates. Acid-Base and precipitation titrations:	14-02-2023	2	2	Tutorial
16	Conventional analytical procedures	theory of neutralisation titrations, indicators for acid/base titrations, titration curves of strong acid, strong base, weak acid, weak base and polyprotic acids. Buffer solutions. Titrations in nonaqueous media. Different solvents and their selection for a titration.	21-02-2023	2	2	Tutorial
17	Conventional analytical procedures	Indicators for non aqueous titrations. Redox titrations: Permanganometry, dichrometry, iodometry, cerimetry.	28-02-2023	2	2	Tutorial
18	Conventional analytical procedures	Variation of potential during a redox titration, formal potential during a redox titration, Redox indicators. Precipitation titrations, adsorption indicators.	07-03-2023	2	2	Tutorial
19	Conventional analytical procedures	Complexometric titrations: Types of EDTA titrations (direct, back, replacement, alkalimetric and exchange reactions), masking and demasking agents, selective demasking, metal ion indicators	14-03-2023	2	2	Tutorial
20	Conventional analytical procedures	murexide, eriochrome black T, Patton and Reeder's indicators, bromopyrogallol red,	21-03-2023	2	2	Tutorial
21	Conventional analytical procedures	xylenol orange, variamine blue.	28-03-2023	2	2	Tutorial
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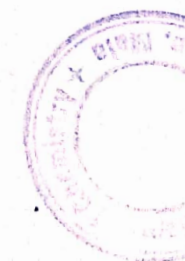
Department: CHEMISTRY Semester: S4 Faculty Name: SARANYA M P

Subject Planner Report Of CHE4E06 Natural products & Polymer Chemistry (Elective)

Sl.no	Topic Name	Description	Date	Hour	Module
1	Natural products and polymer chemistry	Classification of Natural Products: Classification of Natural products based on chemical structure,	01-11-2022	1	1
2	Natural products and polymer chemistry	physiological activity, taxonomy and Biogenesis. Carbohydrates. Terpenoids. Carotenoids. Alkaloids. Steroids. Anthocyanins etc	02-11-2022	1	1
3	Natural products and polymer chemistry	Methods of isolation of each class of compound. Essential Oils: Isolation and study of important constituents of lemon grass oil,	08-11-2022	1	1
4	Natural products and polymer chemistry	citronella oil, cinnamon oil, palmarosa oil, turpentine oil, clove oil, sandalwood oil,	09-11-2022	1	1
5	Natural products and polymer chemistry	Essential oils of turmeric and ginger. Oleoresins of pepper, chilly, ginger and turmeric. Aromatherapy	15-11-2022	1	1
6	Natural products and polymer chemistry	Terpenoids: classification, structure elucidation and synthesis of abietic acid.	16-11-2022	1	2
7	Natural products and polymer chemistry	Steroids: Classification, structure of cholesterol,	22-11-2022	1	2
8	Natural products and polymer chemistry	conversion of cholesterol to progesterone,	23-11-2022	1	2
9	Natural products and polymer chemistry	androsterone and testosterone.	29-11-2022	1	2
10	Natural products and polymer chemistry	Classification, structure and synthesis of prostaglandins,	30-11-2022	1	2



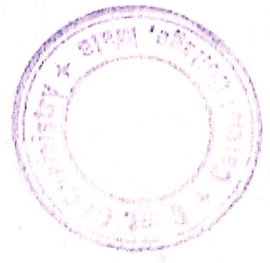
11	Natural products and polymer chemistry	biosynthesis of fatty acids, prostaglandins, terpenoids and steroids.	06-12-2022	1	2
12	Natural products and polymer chemistry	Structural elucidation of Cholesterol, Ergosterol, Oesterone, Androsterone,	07-12-2022	1	2
13	Natural products and polymer chemistry	Testosterone, Progesterone, Cortisone and Corticosterone	13-12-2022	1	2
14	Alkaloids and anthocyanins	Alkaloids.	14-12-2022	1	3
15	Alkaloids and anthocyanins	Classification of alkaloids,	20-12-2022	1	3
16	Alkaloids and anthocyanins	structural elucidation based on degradative reactions	21-12-2022	1	3
17	Alkaloids and anthocyanins	quinine	30-12-2022	1	3
18	Alkaloids and anthocyanins	Biosynthesis of quinine	04-01-2023	1	3
19	Alkaloids and anthocyanins	Anthocyanins: Introduction,	05-01-2023	1	3
20	Alkaloids and anthocyanins	General Nature and Structure of Anthocyanidins	11-01-2023	1	3
21	Alkaloids and anthocyanins	Flavone,,	12-01-2023	1	3
22	Alkaloids and anthocyanins	Isoflavone	18-01-2023	1	3
23	Alkaloids and anthocyanins	Chalcone	19-01-2023	1	3
24	Alkaloids and anthocyanins	Flavonol	25-01-2023	1	3
25	Alkaloids and anthocyanins	atropine	27-01-2023	1	3
26	Alkaloids and anthocyanins	biosynthesis of papaverine.	28-01-2023	1	3
27	Dyes ,pigments and supramolecules.	Brief introduction	02-02-2023	1	4
28	Dyes ,pigments and supramolecules.	dyes	03-02-2023	1	4
29	Dyes ,pigments and supramolecules.	pigments	09-02-2023	1	4
30	Dyes ,pigments and supramolecules.	natural and synthetic pigments.	10-02-2023	1	4
31	Dyes ,pigments and supramolecules.	尾-carotene,	16-02-2023	1	4
32	Dyes ,pigments and supramolecules.	indigo	17-02-2023	1	4
33	Dyes ,pigments and supramolecules.	cyclic tetrapyrroles	23-02-2023	1	4
34	Dyes ,pigments and supramolecules.	porphyrins	24-02-2023	1	4
35	Dyes ,pigments and supramolecules.	chlorins,	02-03-2023	1	4
36	Dyes ,pigments and supramolecules.	chlorophyll	03-03-2023	1	4



37	Dyes ,pigments and supramolecules.	Heme	09-03-2023	1	4
38	Dyes ,pigments and supramolecules.	Study of phthalocyanines,	10-03-2023	1	4
39	Dyes ,pigments and supramolecules.	squarenes	16-03-2023	1	4
40	Dyes ,pigments and supramolecules.	cyanine dyes	17-03-2023	1	4
41	Dyes ,pigments and supramolecules.	Introduction to Supramolecular chemistry	23-03-2023	1	4
42	Dyes ,pigments and supramolecules.	Molecular Recognition	24-03-2023	1	4
43	Alkaloids and anthocyanins	Revision	30-03-2023	1	3
44	Terpenes and steroids	Revision	31-03-2023	1	3

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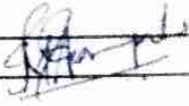
Department: CHEMISTRY Semester: S4 Faculty Name: Saranya M P

Subject Planner Report Of CHE4E08 Organometallic Chemistry

Sl no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Organometallic chemistry	Organometallic compounds. Classification and nomenclature.	01-11-2022	3	1	Lecture
2	Organometallic chemistry	The 16 and 18 electron rules.	04-11-2022	3	1	Lecture
3	Organometallic chemistry	Electron counting-covalent and ionic models	08-11-2022	3	1	Lecture
4	Organometallic chemistry	Main group organometallics-alkyl and aryl, groups 1, 2, 12, 13, 14 and 15 synthesis, structure and applications.	11-11-2022	3	1	Lecture
5	Organometallic chemistry	Transition metal to carbon multiple bond	15-11-2022	3	1	Lecture
6	Organometallic chemistry	metal carbenes	18-11-2022	3	1	Lecture
7	Organometallic chemistry	carbynes.	22-11-2022	3	1	Lecture
8	Organometallic chemistry	Transition metal complexes with chain π ligands – synthesis,	25-11-2022	3	1	Lecture
9	Organometallic chemistry	structure, bonding and reactions of complexes of ethylene,	29-11-2022	3	1	Lecture
10	Organometallic chemistry	allyl,	02-12-2022	3	1	Lecture
11	Organometallic chemistry	butadiene	06-12-2022	3	1	Lecture
12	Organometallic chemistry	acetylene.	09-12-2022	3	1	Lecture
13	Organometallic chemistry	Metal carbonyls- Bonding modes of CO	13-12-2022	3	2	Lecture
14	Organometallic chemistry	IR spectroscopy as a tool to study bonding and structure	16-12-2022	3	2	Lecture
15	Organometallic chemistry	Synthesis of Metal carbonyls,	20-12-2022	3	2	Lecture
16	Organometallic chemistry	Direct carbonylation	23-12-2022	3	2	Lecture
17	Organometallic chemistry	Reductive carbonylation	30-12-2022	3	2	Lecture



18	Organometallic chemistry	Reactions of metal carbonyls	04-01-2023	3	2	Lecture
19	Organometallic chemistry	Activation of metal carbonyls,	09-01-2023	3	2	Lecture
20	Organometallic chemistry	Disproportion,	11-01-2023	3	2	Lecture
21	Organometallic chemistry	Nucleophilic addition,	16-01-2023	3	2	Lecture
22	Organometallic chemistry	electrophilic addition to the carbonyl oxygen,	18-01-2023	3	2	Lecture
23	Organometallic chemistry	Carbonyl cation, anions and hydrides.	23-01-2023	3	2	Lecture
24	Organometallic chemistry	Collmann's reagent	25-01-2023	3	2	Lecture
25	Organometallic chemistry	Migratory insertion of carbonyls	26-01-2023	3	2	Lecture
26	Organometallic chemistry	Oxidative decarbonylation	28-01-2023	3	2	Lecture
27	Organometallic chemistry	Photochemical substitution.	31-01-2023	3	2	Lecture
28	Organometallic chemistry	Microwave assisted substitution	02-02-2023	3	2	Lecture
29	Organometallic chemistry	General aspects of synthesis	07-02-2023	3	3	Lecture
30	Organometallic chemistry	Structure, reactivity and applications of main group organometallic compounds	09-02-2023	3	3	Lecture
31	Organometallic chemistry	Metal complexes of NO,	14-02-2023	3	3	Lecture
32	Organometallic chemistry	metal complexes of H ₂	16-02-2023	3	3	Lecture
33	Organometallic chemistry	Metal complexes of CS	21-02-2023	3	3	Lecture
34	Organometallic chemistry	Metal complexes of RNC	23-02-2023	3	3	Lecture
35	Organometallic chemistry	Phosphines	28-02-2023	3	3	Lecture
36	Organometallic chemistry	Metal-carbon multiple bonds	02-03-2023	3	3	Lecture
37	Organometallic chemistry	Metal carbenes and carbynes,	07-03-2023	3	3	Lecture
38	Organometallic chemistry	bridging carbenes and carbynes,	09-03-2023	3	3	Lecture
39	Organometallic chemistry	N-heterocyclic carbons, multiple bonds to hetero atoms.	14-03-2023	3	3	Lecture
40	Organometallic chemistry	rganometallic π complexes – synthesis, structure, bonding	16-03-2023	3	4	Lecture
41	Organometallic chemistry	reactions of C ₅ H ₅ , C ₆ H ₆ , C ₇ H ₇ and C ₈ H ₈ -2 .	21-03-2023	3	3	Lecture
42	Organometallic chemistry	Polyalkyls, polyhydrides	23-03-2023	3	4	Lecture
43	Organometallic chemistry	f-block organometallic complexes	28-03-2023	3	4	Lecture
44	Organometallic chemistry	Fluxional organometallics	30-03-2023	3	4	Lecture

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CARMEL COLLEGE (AUTONOMOUS)

Department: CHEMISTRY Semester: S1 Faculty Name: SARANYA M P

Subject Planner Report Of CHE1C03 Structure and reactivity of organic Compounds

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Structure and bonding in organic molecules	Nature of Bonding in Organic Molecules: Localized and delocalized chemical bonding, bonding weaker than the covalent bond, cross- conjugation, resonance, rules of resonance, resonance hybrid and resonance energy,	13-09-2022	3	1	Tutorial
2	Structure and bonding in organic molecules	tautomerism, hyperconjugation, π - π interactions, π - d bonding (ylides).	20-09-2022	3	1	Tutorial
3	Structure and bonding in organic molecules	Hydrogen bonding: Inter and intra-molecular hydrogen bonding. Range of the energy of hydrogen bonding. Effect of hydrogen bond on conformation, physical and chemical properties of organic compounds- volatility, acidity, basicity, and stability.	29-09-2022	3	1	Lecture
4	Structure and bonding in organic molecules	Stabilization of hydrates of glyoxal and chloral, and ninhydrin. High acid strength of maleic acid compared to fumaric acid	06-10-2022	2	1	Lecture
5	Structure and bonding in organic molecules	crown ether complexes, cryptates, inclusion compounds, and cyclodextrins.	11-10-2022	3	1	Lecture



6	Structure and bonding in organic molecules	Hückel MO method. MOs of simple molecules, ethylene, allyl radical and 1,3-butadiene. Hückel rule and modern theory of aromaticity, criteria for aromaticity and antiaromaticity,	18-10-2022	3	1	Tutorial
7	Structure and bonding in organic molecules	MO description of aromaticity and antiaromaticity. Homoaromaticity. Aromaticity of annulenes and heteroannulenes, fused ring systems, fulvenes, fulvalenes, azulenes, pentalenes, and heptalenes. Preparation of aromatic and antiaromatic compounds by different methods, the stability of benzylic cations and radicals. Effect of delocalized electrons on pKa.	26-10-2022	3	1	Lecture
8	structure and reactivity.	Transition state theory, Potential energy vs reaction co-ordinate curve, substituent effects (inductive, mesomeric, inductomeric, electromeric and field effects) on reactivity. A qualitative study of substitution effects in SN1- SN2 reactions.	02-11-2022	3	2	Lecture
9	structure and reactivity.	Neighbouring group participation, the participation of carboxylate ion, halogen, hydroxyl group, acetoxy group, phenyl group and pi-bond.	09-11-2022	3	2	Lecture
10	structure and reactivity.	Classical and nonclassical carbocation	16-11-2022	3	2	Lecture



11	structure and reactivity.	Basic concepts in the study of organic reaction mechanisms: Application of experimental criteria to mechanistic studies, kinetic versus thermodynamic control	23-11-2022	3	2	Lecture
12	structure and reactivity.	Hammond postulate, Bellamy Evans Polanyi principle, Marcus equation, Curtin Hammett principle	30-11-2022	3	2	Lecture
13	structure and reactivity.	Isotope effect (labeling experiments), stereochemical correlations. Semiquantitative study of substituent effects on the acidity of carboxylic acids	07-12-2022	3	2	Lecture
14	structure and reactivity.	Quantitative correlation of substituent effects on reactivity. Linear free energy relationships.	14-12-2022	3	2	Lecture
15	structure and reactivity.	Hammett and Taft equation for polar effects and Taft's steric substituent constant for steric effect. Solvent effects. Unit 3: Conformational Analysis (9h) Factors affecting the conformational stability of molecules (dipole interaction, bond)	21-12-2022	3	2	Lecture

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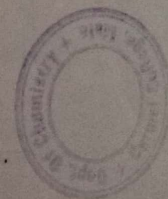


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Department:CHEMISTRY Semester:S1 Faculty Name : SARANYA M P

Subject Planner Report Of CHE1C01 Quantum Mechanics and Computational Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Introduction to quantum mechanics	Black body radiation ,Plancks quantum postulate,Einsteins Photoelectric equation ,Schrodinger wave mechanics Detailed discussion of postulates of Quantum mechanics ,state function and wave function well behaved function ,orthonormality of wave function,operator postulate ,linear and non linear operators.	01-09-2022	1	1	Lecture
2	Introduction to quantum mechanics	Non commuting operators and heisenberg uncertainty principle,laplacian operators ,hermitian operators and properties,eigen values and functions	14-09-2022	1	1	Lecture
3	Introduction to quantum mechanics	eigen value postulate ,eigen value equation,Expectation value postulate,postulate of time dependent schrodinger equation of motion,conservative systems and time independent schrodinger equation ,stationary states	16-09-2022	2	1	Lecture



5	Quantum mechanics of translational and vibrational motion	Free particle in 1D, particle in 1D box with infinite potential walls, particle in a rectangular well, particle in 1D box with finite potential wall	21-09-2022	1	2	Lecture
6	Quantum mechanics of translational and vibrational motion	significance of problem, introduction to tunneling, Particle in 3D box, separation of variables, degeneracy	22-09-2022	1	2	Lecture
7	Quantum mechanics of translational and vibrational motion	one D harmonic oscillator, Hermite equation and Hermite polynomials, recursion relation, Wave functions and energies, important features of problems,	23-09-2022	1	2	Lecture
8	Quantum mechanics of translational and vibrational motion	, important features of problems Harmonic oscillator model and molecular vibrations. coordinate systems, Cartesian and spherical polar coordinates their relationships, planar rigid rotor, ϕ equation, solution of the ϕ equation	23-09-2022	2	2	Lecture
9	Quantum mechanics of Rotational motion	one particle rigid rotor, wave equation in spherical polar coordinates, separation of variables	27-09-2022	1	3	Lecture
10	Quantum mechanics of Rotational motion	ϕ equation and θ equation and solution, Legendre and associated Legendre equations, Legendre	27-09-2022	2	3	Lecture
11	Quantum mechanics of Rotational motion	Rodrigues formula,	30-09-2022	1	3	Lecture
12	Quantum mechanics of Rotational motion	quantisation of angular momentum, quantum mechanical operators corresponding to angular momenta	07-10-2022	1	3	Lecture
13	Quantum mechanics of Rotational motion		07-10-2022	2	3	Lecture

14	Quantum mechanics of Rotational motion	Commutation relations between these operators ,Ladder operator method for angular momentum ,space quantisation	12-10-2022	1	3	Lecture
15	Quantum mechanics of Hydrogen like atoms	potential energy of hydrogen like atoms ,the wave equations in spherical polar co-ordinates ,seperation of variables ,the R,theta, phi equation and solutions	14-10-2022	1	4	Lecture
16	quantum mechanics of hydrogen like atoms .	Laguerre nd associated Laguerre polynomials,wave functions and energies of hydrogen like atoms,orbitals	14-10-2022	2	4	Lecture
17	quantum mechanics of hydrogen like atoms .	radical functions,radial distribution functions and their plots, angular functions and their plots	19-10-2022	1	4	Lecture
18	quantum mechanics of hydrogen like atoms .	Angular functions, postulate of spin by Uhlenback and Goudsmith Diracs relativistic equation for hydrogen atom	21-10-2022	1	4	Lecture
19	quantum mechanics of hydrogen like atoms .	Discovery of spin ,spin orbitals, construction of spin orbitals from orbitals and spin functions .	21-10-2022	2	4	Lecture
20	Approximation methods in quantum mechanics	need of approximation methods,independent particle model,variation method, with proof, illustration of variation theorem using trial function	27-10-2022	1	5	Lecture
21	Approximation methods in quantum mechanics	variation treatment for the ground state of helium atom	31-10-2022	1	5	Lecture
22	Approximation methods in quantum mechanics	perturbation method	31-10-2022	2	5	Lecture

23	Approximation methods in quantum mechanics	non degenerate case only ,illustration application to particle in a one D box slanted bottom	03-11-2022	1	5	Lecture
24	Approximation methods in quantum mechanics	time independent perturbation method	07-11-2022	1	5	Lecture
25	Approximation methods in quantum mechanics	many body problem	07-11-2022	2	5	Lecture
26	Approximation methods in quantum mechanics	spherical harmonics,polar diagrams of spherical harmonics	10-11-2022	1	5	Lecture
27	Approximation methods in quantum mechanics	perturbation treatment	14-11-2022	1	5	Lecture
28	Approximation methods in quantum mechanics	perturbation treatment of Helium atom	14-11-2022	2	5	Lecture
29	Approximation methods in quantum mechanics	Legendre polynomials	17-11-2022	1	5	Lecture
30	Quantum mechanics of many electron species	Hartree's Self-Consistent	21-11-2022	1	6	Lecture
31	Quantum mechanics of many electron species	Fock modification	21-11-2022	2	6	Lecture
32	Quantum mechanics of many electron species	Hartree -Fock Self- Consistent Field (HF-SCF) method for atoms	24-11-2022	1	6	Lecture
33	Quantum mechanics of many electron species	Fock operator	28-11-2022	1	6	Lecture
34	Quantum mechanics of many electron species	Pauli's antisymmetry principle	28-11-2022	2	6	Lecture
35	Quantum mechanics of many electron species	Slater determinants	01-12-2022	1	6	Lecture
36	Quantum mechanics of many electron species	Roothan's concept	05-12-2022	1	6	Lecture
37	Quantum mechanics of many electron species	Basis functions	05-12-2022	2	6	Lecture

38	Quantum mechanics of many electron species	Slater type orbitals (STO)	08-12-2022	1	6	Lecture
39	Quantum mechanics of many electron species	Gaussian type orbitals	12-12-2022	1	6	Lecture
40	Quantum mechanics of many electron species	Field method for atoms,	12-12-2022	2	6	Lecture
41	Quantum mechanics of many electron species	spin orbitals	15-12-2022	1	6	Lecture
42	Quantum mechanics of many electron species	symmetry breaking .	19-12-2022	1	6	Lecture

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CARMEL COLLEGE (AUTONOMOUS)

Department:CHEMISTRY Semester:S3 Faculty Name SARANYA MP

Subject Planner Report Of CHE3C11 Reagents and Transformations in Organic Chemistry

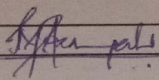
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	synthetic reagents	synthetic application of crown ethers ,b cyclodextrins	06-10-2022	4	3	Tutorial
2	synthetic reagents	PTC ionic liquids,bakers yeast,NBS,LDA,LiAlH ₄ ,LiBH ₄	10-10-2022	1	3	Lecture
3	synthetic reagents	DIEA,BuLi,diborane,9BBN,t butoxy carbonyl chloride,DDC,gilmaans reagent	13-10-2022	4	3	Lecture
4	synthetic reagents	lithium dimethyl cuprates,tri n butyl tin hydride,1,3 dithiane ,tms	17-10-2022	1	3	Lecture
5	synthetic reagents	pboAc ₄ ,ceric ammonium nitrate,DABCO,	20-10-2022	4	3	Lecture
6	synthetic reagents	DMAP,DBU,DDQ<DEAD	25-10-2022	1	3	Lecture
7	synthetic reagents	lindlar catalysts in organic synthesis	28-10-2022	4	3	Lecture
8	chemistry of polymers	classification of polymers ,chain step free radical ionic polymerisation ,plastics rubbers,fibres,	01-11-2022	1	4	Tutorial
9	chemistry of polymers	thermosets and thermoplastics,linear ,branched ,cross linked	04-11-2022	4	4	Tutorial
10	chemistry of polymers	network polymers ,block and graft copolymers ,natural and synthetic rubbers	08-11-2022	1	4	Tutorial

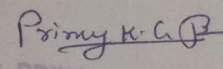


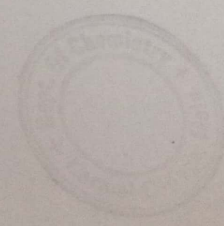
11	chemistry of polymers	biopolymers primary secondary tertiary structures of proteins ,merrifiels peptide synthesis ,protecting groups,sequence determination of peptides and proteins	11-11-2022	4	4	Tutorial
12	chemistry of polymers	structure and synthesis of glutathione ,structure of RNA DNA,structure of cellulose	15-11-2022	1	4	Tutorial
13	chemistry of polymers	structure of strach,conversion of cellulose to rayon	18-11-2022	4	4	Tutorial
14	heterocyclic chemistry and supramolecular chemistry	Aromatic and non aromatic heterocyclics structure synthesis and reactions of few heterocyclics, synthesis of uracil,thymine ,adenine ,guanine	22-11-2022	1	5	Lecture
15	heterocyclic chemistry and supramolecular chemistry	supramolecular chemistrty basic concepts and terminology	25-11-2022	4	5	Lecture
16	heterocyclic chemistry and supramolecular chemistry	molecular regognition,molecular receptors for different cations,anions neutral molecules,design of coreceptors and multiple recognition ,strong weak v weak hydrogen bonds	29-11-2022	1	5	Lecture
17	heterocyclic chemistry and supramolecular chemistry	use of H bonds in crystal engineering and molecular recognition supramolecular reactivity and catalysis supramolecular photochemistryrand eg for supramoilecular devices	02-12-2022	4	5	Lecture
18	molecular rearrangements and transformations	rearrangements occuring thru carbocatiobns ,carbanions carbenes,nitrenes	06-12-2022	1	6	Lecture



19	molecular rearrangements and transformation	wagner meervein ,demjanov ,diene phenol	09-12-2022	4	6	Lecture
20	molecular rearrangements and transformation	benzyl benzilic acid favorskii wolff ,hoffmaan ,curtius, lossen	13-12-2022	1	6	Lecture
21	molecular rearrangements and transformation	schimdt,beckmaan fries baeyer villiger wittig ,orton	16-12-2022	4	6	Lecture
22	molecular rearrangements and transformation	fries rearrangements,peterson reaction	20-12-2022	1	6	Lecture
23	molecular rearrangements and transformation	woodward prevost hydroxylation	23-12-2022	4	6	Lecture
24	molecular rearrangements and transformation	heck ,negishi coupling	27-12-2022	1	6	Lecture
25	molecular rearrangements and transformation	sonagashira, stille coupling ,suzuki coupling	30-12-2022	4	6	Lecture

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CARMEL COLLEGE (AUTONOMOUS)

Department:CHEMISTRY

Semester:S3

Faculty Name :SARANYA M P

Subject Planner Report Of CHE3C09 Molecular spectroscopy

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	basic aspects of microwave spectroscopy	Asymmetric and symmetric and spherical tops	06-10-2022	2	1	Lecture
2	basic aspects of microwave spectroscopy	isotope effect on rotational spectra	13-10-2022	2	1	Lecture
3	basic aspects of microwave spectroscopy	stark effect	20-10-2022	2	1	Lecture
4	basic aspects of microwave spectroscopy	nuclear and electron spin interactions, Rotational transitions ,selection rules ,Bond length calculation	28-10-2022	2	1	Lecture
5	Infrared Raman Electronic spectra	Normal modes of vibration, vibrational spectra of diatomic molecules, anharmonicity, Morse potential fundamentals, overtones, hot bands	04-11-2022	2	2	Lecture

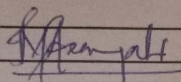


6	Infrared Raman Electronic spectra	combination bands ,difference bands ,vibrational spectras of polyatomic molecules ,vibration rotation spectra of diatomic and polyatomic molecules ,spectral branches P,Q R branches	11-11-2022	2	2	Lecture
7	Infrared Raman Electronic spectra	Raman spectroscopy ,classical and quantum theory of raman effect ,pure rotational and pure vibrational raman spectra	18-11-2022	2	2	Lecture
8	Infrared Raman Electronic spectra	selection rules,mutual exclusion principle,resonance raman spectro ,electronic spectra,vibrational coarse structure	25-11-2022	2	2	Lecture
9	Infrared Raman Electronic spectra	franck codon principle ,types of electronic transitions	02-12-2022	2	2	Lecture
10	Infrared Raman Electronic spectra	Dissociation and predissociation,ground and excited electronic states of diatomic molecules	09-12-2022	2	2	Lecture



11	Infrared Raman Electronic spectra	electronic spectra of polyatomic molecules	16-12-2022	2	2	Lecture
12	Infrared Raman Electronic spectra	conjugated molecules	23-12-2022	2	2	Lecture
13	Infrared Raman Electronic spectra	electronic spectra of conjugated molecules	30-12-2022	2	2	Lecture

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CARMEL COLLEGE (AUTONOMOUS)

Department: CHEMISTRY Semester: S3 Faculty Name SARANYA MP

Subject Planner Report Of CHE3E01 Synthetic organic chemistry(Elective)

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	coupling reactions	pd catalysts for bond formation	10-10-2022	3	4	Lecture
2	coupling reactions	pd catalysed amine arylation	11-10-2022	1	4	Lecture
3	coupling reactions	sonagashira coupling	17-10-2022	3	4	Lecture
4	coupling reactions	stille carbonylative cross couplings	18-10-2022	1	4	Lecture
5	coupling reactions	mechanism and synthetic applications of negishi,hiyama heck	25-10-2022	3	4	Tutorial
6	coupling reactions	suzuki ,suzuku miyuara couplings	26-10-2022	1	4	Tutorial
7	multi step synthesis	synthetic analysis and planning target selection ,elements of a synthesis ,reaction methods ,reagents ,catalysts,solvents ,protective groups for hydroxyl ,amino,carbonyl and carboxylic acids	01-11-2022	3	5	Lecture
8	multi step synthesis	activating groups ,leaving groups ,synthesis and synthetic equivalents	02-11-2022	1	5	Lecture
9	multi step synthesis	types of selectivities synthetic planning with examples	08-11-2022	3	5	Lecture
10	multi step synthesis	disconnections and functional group interconversions	09-11-2022	1	5	Lecture
11	multi step synthesis	umpolung reactions ,use in synthesis, introduction to retro analysis	15-11-2022	3	5	Lecture
12	multi step synthesis	synthesis of longifoline,corey lactone,Djerassi prelog lactone	16-11-2022	1	5	Lecture

13	Retro synthetic analysis and heterocyclics	general principles of retro analysis	22-11-2022	3	6	Lecture
14	Retro synthetic analysis and heterocyclics	Synthons and reagents ,donor and acceptor synthons	23-11-2022	1	6	Lecture
15	Retro synthetic analysis and heterocyclics	umpolung	29-11-2022	3	6	Lecture
16	Retro synthetic analysis and heterocyclics	protecting group chemistry and functional group interconversions	30-11-2022	1	6	Lecture
17	Retro synthetic analysis and heterocyclics	one group and two group CX and C-C disconnections	06-12-2022	3	6	Lecture
18	Retro synthetic analysis and heterocyclics	Functional group transposition ,examples for few retrosynthetic analysis ,paracetamol from phenol,benzocain from toluene and propranolol from 1 naphthol	07-12-2022	1	6	Lecture
19	Retro synthetic analysis and heterocyclics	structure and synthesis reactions of fused ring heterocycles ,benzofuran,indole ,benzothiphen,Quinoline	13-12-2022	3	6	Lecture
20	Retro synthetic analysis and heterocyclics	Benzoxazole ,benzthiazole,benzimidazole,triazaoles	14-12-2022	1	6	Lecture
21	Retro synthetic analysis and heterocyclics	tetrazole ,structure and synthesis of azepines ,oxepines ,thiepins,diazepines	20-12-2022	3	6	Lecture
22	Retro synthetic analysis and heterocyclics	benzodiazepines	21-12-2022	1	6	Lecture
23	Retro synthetic analysis and heterocyclics	structure and synthesis Reichstein process	27-12-2022	3	6	Lecture
24	Retro synthetic analysis and heterocyclics	vitamin c	28-12-2022	1	6	Lecture

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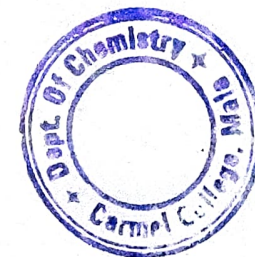
CARMEL COLLEGE (AUTONOMOUS)

Department:CHEMISTRY Semester:S1 Faculty Name:Ancilyn Antu K

Academic Year :2022-23

Subject Planner Of CHE1C02 Elementary inorganic chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Chemistry of Main Group Elements-I	Chemical periodicity-First and Second row anomalies-The diagonal relationship Periodic anomalies of the nonmetals and post-transition metals	13-09-2022	1	2	Lecture
2	Chemistry of Main Group Elements-I	Allotropes of C, S, P, As, Sb, Bi, O, and Se.	13-09-2022	2	2	Lecture
3	Chemistry of Main Group Elements-I	Electron-deficient compounds- Boron hydrides-preparation, reactions, structure, and bonding. Styx numbers-closo, nido, arachno polyhedral structures.	16-09-2022	3	2	Lecture
4	Chemistry of Main Group Elements-I	Electron-deficient compounds- Boron hydrides-preparation, reactions, structure, and bonding. Styx numbers-closo, nido, arachno polyhedral structures.	20-09-2022	1	2	Lecture
5	Chemistry of Main Group Elements-I	Boron cluster compounds-Wade's rule	20-09-2022	2	2	Lecture



6	Chemistry of Main Group Elements-I	Polyhedral borane anion-carboranes, metallaboranes and metallocarboranes	23-09-2022	3	2	Lecture
7	Chemistry of Main Group Elements-I	Borazines and borides.	27-09-2022	3	2	Lecture
8	Concepts of Acids and Bases	Major acid-base concepts, Arrhenius, Bronsted-Lowry, Solvent system, Lux-Flood, Lewis and Usanovich concepts. Classification of acids and bases as hard and soft. HSAB principle. The theoretical basis of hardness and softness.	29-09-2022	1	1	Lecture
9	Concepts of Acids and Bases	Major acid-base concepts, Arrhenius, Bronsted-Lowry, Solvent system, Lux-Flood, Lewis and Usanovich concepts. Classification of acids and bases as hard and soft. HSAB principle. The theoretical basis of hardness and softness. Applications of HSAB concept.	29-09-2022	2	1	Lecture
10	Concepts of Acids and Bases	.Chemistry of nonaqueous solvents- NH ₃ , SO ₂ , H ₂ SO ₄ , BrF ₃ , HF, N ₂ O ₄ , and HSO ₃ F. Nonaqueous solvents and acid-base strength. Super acids - surface acidity.	04-10-2022	1	1	Lecture



11	Concepts of Acids and Bases	Chemistry of nonaqueous solvents- NH ₃ , SO ₂ , H ₂ SO ₄ , BrF ₃ , HF, N ₂ O ₄ , and HSO ₃ F. Nonaqueous solvents and acid-base strength. Super acids-surface acidity.	04-10-2022	2	1	Lecture
12	Concepts of Acids and Bases	The Drago-Wayland equation, E and C parameters- Symbiosis.	07-10-2022	3	1	Lecture
13	Chemistry of Main Group Elements-II	silicates-Structure, molecular sieves-Zeolite	11-10-2022	1	3	Lecture
14	Chemistry of Main Group Elements-II	Silicones Synthesis, structure and uses. Carbides and silicides	11-10-2022	2	3	Lecture
15	Chemistry of Main Group Elements-II	Synthesis, structure, bonding, and uses of Phosphorous-Nitrogen, Phosphorous-Sulphur, and Sulphur-Nitrogen compounds.	14-10-2022	3	3	Lecture
16	Chemistry of Main Group Elements-II	Synthesis, structure, bonding, and uses of Phosphorous-Nitrogen, Phosphorous-Sulphur, and Sulphur-Nitrogen compounds.	18-10-2022	1	1	Lecture
17	Chemistry of Transition and Inner Transition Elements	Heteropoly and isopoly anions of W, Mo, V.	18-10-2022	2	4	Lecture
19	Chemistry of Transition and Inner Transition Elements	Heteropoly and isopoly anions of W, Mo, V.	21-10-2022	3	4	Lecture



20	Chemistry of Transition and Inner Transition Elements	Standard reduction potentials and their diagrammatic representations Ellingham diagram. Latimer and Frost diagrams.	26-10-2022	1	4	Lecture
21	Chemistry of Transition and Inner Transition Elements	Standard reduction potentials and their diagrammatic representations Ellingham diagram. Latimer and Frost diagrams.	26-10-2022	2	4	Lecture
22	Chemistry of Transition and Inner Transition Elements	Pourbaix diagram. Differences between 4f and 5f orbitals. Magnetic and spectroscopic properties.	31-10-2022	3	4	Lecture
23	Chemistry of Transition and Inner Transition Elements	Uranyl compounds. Trans-actinide elements. Super heavy elements : production and chemistry	02-11-2022	1	4	Lecture
24	Chemistry of Transition and Inner Transition Elements	Structure of nucleus: shell, liquid drop, Fermi gas models	02-11-2022	2	4	Lecture
25	Nuclear and Radiation Chemistry	collective and optical models	07-11-2022	3	5	Lecture
26	Nuclear and Radiation Chemistry	Nuclear reaction: Bethe's notation of nuclear process	09-11-2022	1	5	Lecture
27	Nuclear and Radiation Chemistry	- Types-reaction cross section- 16 photonuclear and thermonuclear reactions	09-11-2022	2	5	Lecture
28	Nuclear and Radiation Chemistry	Nuclear fission: Theory of fission neutron capture cross section and critical size.	14-11-2022	3	5	Lecture
29	Nuclear and Radiation Chemistry		16-11-2022	1	5	Lecture



30	Nuclear and Radiation Chemistry	Nuclear fusion. Neutron activation analysis.	16-11-2022	2	5	Lecture
31	Nuclear and Radiation Chemistry	Radiation chemistry: Interaction of radiation with matter.	21-11-2022	3	5	Lecture
32	Nuclear and Radiation Chemistry	Detection and measurement of radiation- GM and scintillation counters	23-11-2022	1	5	Lecture
33	Nuclear and Radiation Chemistry	radiolysis of water radiation hazards-radiation dosimetry	23-11-2022	2	5	Lecture
34	Chemistry of Nanomaterials	History of nanomaterials - Classification. Size - dependence of properties.	28-11-2022	3	6	Lecture
35	Chemistry of Nanomaterials	Synthesis of nanostructures: bottom-up-approach, top-down approach	30-11-2022	1	6	Lecture
36	Chemistry of Nanomaterials	self-assembly, lithography	30-11-2022	2	6	Lecture
37	Chemistry of Nanomaterials	molecular synthesis, template-assisted synthesis	05-12-2022	3	6	Lecture
38	Chemistry of Nanomaterials	s.Methods of characterization: Electron microscopies-SEM, TEM	07-12-2022	1	6	Lecture
39	Chemistry of Nanomaterials	Scanning probe microscopies- STM, AFM	07-12-2022	2	6	Lecture
40	Chemistry of Nanomaterials	X-ray photoelectron spectroscopy (XPS), Dynamic light scattering (DLS)	12-12-2022	3	6	Lecture
41	Chemistry of Nanomaterials	X-ray diffraction (XRD)	14-12-2022	1	6	Lecture
42	Chemistry of Nanomaterials	Applications: Nanoelectronics, nanosensors	14-12-2022	2	6	Lecture



43	Chemistry of Nanomaterials	nanocatalysts, nanofiltration diagnostic and therapeutic applications	19-12-2022	3	6	Lecture
44	Chemistry of Nanomaterials	targeted drug delivery. Introduction to	21-12-2022	1	6	Lecture
45	Chemistry of Nanomaterials	graphenes and fullerenes	21-12-2022	2	6	Lecture

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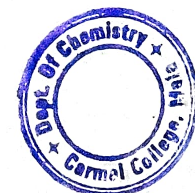
CARMEL COLLEGE (AUTONOMOUS)

Department:CHEMISTRY Semester:S1 Faculty Name:Ancilyn Antu K

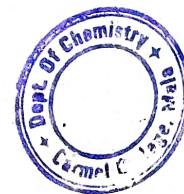
Academic Year :2022-23

Subject Planner Report Of CHE1C04 Thermodynamics, kinetics and catalysis

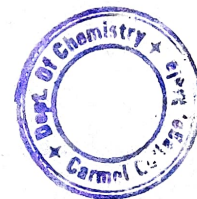
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Surface Chemistry	Structure and chemical nature of surfaces, Adsorption at surfaces - Adsorption isotherms, Langmuir's unimolecular theory of adsorption,	13-09-2022	5	5	Lecture
2	Surface Chemistry	Structure and chemical nature of surfaces, Adsorption at surfaces - Adsorption isotherms, Langmuir's unimolecular theory of adsorption,	16-09-2022	5	5	Lecture
3	Surface Chemistry	BET equation, derivation	20-09-2022	5	5	Lecture
4	Surface Chemistry	BET equation, derivation	23-09-2022	5	5	Lecture
5	Surface Chemistry	Determination of surface area and pore structure of adsorbents - physical adsorption methods, X-ray methods	27-09-2022	5	5	Lecture
6	Surface Chemistry	Determination of surface area and pore structure of adsorbents - physical adsorption methods, X-ray methods	29-09-2022	5	5	Lecture
7	Surface Chemistry	mercury intrusion method, chemisorption methods.	07-10-2022	5	5	Lecture
8	Surface Chemistry	Determination of surface acidity-TPD method.	11-10-2022	5	5	Lecture
9	Surface Chemistry	Heat of adsorption and its determination.	14-10-2022	5	5	Lecture



10	Catalysis	Features of homogeneous catalysis-Enzyme catalysis - Michaelis-Menten Mechanism	18-10-2022	5	6	Lecture
12	Catalysis	Features of homogeneous catalysis-Enzyme catalysis - Michaelis-Menten Mechanism	21-10-2022	5	5	Lecture
13	Catalysis	Features of homogeneous catalysis-Enzyme catalysis - Michaelis-Menten Mechanism	26-10-2022	5	6	Lecture
14	Catalysis	Methods of preparation of heterogeneous catalysts - precipitation and co precipitation methods, sol gel method, flame hydrolysis	31-10-2022	5	6	Lecture
15	Catalysis	Preparation of Zeolites and silica supports	02-11-2022	5	6	Lecture
16	Catalysis	Auto catalysis - oscillating reactions mechanisms of oscillating reactions (Lotko - Volterra, brusselator, and oregonator). Introduction to Phase transfer catalysis, biocatalysis, nanocatalysis, and polymer supported catalysis	07-11-2022	5	6	Lecture
17	Catalysis		09-11-2022	5	6	Lecture
18	Thermodynamics	Review of First and Second law of thermodynamics, Third law of thermodynamics, Need for third law, Nernst heat theorem, Apparent exceptions to third law, Applications of Third law	14-11-2022	5	1	Lecture
19	Thermodynamics	Determination of Absolute entropies, Residual entropy	16-11-2022	5	1	Lecture



20	Thermodynamics	Thermodynamics of Solutions: Partial molar quantities, Chemical potential, Variation of chemical potential with temperature and pressure	21-11-2022	5	1	Lecture
21	Thermodynamics	Partial molar volume and its determination, Gibbs-Duhem equation, Thermodynamics of ideal and real gases and gaseous mixtures	23-11-2022	5	1	Lecture
22	Thermodynamics	Fugacities of gases and their determinations, Activity, Activity coefficient, standard state of substance (for solute and solvents)	28-11-2022	5	1	Lecture
23	Thermodynamics	Duhem Margules equation and its applications.	30-11-2022	5	1	Lecture
24	Thermodynamics	Thermodynamics of ideal solutions, Deduction of the laws of Raoult's ebullioscopy, cryoscopy, and osmotic pressure	05-12-2022	5	1	Lecture
25	Thermodynamics	Non-ideal solutions, Deviations from Raoult's law, Excess functions- excess free energy, excess entropy, excess enthalpy, excess volume	07-12-2022	5	1	Lecture
26	Thermodynamics of Irreversible Processes	Simple examples of irreversible processes, general theory of non-equilibrium processes, entropy production, the phenomenological relations	12-12-2022	5	2	Lecture
27	Thermodynamics of Irreversible Processes		14-12-2022	5	2	Lecture
28	Thermodynamics of Irreversible Processes	Onsager reciprocal relations, application to the theory of diffusion, thermal diffusion	19-12-2022	5	2	Lecture



thermo-osmosis, and thermo- molecular
pressure difference, electro-kinetic
29 Thermodynamics of Irreversible Processes effects, Glansdorf Pregogine equation 21-12-2022 5 2 Lecture

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CARMEL COLLEGE, MALA**DEPARTMENT OF CHEMISTRY***Teaching Plan 2022-23**Faculty Name: Ancilyn Antu K*

Department: CHEMISTRY Batch: MSCH2021 Semester: S2

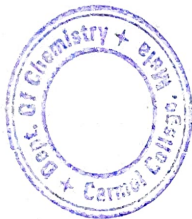
Subject Planner Report Of CHE2C08 Electrochemistry, solid state chemistry, and Statistical Thermodynamics

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	statistical thermodynamics 2	femi-dirac statistics	31-08-2022	3	6	Lecture
2	statistical thermodynamics 2	bose-einstein statistics	30-08-2022	3	6	Lecture
3	statistical thermodynamics 2	liquid helium	24-08-2022	3	6	Lecture
4	statistical thermodynamics 2	fermi-dirac distribution law	23-08-2022	3	6	Lecture
5	statistical thermodynamics 2	bose-einstein distribution law	16-08-2022	3	6	Lecture
6	statistical thermodynamics	factorisation of partition functions	12-08-2022	3	5	Lecture
7	statistical thermodynamics	factorisation of partition functions partition functions and thermodynamic	05-08-2022	3	5	Lecture
8	statistical thermodynamics	properties	04-08-2022	3	5	Lecture
9	statistical thermodynamics	third law of thermodynamics	29-07-2022	3	5	Lecture
10	statistical thermodynamics	partition functions	27-07-2022	3	5	Lecture
11	statistical thermodynamics	maxwell-boltzmann statistics	21-07-2022	3	5	Lecture
12	statistical thermodynamics	thermodynamic probability	20-07-2022	3	5	Lecture
13	statistical thermodynamics	fundamentals	14-07-2022	3	5	Lecture
14	dynamic electrochemistry	different overvoltages	13-07-2022	3	2	Lecture
15	solid state II	Seminar topics discussion	11-07-2022	3	4	Lecture
16	dynamic electrochemistry	polarography	07-07-2022	3	2	Lecture
17	dynamic electrochemistry	theories of hydrogen overvoltage	06-07-2022	3	2	Lecture
18	dynamic electrochemistry	overvoltage	30-06-2022	3	2	Lecture
19	dynamic electrochemistry	polarization	29-06-2022	3	2	Lecture
20	dynamic electrochemistry	tafel plots	23-06-2022	3	2	Lecture
21	dynamic electrochemistry	butler volmer equation	22-06-2022	3	2	Lecture



22	ionic interaction and equilibrium electrochemistry	debye-huckel equation and its applications	16-06-2022	3	1	Lecture
23	ionic interaction and equilibrium electrochemistry	primary,secondary and fuel cells	15-06-2022	3	1	Lecture

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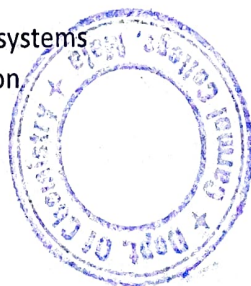
Teaching Plan 2022-23

Faculty Name :Ancilyn Antu K

Department:CHEMISTRY Batch:MSCH2021 Semester:S2

Subject Planner Report Of CHE2C07 Reaction mechanism in Organic Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	esterification and ester hydrolysis	alkyl-oxygen cleavage	31-08-2022	2	3	Lecture
2	esterification and ester hydrolysis	acyl-oxygen cleavage	30-08-2022	2	3	Lecture
3	esterification and ester hydrolysis	mechanism	25-08-2022	1	3	Lecture
4	reactions of carbon-heteromultiple bonds	ritter reaction and thorpe condensation	24-08-2022	2	3	Lecture
5	Pericyclic reactions	ene reactions	23-08-2022	2	4	Lecture
6	Pericyclic reactions	valence tautomerism	17-08-2022	1	4	Lecture
7	Pericyclic reactions	1,3 dipolar cycloaddition reactions and ene reactions	16-08-2022	2	4	Lecture
8	Pericyclic reactions	Diels-Alder reactions	12-08-2022	2	4	Lecture
9	Pericyclic reactions	correlation diagram method	09-08-2022	1	4	Lecture
10	Pericyclic reactions	TS aromaticity method	05-08-2022	2	4	Lecture
11	Pericyclic reactions	group transfer reactions	04-08-2022	2	4	Lecture
12	Pericyclic reactions	chelotropic reactions	01-08-2022	1	4	Lecture
13	Pericyclic reactions	sigmatropic reactions	29-07-2022	2	4	Lecture
14	Pericyclic reactions	cycloaddition reactions	27-07-2022	2	4	Lecture
15	Pericyclic reactions	electrocyclic reactions	22-07-2022	1	4	Lecture
16	Pericyclic reactions	FMO's of different systems	21-07-2022	2	4	Lecture
17	Pericyclic reactions	phase and symmetry of MO's	20-07-2022	2	4	Lecture
18	Addition and elimination reactions	addition to c=c	15-07-2022	1	2	Lecture
19	Addition and elimination reactions	micheal reaction	14-07-2022	2	2	Lecture
20	Addition and elimination reactions	addition to conjugated systems	13-07-2022	2	2	Lecture
21	chemistry of natural products	seminar topics discussion	11-07-2022	2	6	Lecture



22	Addition and elimination reactions	addition to c=c	08-07-2022	1	2	Lecture
23	Addition and elimination reactions	addition to c=c	07-07-2022	2	2	Lecture
24	Addition and elimination reactions	extrusion reactions	06-07-2022	2	2	Lecture
25	Addition and elimination reactions	substitution vs elimination ,basicity vs nucleophilicity	01-07-2022	1	2	Lecture
26	Addition and elimination reactions	saytzev vs hofmann elimination,pyrolytic syn elimination	30-06-2022	2	2	Lecture
27	Addition and elimination reactions	E2 mechanism	29-06-2022	2	2	Lecture
28	Addition and elimination reactions	E1 and E1cB mechanisms	24-06-2022	1	2	Lecture
29	Aliphatic nucleophilic substitution reactions	allylic and benzylic substitution relationship between reactivity and selectivity	23-06-2022	2	1	Lecture
30	Aromatic electrophilic substitution reactions	arenium ion mechanism,substituent effect	22-06-2022	2	1	Lecture
31	Aromatic electrophilic substitution reactions	,ortho/para ratio	17-06-2022	1	1	Lecture
32	Aromatic nucleophilic substitution reactions	SN1 and SRN1 mechanism	16-06-2022	2	1	Lecture
33	Aromatic nucleophilic substitution reactions	SNAr and benzyne mechanisms,cine substitution	15-06-2022	2	1	Lecture

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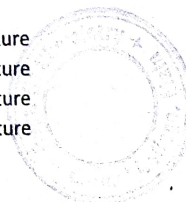
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Academic Year:2022-23

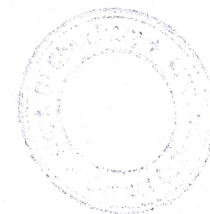
Subject Planner Report Of CHE3C10 -Organometallic & Bioinorganic chemistry

Faculty Name:ANCILYN ANTU K

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Organometallic reactions and catalysis	Organometallic reactions-oxidative addition	20-07-2022	4	3	Lecture
2	Organometallic reactions and catalysis	reductive elimination	21-07-2022	4	3	Lecture
3	Organometallic reactions and catalysis	Insertion reactions	29-07-2022	4	3	Lecture
4	Organometallic reactions and catalysis	Carbonylation	12-08-2022	4	3	Lecture
5	Organometallic reactions and catalysis	Electrophilic attack and nucleophilic attack	23-08-2022	4	3	Lecture
6	Organometallic reactions and catalysis	Hydrogenation by Wilkinson's catalyst,	30-08-2022	4	3	Lecture
7	Organometallic reactions and catalysis	Hydroformylation,	12-09-2022	4	3	Lecture
8	Organometallic reactions and catalysis	Wacker process,	19-09-2022	4	3	Lecture
9	Organometallic reactions and catalysis	Monsanto acetic acid process,	28-09-2022	4	3	Lecture
10	Organometallic reactions and catalysis	Cativa process	04-10-2022	4	3	Lecture
11	Organometallic reactions and catalysis	olefin metathesis.	10-10-2022	2	3	Lecture
12	Organometallic reactions and catalysis	Homogeneous and heterogeneous catalysts	10-10-2022	4	3	Lecture
13	Organometallic reactions and catalysis	Heterogeneous catalysis by organometallic compounds: Ziegler-Natta polymerizations	17-10-2022	2	3	Lecture
14	Organometallic reactions and catalysis	Fischer- Tropsch process	17-10-2022	4	3	Lecture
15	Organometallic reactions and catalysis	water gas shift reaction.	25-10-2022	2	3	Lecture
16	Metal clusters	Metal-Metal bond and metal clusters.	25-10-2022	4	4	Lecture



17	Metal clusters	Bonding in metal-metal single, double, triple and quadruple bonded non-carbonyl clusters.	01-11-2022	2	4	Lecture
18	Metal clusters	Bonding in metal-metal single, double, triple and quadruple bonded non-carbonyl clusters.	01-11-2022	4	4	Lecture
19	Metal clusters	. Carbonyl clusters-electron count and structure of clusters.	08-11-2022	2	4	Lecture
20	Metal clusters	Wade-Mingos-Lauher rules.	08-11-2022	4	4	Lecture
21	Metal clusters	Structure and isolobal analogies.	15-11-2022	2	4	Lecture
22	Metal clusters	Carbide clusters.	15-11-2022	4	4	Lecture
23	Metal clusters	Polyatomic Zintl anions and cations. Chevrel phases.	22-11-2022	2	4	Lecture
24	Organometallic compounds of linear and cyclic pi systems	Transition metal complexes with linear π -systems- Hapticity.	22-11-2022	4	2	Lecture
25	Organometallic compounds of linear and cyclic pi systems	Synthesis, structure, bonding and properties of complexes with ethylene, allyl, butadiene and acetylene.	29-11-2022	2	2	Lecture
26	Organometallic compounds of linear and cyclic pi systems	Complexes of cyclic π - systems-Synthesis, structure, bonding and properties of complexes with cyclobutadiene, $C_5H_5^-$, C_6H_6 , $C_7H_7^+$ and $C_8H_8^{2-}$.	29-11-2022	4	2	Lecture
27	Organometallic compounds of linear and cyclic pi systems	Fullerene complexes.	06-12-2022	2	2	Lecture
28	Organometallic compounds of linear and cyclic pi systems	Fluxional organometallics	06-12-2022	4	2	Lecture
29	Introduction to Organometallic Chemistry	Classification and alkyl and aryls of main group metals	13-12-2022	2	1	Lecture



30	Introduction to Organometallic Chemistry	Organometallic compounds of transition metals. The 18-electron rule, electron counting by neutral atom method and oxidation state method. The 16-electron rule.	13-12-2022	4	1	Lecture
31	Introduction to Organometallic Chemistry	Metal carbonyls- Synthesis, structure, bonding and reactions	20-12-2022	2	1	Lecture
32	Introduction to Organometallic Chemistry	Nitrosyl, dihydrogen and dinitrogen complexes.	20-12-2022	4	1	Lecture
33	Introduction to Organometallic Chemistry	Nitrosyl, dihydrogen and dinitrogen complexes.	27-12-2022	2	1	Lecture
34	Introduction to Organometallic Chemistry	Transition metal to carbon multiple bond-metal carbenes and carbines.	27-12-2022	4	1	Lecture

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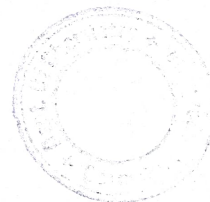
CARMEL COLLEGE (AUTONOMOUS)

DEPARTMENT OF CHEMISTRY

Faculty Name: Ancilyn Antu K

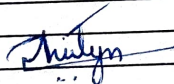
Subject Planner Of CHE3C11 -Reagents and Transformations in Organic Chemistry

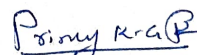
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Oxidations	Oxidation using DMSO,oxoammonium ions	18-07-2022	3	1	Lecture
2	Oxidations	Transition metal oxidants	18-07-2022	4	1	Lecture
3	Oxidations	Epoxydation of alkenes by preoxy acids	20-07-2022	1	1	Lecture
4	Oxidations	Sharpless asymmetric epoxidation	21-07-2022	1	1	Lecture
5	Oxidations	Jacobsen epoxidation,	26-07-2022	3	1	Lecture
6	Oxidations	Dihydroxylation of alkenes using permanganate ion and osmium tetroxide	26-07-2022	4	1	Lecture
7	Oxidations	Prevost and Woodward dihydroxylations,	29-07-2022	1	1	Lecture
8	Oxidations	Sharpless asymmetric dihydroxylation	05-08-2022	3	1	Lecture
9	Oxidations	Allylic oxidation with CrO ₃ , Pyridine reagent. Oxidative cleavage of alkenes to carbonyls	05-08-2022	4	1	Lecture
10	Oxidations	using O ₃ .	10-08-2022	3	1	Lecture
11	Oxidations	Oxidative decarboxylation	10-08-2022	4	1	Lecture
12	Oxidations	Riley reaction	12-08-2022	1	1	Lecture
13	Oxidations	Baeyer Villiger oxidation	19-08-2022	3	1	Lecture
14	Oxidations	Dess Martin oxidation	19-08-2022	4	1	Lecture
15	Oxidations	Swern oxidation,	23-08-2022	1	1	Lecture
16	Oxidations	Hydroboration oxidation.	26-08-2022	3	1	Lecture

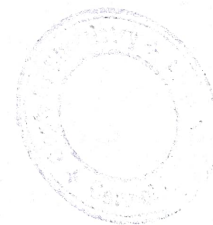


17	Reductions	Catalytic hydrogenation of alkenes and other functional groups (heterogeneous and homogeneous),	26-08-2022	4	2	Lecture
18	Reductions	Catalytic hydrogenation of alkenes and other functional groups (heterogeneous and homogeneous),	30-08-2022	1	2	Lecture
19	Reductions	Noyori asymmetric hydrogenation,	12-09-2022	1	2	Lecture
20	Reductions	Hydrogenolysis.	15-09-2022	3	2	Lecture
21	Reductions	Liquid ammonia reduction with alkali metals.	15-09-2022	4	2	Lecture
22	Reductions	Metal hydride reductions.	19-09-2022	1	2	Lecture
23	Reductions	Reduction of carbonyl group with hydrazine	23-09-2022	3	2	Lecture
24	Reductions	p-tosylhydrazine	23-09-2022	4	2	Lecture
25	Reductions	diimide	26-09-2022	3	2	Lecture
26	Reductions	semicarbazide.	26-09-2022	4	2	Lecture
27	Reductions	Clemmensen reduction,	28-09-2022	1	2	Lecture
28	Reductions	Birch reduction.	03-10-2022	3	2	Lecture
29	Reductions	Wolff Kishner reduction	03-10-2022	4	2	Lecture
30	Reductions	McMurry coupling, Shapiro reaction	04-10-2022	3	2	Lecture
31	Reductions	Bouveault Blanc reduction	06-10-2022	1	2	Lecture
32	Reductions	MPV reduction	13-10-2022	1	2	Lecture
33	Reductions	Hydroboration	20-10-2022	1	2	Lecture
34	Reductions	Pinacol coupling	28-10-2022	1	2	Lecture

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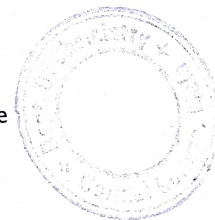
DEPARTMENT OF CHEMISTRY

Academic Year:2022-23

Subject Planner Of CHE3E01- Synthetic organic chemistry(Elective)

Faculty Name:ANCILYN ANTU K

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Reagents for Oxidation and Reduction	Reagents for oxidation and reduction: Oxone	18-07-2022	5	1	Lecture
2	Reagents for Oxidation and Reduction	IBX and PCC	20-07-2022	5	1	Lecture
3	Reagents for Oxidation and Reduction	osmium tetroxide, ruthenium tetroxide, selenium dioxide, molecular oxygen (singlet and triplet), peracids	21-07-2022	5	1	Lecture
4	Reagents for Oxidation and Reduction	peracids, hydrogen peroxide, aluminum isopropoxide, periodic acid, lead tetraacetate.	26-07-2022	5	1	Lecture
5	Reagents for Oxidation and Reduction	Wacker oxidation, TEMPO oxidation,	29-07-2022	5	1	Lecture
6	Reagents for Oxidation and Reduction	Swern oxidation, Woodward and Prevost hydroxylation, Sharpless asymmetric epoxidation.	05-08-2022	5	1	Lecture
7	Reagents for Oxidation and Reduction	Catalytic hydrogenations (heterogeneous and homogeneous),	10-08-2022	5	1	Lecture
8	Reagents for Oxidation and Reduction	metal hydrides, Birch reduction,	12-08-2022	5	1	Lecture
9	Reagents for Oxidation and Reduction	hydrazine and diimide reduction.	19-08-2022	5	1	Lecture
10	Reagents for Oxidation and Reduction		23-08-2022	5	1	Lecture
11	Organometallic and Organo-nonmetallic Reagents	Synthetic applications of organometallic and organo-nonmetallic reagents.	26-08-2022	5	2	Lecture

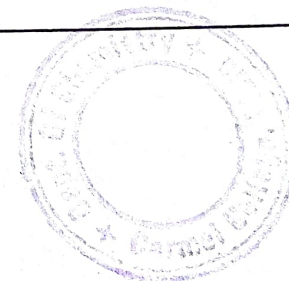


12	Organometallic and Organo-nonmetallic Reagents	Synthetic applications of organometallic and organo-nonmetallic reagents.	30-08-2022	5	2	Lecture
13	Organometallic and Organo-nonmetallic Reagents	Reagents based on chromium, nickel, palladium, silicon, and born,	12-09-2022	5	2	Lecture
14	Organometallic and Organo-nonmetallic Reagents	Reagents based on chromium, nickel, palladium, silicon, and born,	15-09-2022	5	2	Lecture
15	Organometallic and Organo-nonmetallic Reagents	Reagents based on chromium, nickel, palladium, silicon, and born,	19-09-2022	5	2	Lecture
16	Organometallic and Organo-nonmetallic Reagents	Reagents based on chromium, nickel, palladium, silicon, and born,	23-09-2022	5	2	Lecture
17	Organometallic and Organo-nonmetallic Reagents	Gilman reagent,	26-09-2022	5	2	Lecture
18	Organometallic and Organo-nonmetallic Reagents	phase transfer catalysts,	28-09-2022	5	2	Lecture
19	Organometallic and Organo-nonmetallic Reagents	hydroboration reactions	03-10-2022	5	2	Lecture
20	Organometallic and Organo-nonmetallic Reagents	Gilman reagent,	04-10-2022	5	2	Lecture
21	Organometallic and Organo-nonmetallic Reagents	synthetic applications of alkylboranes	06-10-2022	5	2	Lecture
22	Organometallic and Organo-nonmetallic Reagents	Tri -n-butyl tin hydride, Benzene TricarbonylChromium	13-10-2022	5	2	Lecture
23	Organometallic and Organo-nonmetallic Reagents	Tri -n-butyl tin hydride, Benzene TricarbonylChromium	20-10-2022	5	2	Lecture
24	Organometallic and Organo-nonmetallic Reagents	phase transfer catalysts,	28-10-2022	5	2	Lecture

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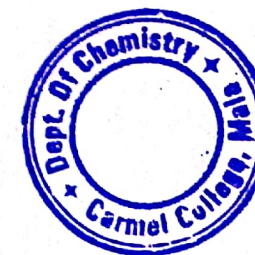
Department:CHEMISTRY Batch:MSCH2021 Semester:S4 Faculty Name: AncilynAntu K

Subject Planner Report Of CHE4E08 Organometallic Chemistry

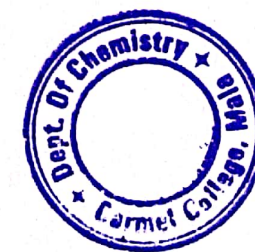
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Organometallics-V	Applications of organometallic compounds in organic synthesis	01-11-2022	2	5	Lecture
2	Organometallics-V	Complex formation and activation of H ₂ , N ₂ , O ₂ , NO by	01-11-2022	4	5	Lecture
3	Organometallics-V	Complex formation and activation of H ₂ , N ₂ , O ₂ , NO by	08-11-2022	2	5	Lecture
4	Organometallics-V	Catalytic steps, Oxidative addition, reductive elimination	08-11-2022	4	5	Lecture
5	Organometallics-V	Hydrozirconation of alkenes and alkynes. Homogeneous	15-11-2022	2	5	Lecture
6	Organometallics-V	Hydrogenation, isomerization of alkenes, alkyne, cycloadditions	15-11-2022	4	5	Lecture
7	Organometallics-V	Zeigler-Natta catalysis, hydroformylation of alkenes,	22-11-2022	2	5	Lecture
8	Organometallics-V	Monsanto acetic acid process and Wacker process	22-11-2022	4	5	Lecture
9	Organometallics-V	Metal complexes in enantioselective synthesis	29-11-2022	2	5	Lecture
10	Organometallics-V	Metal complexes in enantioselective synthesis	29-11-2022	4	5	Lecture
11	Organometallics-V	Organometallic reactions. SN ₂ Reactions, Radical Mechanisms	06-12-2022	2	6	Lecture
12	Organometallics-V	Ionic Mechanisms, δ -Bond	06-12-2022	4	6	Lecture



13	Organometallics-VI	Oxidative Coupling and Reactions involving CO,	13-12-2022	2	6	Lecture
14	Organometallics-VI	Insertions Involving Alkenes	13-12-2022	4	6	Lecture
15	Organometallics-VI	Other Insertions, 伪, 尾, 纬 and 未 Elimination,	20-12-2022	2	6	Lecture
16	Organometallics-VI	Deinsertion and Nucleophilic and electrophilic attack on	20-12-2022	4	6	Lecture
17	Organometallics-VI	Deinsertion and Nucleophilic and electrophilic attack on	30-12-2022	2	6	Lecture
18	Organometallics-VII	Applications of organometallic reaction. Homogeneous	30-12-2022	4	7	Lecture
19	Organometallics-VII	General features of catalysis.	04-01-2023	2	7	Lecture
20	Organometallics-VII	Types of catalyst. Catalytic	04-01-2023	4	7	Lecture
21	Organometallics-VII	Water-gas shift reaction.	11-01-2023	2	7	Lecture
22	Organometallics-VII	Fisher-Tropsch reaction.	11-01-2023	4	7	Lecture
23	Organometallics-VII	Hydrosilation of alkenes.	18-01-2023	2	7	Lecture
24	Organometallics-VII	Hydrocyanation of alkenes.	18-01-2023	4	7	Lecture
25	Organometallics-VIII	Organometallic Polymers.	25-01-2023	2	8	Lecture
26	Organometallics-VIII	Polymers with organometallic moieties as pendant groups	25-01-2023	4	8	Lecture
27	Organometallics-VIII	Polymers with organometallic moieties as pendant groups	28-01-2023	2	8	Lecture
28	Organometallics-VIII	Polymers with organometallic moieties in the main chain.	28-01-2023	4	8	Lecture
29	Organometallics-VIII	Polymers with organometallic moieties in the main chain.	02-02-2023	2	8	Lecture



30	Organometallics-VIII	Condensation polymers based on ferrocene and on rigid rod polyynes, poly (ferrocenylsilane)s, applications	02-02-2023	4	8	Lecture
31	Organometallics-VIII	Condensation polymers based on ferrocene and on rigid rod polyynes, poly (ferrocenylsilane)s, applications	09-02-2023	2	8	Lecture
32	Organometallics-VIII	Condensation polymers based on ferrocene and on rigid rod polyynes, poly (ferrocenylsilane)s, applications	09-02-2023	4	8	Lecture
33	Organometallics-VIII	Condensation polymers based on ferrocene and on rigid rod polyynes, poly (ferrocenylsilane)s, applications	16-02-2023	2	8	Lecture
34	Organometallics-VIII	Applications of rigid-rod	16-02-2023	4	8	Lecture
35	Organometallics-VIII	Applications of rigid-rod	23-02-2023	2	8	Lecture
36	Organometallics-VIII	polygermanes and	23-02-2023	4	8	Lecture
37	Organometallics-VIII	polygermanes and	02-03-2023	2	8	Lecture
38	Organometallics-VIII	Polymers prepared by ring opening polymerization.	02-03-2023	4	8	Lecture
39	Organometallics-VIII	Polymers prepared by ring opening polymerization.	09-03-2023	2	8	Lecture
40	Organometallics-VIII	Polymers prepared by ring opening polymerization.	09-03-2023	4	8	Lecture
41	Organometallics-VIII	Organometallic dendrimers.	16-03-2023	2	8	Lecture
42	Organometallics-VIII	Organometallic dendrimers.	16-03-2023	4	8	Lecture
43	Organometallics-VIII	Revision	23-03-2023	2	8	Lecture
44	Organometallics-VII	Revision	23-03-2023	4	7	Lecture
45	Organometallics-VI	Revision	30-03-2023	2	6	Lecture



46	Organometallics-V	Revision	30-03-2023	4	5	Lecture <i>Princy</i> Ancilyh Antu K

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Department: CHEMISTRY Batch: MSCH2021 Semester: S4 Faculty Name: Ancilyn Antu K

Subject Planner Report Of CHE4E06 Natural products & Polymer Chemistry (Elective)

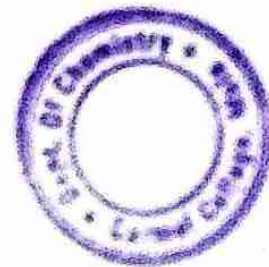
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Polymerization Processes	Polymerization processes. Free radical addition polymerization. Kinetics and mechanism. Chain transfer. Mayo-walling equation of the steady state.	04-11-2022	1	5	Lecture
2	Polymerization Processes	Molecular weight distribution and molecular weight control. Radical Atom Transfer and Fragmentation – Addition mechanism. Free radical living polymers. Cationic and anionic polymerization. Kinetics and mechanism, Polymerization without termination. Living polymers.	04-11-2022	5	5	Lecture
3	Polymerization Processes	Step Growth polymerization. Kinetics and mechanism. Molecular weight distribution. Linear Vs cyclic polymerization, other modes of polymerization.	11-11-2022	1	5	Lecture
4	Polymerization Processes	Step Growth polymerization. Kinetics and mechanism. Molecular weight distribution. Linear Vs cyclic polymerization, other modes of polymerization.	11-11-2022	5	5	Lecture
5	Polymerization Processes	Group Transfer, metathesis and ring opening polymerization. Copolymerization. The copolymerization equation, Q-e scheme, Gelation and Crosslinking.	18-11-2022	1	5	Lecture
6	Polymerization Processes		18-11-2022	5	5	Lecture



7	Polymerization Processes	Group Transfer, metathesis and ring opening polymerization. Copolymerization. The copolymerization equation, Q-e scheme, Gelation and Crosslinking.	25-11-2022	1	5	Lecture
8	Polymerization Processes	Copolymer composition drift Polymerization techniques. Bulk Solution, melt, suspension techniques.	25-11-2022	5	5	Lecture
9	Polymerization Processes	Copolymer composition drift Polymerization techniques. Bulk Solution, melt, suspension techniques.	02-12-2022	1	5	Lecture
10	Polymerization Processes	emulsion and dispersion techniques	02-12-2022	5	5	Lecture
11	Characterization and Stereochemistry of Polymers	Polymer Stereochemistry. Organizational features of polymer chains. Configuration and conformation, Tacticity	09-12-2022	1	6	Lecture
12	Characterization and Stereochemistry of Polymers	Repeating units with more than one asymmetric center. Chiral polymers - main chain and side chain. Stereoregular	09-12-2022	5	6	Lecture
13	Characterization and Stereochemistry of Polymers	Repeating units with more than one asymmetric center. Chiral polymers - main chain and side chain. Stereoregular	16-12-2022	1	6	Lecture
14	Characterization and Stereochemistry of Polymers	Manipulation of polymerization processes. Zeigler-Natta and Kaminsky routes. Coordination polymerization.	16-12-2022	5	6	Lecture
15	Characterization and Stereochemistry of Polymers	Metallocene and metal oxide catalysts. Polymer Characterization.	23-12-2022	1	6	Lecture
16	Characterization and Stereochemistry of Polymers	Molecular weights. Concept of average molecular weights, Molecular weight distribution. Methods for determining molecular weights. Static and dynamic methods, Light scattering and GPC	23-12-2022	5	6	Lecture



17	Characterization and Stereochemistry of Polymers	Molecular weights. Concept of average molecular weights, Molecular weight distribution. Methods for determining molecular weights. Static and dynamic methods. Light scattering and GPC.	06-01-2023	1	6	Lecture
18	Characterization and Stereochemistry of Polymers	Crystalline and amorphous states. Glassy and Rubbery States. Glass transition and crystalline melting.	06-01-2023	5	6	Lecture
19	Characterization and Stereochemistry of Polymers	Spherulites and Lamellae.	13-01-2023	1	6	Lecture
20	Characterization and Stereochemistry of Polymers	Degree of Crystallinity, X-ray diffraction	13-01-2023	5	6	Lecture
21	Polymer Solutions, Industrial polymers and Copolymers	Polymer Solutions. Treatment of dilute solution data. Thermodynamics.	20-01-2023	1	7	Lecture
22	Polymer Solutions, Industrial polymers and Copolymers	Flory-Huggins equation. Chain dimension-chain stiffness - End-to-end distance	20-01-2023	5	7	Lecture
23	Polymer Solutions, Industrial polymers and Copolymers	Conformation-random coil, Solvation and Swelling. Flory-Reiner equation	26-01-2023	1	7	Lecture
24	Polymer Solutions, Industrial polymers and Copolymers	Determination of degree of crosslinking and molecular weight between crosslinks.	26-01-2023	5	7	Lecture
25	Polymer Solutions, Industrial polymers and Copolymers	Synthesis, Structure and applications. Polyethylene, polypropylene.	30-01-2023	1	7	Lecture
26	Polymer Solutions, Industrial polymers and Copolymers	polystyrene. Homo and Copolymers.	30-01-2023	5	7	Lecture
27	Polymer Solutions, Industrial polymers and Copolymers	Diene rubbers. Vinyl and acrylic polymers.	06-02-2023	1	7	Lecture
28	Polymer Solutions, Industrial polymers and Copolymers	PVC, PVA, PAN, PMMA and related polymers	06-02-2023	5	7	Lecture
29	Polymer Solutions, Industrial polymers and Copolymers	PVC, PVA, PAN, PMMA and related polymers	13-02-2023	1	7	Lecture



30	Polymer Solutions, Industrial polymers and Copolymers	Copolymers. EVA polymers.	13-02-2023	5	7	Lecture
31	Polymer Solutions, Industrial polymers and Copolymers	Flourine containing polymers. Polyacetals.	20-02-2023	1	7	Lecture
32	Polymer Solutions, Industrial polymers and Copolymers	Reaction polymers. Polyamides, polyesters	20-02-2023	5	7	Lecture
33	Polymer Solutions, Industrial polymers and Copolymers	Epoxides, polyurethanes, polycarbonates	27-02-2023	1	7	Lecture
34	Polymer Solutions, Industrial polymers and Copolymers	phenolics, PEEK	27-02-2023	5	7	Lecture
35	Speciality Polymers	Reactions of polymers. Polymers as aids in Organic Synthesis.	06-03-2023	1	8	Lecture
36	Speciality Polymers	Polymeric Reagents, Catalysts, Substrates. Liquid Crystalline polymers.	06-03-2023	5	8	Lecture
37	Speciality Polymers	Main chain and side chain liquid crystalline polymers. Phase morphology.	13-03-2023	1	8	Lecture
38	Speciality Polymers	Conducting polymers. Polymers with high bandwidth. Polyanilines, polypyrrols, polythiophines, poly (vinylene phenylene)	13-03-2023	5	8	Lecture
39	Speciality Polymers	Photoresponsive and photorefractive polymers. Polymers in optical lithography	20-03-2023	1	8	Lecture
40	Speciality Polymers	Photoresponsive and photorefractive polymers. Polymers in optical lithography	20-03-2023	5	8	Lecture
41	Speciality Polymers	Polymer photoresists. Electrical properties of Polymers	27-03-2023	1	8	Lecture
42	Speciality Polymers	Polymers with NLO properties, second and third harmonic generation, and wave guide	27-03-2023	5	8	Lecture

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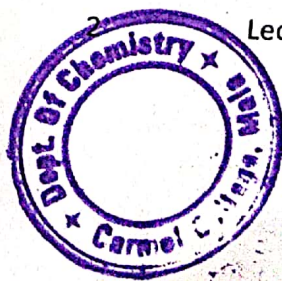
Department:CHEMISTRY Batch:BSCH2022 Semester:S1

Subject Planner Report of CHE1B01 Theoretical and Inorganic Chemistry- I

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Chemistry as a discipline of science	What is science? Scientific statements	23-08-2022	4	1	Lecture
2	Chemistry as a discipline of science	scientific methods - observation - posing a question - formulation of hypothesis - experiment	30-08-2022	4	1	Lecture
3	Chemistry as a discipline of science	theory - law -revision of scientific theories and laws.	12-09-2022	4	1	Lecture
4	Chemistry as a discipline of science	. Scientific research: selecting a topic for research, design of an experiment	19-09-2022	4	1	Lecture
5	Chemistry as a discipline of science	sampling, use of controls, experimental bias, analysis, results and discussion of results, statistical analysis of experimental data, preparation of seminar papers, major publishers in chemical science, author citation, reviews and keywords.	28-09-2022	4	1	Lecture
6	Chemistry as a discipline of science	Publishing a research work: Int	10-10-2022	4	1	Lecture
7	Chemistry as a discipline of science	Revision	17-10-2022	4	1	Lecture
8	Chemistry as a discipline of science	Revision	18-10-2022	1	1	Lecture

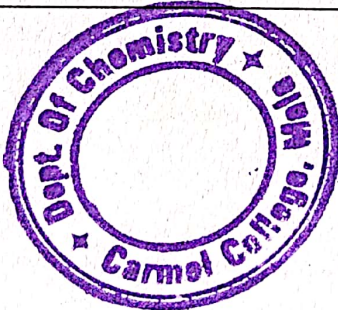


10	Periodic Properties	Ionization enthalpy - Electron affinity	20-10-2022	4	3	Lecture
11	Periodic Properties	Electronegativity: Pauling and Mullikan scales.	26-10-2022	1	3	Lecture
12	Periodic Properties	Electronegativity: Pauling and Mullikan scales.	28-10-2022	4	3	Lecture
13	Periodic Properties	Effective nuclear charge $\hat{\epsilon}$ " Slater rule and its applications $\hat{\epsilon}$ "	28-10-2022	4	3	Lecture
14	Periodic Properties	Polarising power $\hat{\epsilon}$ " Fajans rule.	02-11-2022	1	3	Lecture
15	Periodic Properties	Revision	04-11-2022	4	3	Lecture
16	Analytical Principles $\hat{\epsilon}$ " I	Prerequisites:	09-11-2022	1	3	Lecture
17	Analytical Principles $\hat{\epsilon}$ " I	Laboratory Hygiene and Safety:	11-11-2022	4	2	Lecture
18	Analytical Principles $\hat{\epsilon}$ " I	Simple first aids:	16-11-2022	1	2	Lecture
19	Analytical Principles $\hat{\epsilon}$ " I	Disposal of sodium and broken mercury thermometer	18-11-2022	4	2	Lecture
20	Analytical Principles $\hat{\epsilon}$ " I	Use of calcium chloride and silica gel in desiccators. $\hat{\epsilon}$ "	23-11-2022	1	2	Lecture
21	Analytical Principles $\hat{\epsilon}$ " I	R & S Phrases, Personal Protective Equipment (PPE).	25-11-2022	4	2	Lecture
22	Analytical Principles $\hat{\epsilon}$ " I	Methods of expressing errors, Methods of expressing concentration	30-11-2022	1	2	Lecture
23	Analytical Principles $\hat{\epsilon}$ " I	Volumetric Analysis: Theory of titrations involving acids and bases	02-12-2022	4	2	Lecture
24	Analytical Principles $\hat{\epsilon}$ " I	KMnO ₄ , K ₂ Cr ₂ O ₇ , I ₂ and liberated I ₂	07-12-2022	1	2	Lecture
			09-12-2022	4	2	Lecture



25	Analytical Principles I	-Complexometric titrations. Indicators: Theory of acid-base, redox, adsorption and complexometric indicators. Double burette method of titration:	14-12-2022	1	2	Lecture
26	Analytical Principles I	Revision	16-12-2022	4	2	Lecture
27	Analytical Principles I	Revision	21-12-2022	1	2	Lecture

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Subject Planner Report Of S5 Chemistry Open Course

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Environmental Pollution	Environmental segments [read more]	02-06-2022	3	1	Lecture
2	Environmental Pollution	components of soils,	06-06-2022	3	1	Lecture
3	Environmental Pollution	Biosphere,	09-06-2022	3	1	Lecture
4	Environmental Pollution	Atmosphere.- regions of A [read more]	13-06-2022	3	1	Lecture
5	Environmental Pollution	Environmental pollution [read more]	15-06-2022	3	1	Lecture
6	Environmental Pollution	Pollutant, contaminant, r [read more]	16-06-2022	3	1	Lecture
7	Environmental Pollution	Classification of polluta [read more]	11-07-2022	3	1	Lecture
8	Air Pollution	Tropospheric pollution [read more]	18-07-2022	3	2	Lecture
9	Air Pollution	Hydrocarbons, Oxides of s [read more]	22-07-2022	3	2	Lecture
10	Air Pollution	“ Global warming, green [read more]	26-07-2022	3	2	Lecture
11	Air Pollution	London smog and photoche [read more]	01-08-2022	3	2	Lecture
12	Air Pollution	stratospheric pollution [read more]	16-08-2022	3	2	Lecture
13	Air Pollution	Alternate refrigerants [read more]	19-08-2022	3	2	Lecture
14	Soil, Noise, Thermal and Radioactive	Soil pollution:	24-08-2022	3	3	Lecture

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Pollutions						
15	Soil, Noise, Thermal and Radioactive Pollutions	Solid waste Management	26-08-2022	3	3	Lecture
16	Soil, Noise, Thermal and Radioactive Pollutions	Non-degradable, degradabl [read more]	01-09-2022	3	3	Lecture
17	Soil, Noise, Thermal and Radioactive Pollutions	Noise Pollution	13-09-2022	3	3	Lecture
18	Soil, Noise, Thermal and Radioactive Pollutions	Thermal pollution	16-09-2022	3	3	Lecture
19	Soil, Noise, Thermal and Radioactive Pollutions	Control measures	16-09-2022	3	3	Lecture
20	Soil, Noise, Thermal and Radioactive Pollutions	Radioactive pollution	20-09-2022	3	3	Lecture
21	Soil, Noise, Thermal and Radioactive Pollutions	Hiroshima, Nagasaki and\\ [read more]	22-09-2022	3	3	Lecture
22	Soil, Noise, Thermal and Radioactive Pollutions	Endosulfan disaster in Ke [read more]	27-09-2022	3	3	Lecture
23	Pollution Control Measures	Air pollution control mea [read more]	04-10-2022	3	5	Lecture
24	Pollution Control Measures	Gravitational settling ch [read more]	06-10-2022	3	5	Lecture
25	Pollution Control Measures	catalytic converters, sta [read more]	11-10-2022	3	5	Lecture
26	Pollution Control Measures	cyclone collectors, Cottr [read more]	13-10-2022	3	5	Lecture

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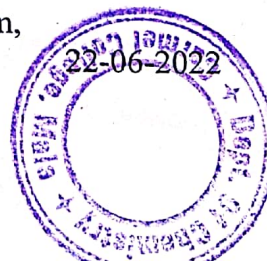
Teaching Plan 2022-23

Faculty - Dr. VIDYA FRANCIS

Department: CHEMISTRY Batch: BSCH2020 Semester: S5

Subject Planner Report Of CHE5B08 Physical Chemistry-II

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Phase equilibria	Gibbs phase rule and its derivation	01-06-2022	2	3	Lecture
2	Phase equilibria	Clausius-Clapeyron equation and its applications	02-06-2022	1	3	Lecture
3	Phase equilibria	liquid-vapour and solid-vapour equilibria	03-06-2022	3	3	Lecture
4	Phase equilibria	Water system	06-06-2022	2	3	Lecture
5	Phase equilibria	sulphur systems	08-06-2022	5	3	Lecture
6	Phase equilibria	Two component systems involving formation of compounds with congruent melting points	09-06-2022	1	3	Lecture
7	Phase equilibria	Partially miscible	10-06-2022	3	3	Lecture
8	Phase equilibria	Pattinson's process	13-06-2022	2	3	Lecture
9	Phase equilibria	involving formation of compounds with incongruent melting point	15-06-2022	5	3	Lecture
10	Phase equilibria	zinc-magnesium system	16-06-2022	1	3	Lecture
11	Phase equilibria	Freezing mixtures	17-06-2022	3	3	Lecture
12	Phase equilibria	Deliquescence and efflorescence.	20-06-2022	2	3	Lecture
13	Phase equilibria	Partially miscible and immiscible liquid system, Steam distillation. Nernst distribution law	22-06-2022	5	3	Lecture



14	Molecular Spectroscopy I	Interaction of electromagnetic radiation with matter	23-06-2022	1	4	Lecture
15	Molecular Spectroscopy I	Qualitative aspects, Einstein, absorption-emission	24-06-2022	3	4	Lecture
16	Molecular Spectroscopy I	Vibrational Spectroscopy:	27-06-2022	2	4	Lecture
17	Molecular Spectroscopy I	Raman Spectroscopy:	29-06-2022	5	4	Lecture
18	Molecular Spectroscopy I	Electronic Spectroscopy:	30-06-2022	1	4	Lecture
19	Molecular Spectroscopy I	Overtones "Fingerprint region"	01-07-2022	3	4	Lecture
20	Molecular Spectroscopy I	Modes of vibrations of CO ₂ and H ₂ O	04-07-2022	2	4	Lecture
21	Molecular Spectroscopy I	"Stokes & anti-stokes line"	06-07-2022	5	4	Lecture
22	Molecular Spectroscopy I	Mutual exclusion principle.	07-07-2022	1	4	Lecture
23	Molecular Spectroscopy I	Basic principles	08-07-2022	3	4	Lecture
24	Molecular Spectroscopy I	Frank-Condon principle	11-07-2022	2	4	Lecture
25	Molecular Spectroscopy I	Electronic transitions	13-07-2022	5	4	Lecture
26	Molecular Spectroscopy I	Beer Lamberts law	14-07-2022	1	4	Lecture
27	Molecular Spectroscopy I	Chromophore and auxochrome	15-07-2022	3	4	Lecture



28	Molecular Spectroscopy I	Bathochromic and hypsochromic shifts.	18-07-2022	2	4	Lecture
29	Molecular Spectroscopy II	Nuclear Magnetic Resonance (NMR) Spectroscopy:	20-07-2022	5	5	Lecture
30	Molecular Spectroscopy II	Proton NMR	21-07-2022	1	5	Lecture
31	Molecular Spectroscopy II	¹³ C NMR	22-07-2022	3	5	Lecture
32	Molecular Spectroscopy II	Number and position of signals	25-07-2022	2	5	Lecture
33	Molecular Spectroscopy II	Chemical shift	27-07-2022	5	5	Lecture
34	Molecular Spectroscopy II	Spin-spin coupling (qualitative idea)	28-07-2022	1	5	Lecture
35	Molecular Spectroscopy II	NMR spectra of simple molecules	29-07-2022	3	5	Lecture
36	Molecular Spectroscopy II	Electron Spin Resonance (ESR) Spectroscopy:	01-08-2022	2	5	Lecture
37	Molecular Spectroscopy II	Hyperfine structure	03-08-2022	5	5	Lecture
38	Molecular Spectroscopy II	ESR of methyl radical	04-08-2022	1	5	Lecture
39	Molecular Spectroscopy II	ESR of phenyl radical	05-08-2022	3	5	Lecture
40	Molecular Spectroscopy II	ESR of cycloheptatrienyl radicals	08-08-2022	2	5	Lecture
41	Adsorption and Catalysis	Adsorption isotherms:	10-08-2022	5	2	Lecture



42	Adsorption and Catalysis	Langmuir isotherms	11-08-2022	1	2	Lecture
43	Adsorption and Catalysis	Freundlich isotherm	12-08-2022	3	2	Lecture
44	Adsorption and Catalysis	Multilayer adsorption	15-08-2022	2	2	Lecture
45	Adsorption and Catalysis	BET equation	17-08-2022	5	2	Lecture
46	Adsorption and Catalysis	surface area measurements	18-08-2022	1	2	Lecture
47	Adsorption and Catalysis	Applications of adsorption	19-08-2022	3	2	Lecture
48	Adsorption and Catalysis	Catalysis:	22-08-2022	2	2	Lecture
49	Adsorption and Catalysis	Homogeneous and heterogenous catalysis	22-08-2022	2	2	Lecture
50	Adsorption and Catalysis	Theories of homogenous and heterogenous catalysis	24-08-2022	5	2	Lecture
51	Adsorption and Catalysis	Michaelis-Menten equation	25-08-2022	1	2	Lecture
52	Adsorption and Catalysis	Revision	26-08-2022	3	2	Lecture
53	Kinetics	Steady state approximation	02-09-2022	1	1	Lecture
54	Kinetics	Parallel reactions, opposing reactions, consecutive reactions and chain reactions with examples	12-09-2022	2	1	Lecture
55	Kinetics	Arrhenius equation	14-09-2022	5	1	Lecture



56	Kinetics	Effect of temperature on reaction rates	15-09-2022	1	1	Lecture
57	Kinetics	Determination and significance of Arrhenius parameters	21-09-2022	5	1	Lecture
		“ Transition state theory				
58	Kinetics	Expression for rate constant based on equilibrium constant and thermodynamic aspects	29-09-2022	1	1	Lecture
59	Kinetics	Unimolecular reactions “ Lindemann mechanism.	30-09-2022	3	1	Lecture
60	Photochemistry	Laws of photochemistry:	03-10-2022	2	6	Lecture
61	Photochemistry	Grothus-Draper law	07-10-2022	3	6	Lecture
62	Photochemistry	Stark-Einstein’s law of photochemical equivalence	12-10-2022	5	6	Lecture
63	Photochemistry	Quantum yield and its explanation	13-10-2022	1	6	Lecture
64	Photochemistry	Photophysical processes: Jablonski diagram	17-10-2022	2	6	Lecture
65	Photochemistry	Photochemistry	19-10-2022	5	6	Lecture
66	Photochemistry	Non-radiative processes:	21-10-2022	3	6	Lecture
67	Photochemistry	Internal conversion and inter system crossing.	24-10-2022	2	6	Lecture
68	Photochemistry	Photosensitization	26-10-2022	5	6	Lecture
69	Photochemistry	Chemiluminescence	27-10-2022	1	6	Lecture
70	Photochemistry	Photochemical reactions.	28-10-2022	3	6	Lecture
71	Photochemistry	Revision	31-10-2022	2	6	Lecture

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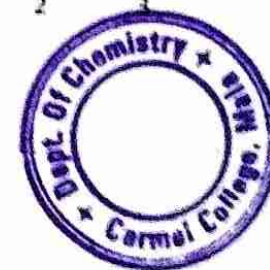
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Department:CHEMISTRY Batch:BSCH2020 Semester:56 Faculty - Dr.Vidya Francis

Subject Planner Report Of CHE6B13(E3) Medicinal and Environmental Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Common Diseases and Treatment	Diseases - Communicable and non-communicable diseases	04-11-2022	2	3	Lecture
2	Common Diseases and Treatment	Causes, symptoms and drugs used for the treatment of air-borne diseases	07-11-2022	3	3	Lecture
3	Common Diseases and Treatment	anthrax, chickenpox,	11-11-2022	2	3	Lecture
4	Common Diseases and Treatment	influenza, measles and tuberculosis	14-11-2022	3	3	Lecture
5	Common Diseases and Treatment	water and food borne diseases- cholera, dysentery	18-11-2022	2	3	Lecture
6	Common Diseases and Treatment	typhoid fever , hepatitis A	21-11-2022	3	3	Lecture
7	Common Diseases and Treatment	bronchial asthma, kidney stone	25-11-2022	2	3	Lecture
8	Common Diseases and Treatment	diabetes	28-11-2022	3	3	Lecture
9	Common Diseases and Treatment	Drugs used in the treatment for systemic hypertension	02-12-2022	2	3	Lecture
10	Common Diseases and Treatment	hypercholesterolemia	05-12-2022	3	3	Lecture
11	Common Diseases and Treatment	Cancer: Definition - Lung cancer (causes, symptoms and treatment)	09-12-2022	2	3	Lecture
12	Common Diseases and Treatment	Avenues for the treatment of terminal cancer	12-12-2022	3	3	Lecture
13	Common Diseases and Treatment	Revision	16-12-2022	2	3	Lecture
14	Common Diseases and Treatment	Revision	19-12-2022	3	3	Lecture
15	Common Diseases and Treatment	Revision	23-12-2022	2	3	Lecture

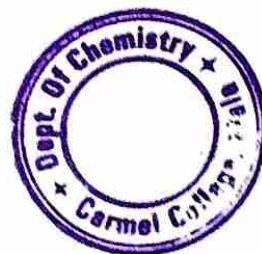


16	Control and Monitoring of Air Pollutants	Air Pollution Control Measures: Gravitational settling chamber,	03-01-2023	3	5	Lecture
17	Control and Monitoring of Air Pollutants	fabric filter, wet scrubber,	09-01-2023	2	5	Lecture
18	Control and Monitoring of Air Pollutants	catalytic converters, stacks and chimneys,	10-01-2023	3	5	Lecture
19	Control and Monitoring of Air Pollutants	cyclone collectors, Cottrell electrostatic precipitator	16-01-2023	2	5	Lecture
20	Control and Monitoring of Air Pollutants	extraction ventilator, zoning and green belt	17-01-2023	3	5	Lecture
21	Control and Monitoring of Air Pollutants	Air Pollutant Monitoring: Sampling methods for particulate analysis	23-01-2023	2	5	Lecture
22	Control and Monitoring of Air Pollutants	Filtration, sedimentation, electrostatic samplers,	24-01-2023	3	5	Lecture
23	Control and Monitoring of Air Pollutants	thermal precipitators and impingers.	31-01-2023	2	5	Lecture
24	Control and Monitoring of Air Pollutants		01-02-2023	3	5	Lecture
25	Control and Monitoring of Air Pollutants	Sampling methods for gases and vapours " Cold trapping,	07-02-2023	2	5	Lecture
26	Control and Monitoring of Air Pollutants	absorption and adsorption.	08-02-2023	3	5	Lecture
27	Control and Monitoring of Air Pollutants	Analytical methods for the determination of CO, NO _x , SO _x , H ₂ S	14-02-2023	2	5	Lecture
28	Control and Monitoring of Air Pollutants	hydrocarbons and particulate matter	15-02-2023	3	5	Lecture
29	Control and Monitoring of Air Pollutants	Revision	21-02-2023	2	5	Lecture
30	Control and Monitoring of Air Pollutants	Revision	22-02-2023	3	5	Lecture
31	Water Treatment Processes	Types and characteristics of industrial waste water	28-02-2023	2		Lecture



32	Water Treatment Processes	Aerobic and anaerobic oxidation	01-03-2023	3	6	Lecture
33	Water Treatment Processes	Sedimentation, coagulation, filtration, disinfection, desalination and ion exchange	07-03-2023	2	6	Lecture
34	Water Treatment Processes	Primary treatment - Secondary treatment	08-03-2023	3	6	Lecture
35	Water Treatment Processes	Trickling filters, activated sludge process and sludge digestion	14-03-2023	2	6	Lecture
36	Water Treatment Processes	- Tertiary treatment - USAB process and deep well injection. Sewage and sewage analysis	15-03-2023	3	6	Lecture
37	Water Treatment Processes	Total solids, settleable solids, suspended solids	21-03-2023	2	6	Lecture
38	Water Treatment Processes	Protection of surface waters from pollution with industrial sewage.	22-03-2023	3	6	Lecture
39	Water Treatment Processes	Revision	28-03-2023	2	6	Lecture
40	Water Treatment Processes		29-03-2023	3	6	Lecture

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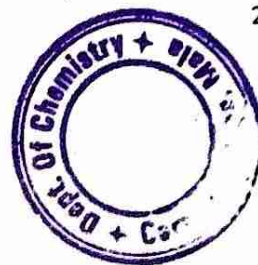
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Teaching Plan 22-23

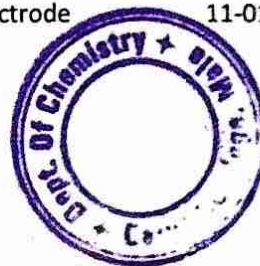
Department:CHEMISTRY Batch:BSCH2020 Semester:S6 Faculty: Dr.VIDYA FRANCIS

Subject Planner Report Of CHE6B11 Physical Chemistry-III

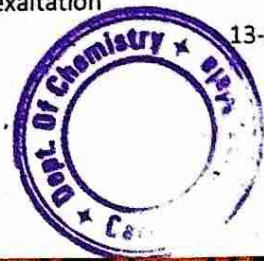
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Electrochemistry â€" I	Fundamentals of Electrochemistry.	01-11-2022	2	1	Lecture
2	Electrochemistry â€" I	Faradays law, types of conductance) â€" Measurement of equivalent conductance	02-11-2022	3	1	Lecture
3	Electrochemistry â€" I	Variation of conductance with dilution â€" Kohlrauschâ€™s law â€" Arrhenius theory of electrolyte dissociation and its limitations.	03-11-2022	5	1	Lecture
4	Electrochemistry â€" I	Kohlrauschâ€™s law	08-11-2022	2	1	Lecture
5	Electrochemistry â€" I	Arrhenius theory of electrolyte dissociation and its limitations	09-11-2022	3	1	Lecture
6	Electrochemistry â€" I	Weak and strong electrolytes â€" Ostwaldâ€™s dilution law, its uses and limitations	10-11-2022	5	1	Lecture
7	Electrochemistry â€" I	Debye - Huckel-Onsagerâ€™s equation for strong electrolytes	15-11-2022	2	1	Lecture
8	Electrochemistry â€" I	Debye-Falkenhagen and Wein effects	16-11-2022	3	1	Lecture
9	Electrochemistry â€" I	Migration of ions and Transport number	17-11-2022	5	1	Lecture
10	Electrochemistry â€" I	determination of Transport number by Hittorfâ€™s and moving boundary methods.	22-11-2022	2	1	Lecture



11	Electrochemistry â€" I	Applications of conductivity measurements:	23-11-2022	3	1	Lecture
12	Electrochemistry â€" I	Determination of degree of dissociation, ionic product of water and solubility product of sparingly soluble salts	24-11-2022	5	1	Lecture
13	Electrochemistry â€" I	Conductometric titrations, strong acid-strong base, weak acid-strong base, strong acid-weak base and weak acid-weak base.	29-11-2022	2	1	Lecture
14	Electrochemistry â€" I	Revision	30-11-2022	3	1	Lecture
15	Electrochemistry â€" I	Revision	01-12-2022	5	1	Lecture
16	Electrochemistry â€" I	Basics of thermodynamics.	06-12-2022	2	1	Lecture
17	Electrochemistry â€" I	Types of cell and Reversible electrodes	07-12-2022	3	1	Lecture
18	Electrochemistry â€" II	SHE, calomel and quinhydrone electrode	08-12-2022	5	2	Lecture
19	Electrochemistry â€" II	Standard electrode potential	13-12-2022	2	2	Lecture
20	Electrochemistry â€" II	Electrochemical series	14-12-2022	3	2	Lecture
21	Electrochemistry â€" II	Nernst equation for electrode potential and EMF of a cell â€"	15-12-2022	5	2	Lecture
22	II Electrochemistry â€" II	Relationship between free energy and electrical energy	20-12-2022	2	2	Lecture
23	Electrochemistry â€" II	Gibbs Helmholtz equation to galvanic cells	21-12-2022	3	2	Lecture
24	Electrochemistry â€" II	Concentration cells: Concentration cells with and without transference	22-12-2022	5	2	Lecture
25	Electrochemistry â€" II	Liquid junction potential (LJP).	30-12-2022	2	2	Lecture
26	Electrochemistry â€" II	Application of EMF measurements:	04-01-2023	2	2	Lecture
27	Electrochemistry â€" II	Solubility of sparingly soluble salts	05-01-2023	3	2	Lecture
28	Electrochemistry â€" II	Determination of pH â€" pH Page 63 of 172	06-01-2023	5	2	Lecture
29	Electrochemistry â€" II	59 measurement using glass electrode	11-01-2023	2	2	Lecture



30	Electrochemistry â€” II	Potentiometric titrations Hydrogen-oxygen fuel cell	12-01-2023	3	2	Lecture
31	Electrochemistry â€” II	Electrochemical theory of corrosion of metals.	13-01-2023	5	2	Lecture
32	Electrochemistry â€” II	Revision	18-01-2023	2	2	Lecture
33	Solutions	Fundamentals of solutions. Solute, solvent, kinds of solutions	19-01-2023	3	3	Lecture
34	Solutions	Vapour pressure - Solubility of gases in liquids , Henryâ€™s law and its applications , Raoultâ€™s law	20-01-2023	5	3	Lecture
35	Solutions	Ideal and non ideal solutions , Dilute solutions.	25-01-2023	2	3	Lecture
36	Solutions	Colligative properties	27-01-2023	3	3	Lecture
37	Solutions	Qualitative treatment of colligative properties	28-01-2023	2	3	Lecture
38	Solutions	Relative lowering of vapour pressure, Elevation of boiling point	30-01-2023	5	3	Lecture
39	Solutions	Depression in freezing point, Osmotic pressure	02-02-2023	2	3	Lecture
40	Solutions	Reverse osmosis and its applications	03-02-2023	3	3	Lecture
41	Solutions	Application of colligative properties in finding molecular weights	04-02-2023	5	3	Lecture
42	Solutions	Abnormal molecular mass , Vanâ€™t Hoff factor.	06-02-2023	5	3	Lecture
43	Solutions	Surface tension: Explanation and its determination.	09-02-2023	2	3	Lecture
44	Solutions	Viscosity Determination of molecular mass from viscosity measurements	10-02-2023	3	3	Lecture
45	Solutions	Refraction: Refractive index	11-02-2023	5	3	Lecture
46	Solutions	Molar refraction and optical exaltation , application.	13-02-2023	5	3	Lecture

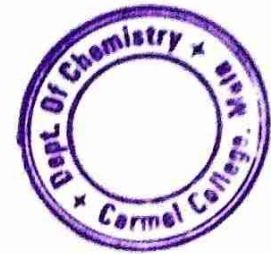


47	Solutions	Revision	16-02-2023	2	3	Lecture
48	Ionic Equilibria	Introduction to acid base theories ΔC^+ pKa, pKb and pH ΔC^+ Buffer solutions	17-02-2023	3	4	Lecture
49	Ionic Equilibria	Mechanism of buffer action ΔC^+ Buffer index ΔC^+ Henderson equation	18-02-2023	5	4	Lecture
50	Ionic Equilibria	Applications of buffers - Hydrolysis of salts of all types ΔC^+ Degree of hydrolysis	20-02-2023	5	4	Lecture
51	Ionic Equilibria	Hydrolysis constant and its relation with Kw - Solubility product and common ion effect.	23-02-2023	2	4	Lecture
52	Ionic Equilibria	Revision	24-02-2023	3	4	Lecture
53	Solid State ΔC^+ I	Introduction - Amorphous and crystalline solids	25-02-2023	5	5	Lecture
54	Solid State ΔC^+ I	Law of constancy of interfacial angles and rational indices	27-02-2023	5	5	Lecture
55	Solid State ΔC^+ I	Space lattice and unit cell, Miller indices	02-03-2023	2	5	Lecture
56	Solid State ΔC^+ I	Seven crystal systems and fourteen Bravais lattices	03-03-2023	3	5	Lecture
57	Solid State ΔC^+ I	X-ray diffraction ΔC^+ Bragg's law	06-03-2023	5	5	Lecture
58	Solid State ΔC^+ I	Planes	09-03-2023	2	5	Lecture
59	Solid State ΔC^+ I	rotating crystal method and powder pattern method	10-03-2023	3	5	Lecture
60	Solid State ΔC^+ I	Analysis of powder patterns of NaCl, CsCl and KCl	13-03-2023	5	5	Lecture
61	Solid State ΔC^+ I	Simple, face centered and body centered cubic systems	16-03-2023	2	5	Lecture
62	Solid State ΔC^+ I	Identification of cubic crystals from inter-planar ratio Close packing of spheres	17-03-2023	3	5	Lecture
63	Solid State ΔC^+ I	Structure of simple ionic compounds of type AB and AB ₂	20-03-2023	5	5	Lecture



64	Solid State II	Band theory for Metals, Insulators and Semiconductors:	23-03-2023	2	6	Lecture
65	Solid State II	Intrinsic and extrinsic conduction	24-03-2023	3	6	Lecture
66	Solid State II	Non-stoichiometric defects.	27-03-2023	5	6	Lecture
67	Solid State II	Liquid crystals: Classification and applications	30-03-2023	2	6	Lecture
68	Solid State II	Revision	31-03-2023	3	6	Lecture

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CARMEL COLLEGE (AUTONOMOUS)

		Faculty: Neethu Sunny				
	Department: Chemistry	Batch: MSCH2022	Semester: IV	Academic Year: 2022-2023		

Subject Planner Report Of CHE4C12 Instrumental Methods of Analysis

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Electro Analytical Methods- I	Potentiometry: techniques based on potential measurements, direct potentiometric systems	01-11-2022	5	3	Lecture	PPT
2	Electro Analytical Methods- I	different types of indicator electrodes, limitations of glass electrode, applications in pH measurements	03-11-2022	1	3	Lecture	PPT
3	Electro Analytical Methods- I	ion selective electrodes, solid, liquid, gas sensing and specific types of electrodes	07-11-2022	1	3	Lecture	PPT
4	Electro Analytical Methods- I	biomembrane, biological and biocatalytic electrodes as biosensors, importance of selectivity coefficients.	08-11-2022	5	3	Lecture	PPT
5	Electro Analytical Methods- I	Polarography micro electrode and their specialities, potential and current variations at the micro electrode systems	10-11-2022	1	3	Lecture	PPT
6	Electro Analytical Methods- I	conventional techniques for concentration determination, limitations of detection at lower concentrations	14-11-2022	1	3	Lecture	PPT



7	Electro Analytical Methods- I	techniques of improving detection limit- rapid scan, ac, pulse	15-11-2022	5	3	Lecture	PPT
8	Electro Analytical Methods- I	differential pulse square wave polarographic techniques	17-11-2022	1	3	Lecture	PPT
9	Electro Analytical Methods- I	Applications of polarography.	21-11-2022	1	3	Lecture	PPT
10	Electro Analytical Methods- I	Test Paper	22-11-2022	5	3	Lecture	
11	Electro Analytical Methods II	Amperometry: biamperometry	24-11-2022	1	4	Lecture	Oral Questioning
12	Electro Analytical Methods II	amperometric titrations.	28-11-2022	1	4	Lecture	Oral Questioning
13	Electro Analytical Methods II	Coulometry-primary and secondary 56 coulometry	29-11-2022	5	4	Lecture	Oral Questioning
14	Electro Analytical Methods II	advantages and applications of coulometric titrations	01-12-2022	1	4	Lecture	Oral Questioning
15	Electro Analytical Methods II	Principle of chronopotentiometry	05-12-2022	1	4	Lecture	Oral Questioning
16	Electro Analytical Methods II	Anodic stripping voltammetry-different types of electrodes and improvements of lower detection limits.	06-12-2022	5	4	Lecture	Oral Questioning
17	Electro Analytical Methods II	Voltammetric sensors. Organic polarography.	08-12-2022	1	4	Lecture	Oral Questioning
18	Electro Analytical Methods II	Test Paper	12-12-2022	1	4	Lecture	
19	Optical Methods - I	Fundamental laws of spectrophotometry	13-12-2022	5	5	Lecture	Oral Questioning
20	Optical Methods - I	Fundamental laws of spectrophotometry	13-12-2022	5	5	Lecture	Oral Questioning

21	Optical Methods - I	Fundamental laws of spectrophotometry	13-12-2022	5	5	Lecture	Oral Questioning
22	Optical Methods - I	Fundamental laws of spectrophotometry	13-12-2022	5	5	Lecture	Oral Questioning
23	Optical Methods - I	nephelometry and turbidometry	15-12-2022	1	5	Lecture	Oral Questioning
24	Optical Methods - I	nephelometry and turbidometry	15-12-2022	1	5	Lecture	Oral Questioning
25	Optical Methods - I	fluorimetry	19-12-2022	1	5	Lecture	Oral Questioning
26	Optical Methods - I	UV- visible spectrophotometry – instrumentation, single and double beam instruments,	20-12-2022	5	5	Lecture	Oral Questioning
27	Optical Methods - I	IR spectrophotometry – instrumentation, single and double beam instruments,	22-12-2022	1	5	Lecture	Oral Questioning
28	Christmas Vacation		26-12-2022	1	5	Lecture	
29	Christmas Vacation		27-12-2022	1	5	Lecture	
30	Christmas Vacation		28-12-2022	1	5	Lecture	
31	Christmas Vacation		29-12-2022	1	5	Lecture	
32	Christmas Vacation		30-12-2022	5	5	Lecture	
33	Christmas Vacation		02-01-2023	1	5	Lecture	
34	Optical Methods - I	Spectrophotometric titrations	03-01-2023	1	5	Lecture	Oral Questioning
35	Optical Methods - I	Spectrophotometric titrations	03-01-2023	1	5	Lecture	Oral Questioning
36	Optical Methods - I	Spectrophotometric titrations	03-01-2023	1	5	Lecture	Oral Questioning
37	Optical Methods - I	Atomic emission spectrometry – excitation sources (flame, AC and DC arc)	04-01-2023	5	5	Lecture	Oral Questioning

38	Optical Methods - I	Atomic emission spectrometry – esspark, inductively coupled plasma, glue discharge, laser microprobes,	06-01-2023	1	5	Lecture	Oral Questioning
39	Optical Methods - I	flame structure.	07-01-2023	1	5	Lecture	Oral Questioning
40	Optical Methods - I	instrumentation, and qualitative and quantitative analysis	10-01-2023	1	5	Lecture	Oral Questioning
41	Optical Methods - I	Atomic absorption spectrometry: sample atomization techniques	11-01-2023	5	5	Lecture	Oral Questioning
42	Optical Methods - I	Atomic absorption spectrometry: instrumentation.	13-01-2023	1	5	Lecture	Oral Questioning
43	Optical Methods - I	Atomic absorption spectrometry:interferences, background correction, and analytical applications.	14-01-2023	1	5	Lecture	Oral Questioning
44	Optical Methods - II	Theory, instrumentation Atomic fluorescence spectrometry	17-01-2023	1	6	Lecture	PPT
45	Optical Methods - II	applications of: - Atomic fluorescence spectrometry	18-01-2023	5	6	Lecture	PPT
46	Optical Methods - II	Theory, instrumentation and applications of X-ray absorption	20-01-2023	1	6	Lecture	PPT
47	Optical Methods - II	Theory, instrumentation and applications of X-ray diffraction	21-01-2023	1	6	Lecture	PPT
48	Optical Methods - II	Theory, instrumentation and applications of photoelectron spectroscopy	24-01-2023	1	6	Lecture	PPT
49	Optical Methods - II	Theory, instrumentation and applications of Auger	25-01-2023	5	6	Lecture	PPT
50	Optical Methods - II	Theory, instrumentation and applications of ESCA.	28-01-2023	5	6	Lecture	PPT

51	Optical Methods - II	Theory, instrumentation and applications of: SEM	30-01-2023	1	6	Lecture	Oral questioning
52	Optical Methods - II	Theory, instrumentation and applications of: TEM	01-02-2023	1	6	Lecture	Oral questioning
53	Optical Methods - II	Theory, instrumentation and applications of: AFM	02-02-2023	5	6	Lecture	Oral questioning
54	Optical Methods - II	Test Paper	04-02-2023	1	6	Lecture	Oral questioning
55	Optical Methods - II	Thermogravimetry (TG) & Differential Thermal Analysis(DTA)	06-02-2023	1	7	Lecture	Oral questioning
56	Optical Methods - II	Differential Scanning Calorimetry(DSC)	08-02-2023	1	7	Lecture	Oral questioning
57	Optical Methods - II	Thermometric Titrations.	09-02-2023	5	7	Lecture	Oral questioning
58	Optical Methods - II	Measurement of alpha, beta, and gamma radiations	11-02-2023	1	7	Lecture	Oral questioning
59	Optical Methods - II	Neutron activation analysis and Applications. Isotopic Dilution	13-02-2023	1	7	Lecture	Oral questioning
60	Chromatography	HPLC-outline study of instrument modules. Ion – exchange chromatography-Theory. Important applications of chromatographic techniques.	15-02-2023	1	7	Lecture	PPT
61	Chromatography	Gel Permeation Chromatography. Gas chromatography – basic	16-02-2023	5	7	Lecture	PPT
62	Chromatography	instrumental set up-carriers, columns, detectors and comparative study of TCD, FID, ECD and NPD	18-02-2023	1	7	Lecture	PPT
63	Chromatography	Qualitative and quantitative studies using GC.	20-02-2023	1	7	Lecture	PPT

64	Chromatography	Preparation of GC columns, selection of stationary phases of GLC	22-02-2023	1	7	Lecture	PPT
65	Chromatography	Gas adsorption chromatography, applications, CHN analysis by GC.	23-02-2023	5	7	Lecture	PPT
							<i>Neethu</i>
							NEETHU SUNNY



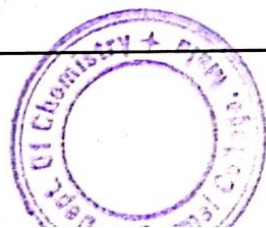
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CARMEL COLLEGE, MALA**DEPARTMENT OF CHEMISTRY***Teaching Plan**Accademic Year: 2022-23*

Faculty Name: NEETHU SUNNY

Subject Planner Report Of CHE2C06 Coordination chemistry

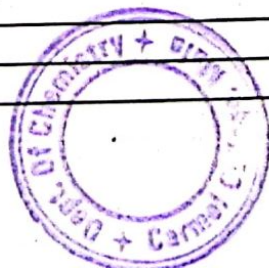
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Stepwise and overall formation constants and the relationship between them. Trends in stepwise formation constants.	No Details	05-05-2022	4	1	Lecture
2	Determination of binary formation constants by pH-metry and spectrophotometry.		06-05-2022	4	1	Lecture
3	Stabilization of unusual oxidation states. Ambidentate and macrocyclic ligands.		06-05-2022	5	1	Lecture
4	Chelate effect and its thermodynamic origin. Macrocyclic and template effects.		12-05-2022	4	1	Lecture
5	Theories of Bonding in Coordination Compounds	Sidgwick's Theory, V.B Theory	13-05-2022	4	2	Lecture
6	Theories of Bonding in Coordination Compounds	The crystal field and ligand field theories.	13-05-2022	5	2	Lecture
7	Splitting of d-orbitals in octahedral field		17-05-2022	4	2	Lecture
8	Splitting of d-orbitals in Tetrahedral field & Square Planar Field		19-05-2022	4	2	Lecture
9	Spectrochemical and nephelauxetic series. Racah parameters		20-05-2022	4	2	Lecture



10	Jahn-Teller effect.		20-05-2022	4	2	Lecture
11	MO diagram Sigma & $\hat{\pi}$ -bonding	MO diagram of octahedral, complexes. $\hat{\pi}$ -bonding and molecular orbital theory.	24-05-2022	4	2	Lecture
12	MO diagram Sigma & $\hat{\pi}$ -bonding	MO diagram of Tetrahedral & Square Planar complexes. $\hat{\pi}$ -bonding and molecular orbital theory.	26-05-2022	4	2	Lecture
13	Spectroscopic ground state. Terms of d n configurations		27-05-2022	4	3	Lecture
14	Selection rules for d-d transitions. Effect of ligand fields on RS terms in octahedral and tetrahedral complexes.		27-05-2022	5	3	Lecture
15	Orgel & Tanabe-Sugano diagrams.		28-05-2022	4	3	Lecture
16	Types of magnetic properties:	Paramagnetism and diamagnetism. Curie and Curie Weiss laws. The $\hat{\mu}_L$, $\hat{\mu}_L+S$, and $\hat{\mu}_S$ expressions. Orbital contribution to magnetic moment and its quenching	31-05-2022	4	3	Lecture
17	Determination of magnetic moment by Gouy method.		02-06-2022	4	3	Lecture
18	Temperature independent paramagnetism. Antiferromagnetism- types and exchange pathways		03-06-2022	4	3	Lecture
19	Revision		03-06-2022	5	4	Lecture
20	Discussion of previous year question papers		09-06-2022	4	4	Lecture
21	First Internal Examination		10-06-2022	4	4	Lecture
22	Infrared spectra of metal complexes.		10-06-2022	5	4	Lecture
23	Group frequency concept. Changes in ligand vibrations on coordination- metal ligand vibrations		15-06-2022	4	4	Lecture



24	Application of IR in coordination complexes.		16-06-2022	4	4	Lecture
25	ESR spectra "Basic Principles"	Basic Principles	16-06-2022	5	4	Lecture
26	ESR spectra "application to copper complexes"		17-06-2022	4	4	Lecture
27	NMR spectroscopy for structural studies of diamagnetic metal complexes from chemical shift and spin-spin coupling		17-06-2022	5	4	Lecture
28	Mossbauer Effect		22-06-2022	4	4	Lecture
29	hyperfine interactions		23-06-2022	4	4	Lecture
30	Zeeman Splitting & Isomer Shift		23-06-2022	5	4	Lecture
31	Application to iron and tin compounds.		29-06-2022	4	4	Lecture
32	Discussion of Previous Question Papers		30-06-2022	4	4	Lecture
33	Ligand substitution reactions		30-06-2022	5	5	Lecture
34	Labile and inert complexes. Rate laws		06-07-2022	4	5	Lecture
35	Classification of mechanisms-D, A and I mechanisms		07-07-2022	4	5	Lecture
36	Substitution reactions in octahedral complexes		07-07-2022	5	5	Lecture
37	Substitution reactions in octahedral complexes		13-07-2022	4	5	Lecture
38	The Eigen-Wilkins Mechanism. Fuoss-Eigen equation		14-07-2022	4	5	Lecture
39	Aquation	Mechanism	14-07-2022	5	5	Lecture
40	base hydrolysis	Mechanism	20-07-2022	4	5	Lecture
41	The trans effect: Applications		21-07-2022	4	5	Lecture
42	theories of trans effect		21-07-2022	5	5	Lecture
43	The cis effect.		27-07-2022	4	5	Lecture
44	Revision		29-07-2022	4	5	Lecture
45	Outer sphere mechanisms		29-07-2022	5	6	Lecture



46	Inner sphere mechanisms		04-08-2022	4	6	Lecture
47	Marcus equation		05-08-2022	4	6	Lecture
48	Effect of the bridging ligand. Methods for distinguishing outer- and inner-sphere redox reactions		05-08-2022	5	6	Lecture
49	Prompt and delayed reactions		12-08-2022	4	6	Lecture
50	Excited states of metal complexes	Interligand, ligand field, charge transfer, and delocalized states. Properties of ligand field excited states.	16-08-2022	4	6	Lecture
51	Photosubstitution Prediction of substitution lability by Adamson's rules.		16-08-2022	5	6	Lecture
52	Photoaquation. Photo isomerization and photo racemization.		23-08-2022	4	6	Lecture
53	Illustration of reducing and oxidizing character of [Ru (bipy) ₃] ²⁺ in the excited state.		24-08-2022	4	6	Lecture
54	Metal complex sensitizers- water photolysis		24-08-2022	5	6	Lecture
55	Second Internal Examination		30-08-2022	4	6	Lecture

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CARMEL COLLEGE, MALA

DEPARTMENT OF CHEMISTRY

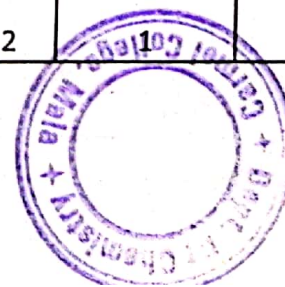
Teaching Plan

Accademic Year:2022-23

Faculty Name:NEETHU SUNNY

Subject Planner Report Of CHE2C08 Electrochemistry, solid state chemistry, and Statistical Thermodynamics

Sl.no	Topic Name	Date	Hour	Module	Mode of Instruction
1	Crystal symmetry: Symmetry elements	03-05-2022	1	3	Lecture
2	Crystal symmetry: symmetry operations	10-05-2022	1	3	Lecture
3	mathematical proof for the non-existence of 5-fold axis of symmetry	17-05-2022	1	3	Lecture
4	crystal systems	24-05-2022	1	3	Lecture
5	Bravais lattices	31-05-2022	1	3	Lecture
6	Weiss Indices & Miller Indices	07-06-2022	1	3	Lecture
7	Bravais lattices and crystal classes	14-06-2022	1	3	Lecture
8	Crystallographic point groups - Schoenflies & Hermann" Mauguin notations	21-06-2022	1	3	Lecture
9	Crystallographic point groups - Schoenflies & Hermann" Mauguin notations	28-06-2022	1	3	Lecture
10	Stereographic projections of the 27 axial point groups	05-07-2022	1	3	Lecture
11	Stereographic projections of the 27 axial point groups	12-07-2022	1	3	Lecture
12	Translational symmetry elements & symmetry operations - screw axes and glide 34 planes, introduction to space groups	19-07-2022	1	3	Lecture
13	Bragg's law and applications, lattice planes and Miller indices,	26-07-2022	1	3	Lecture
14	d-spacing formulae, crystal densities and unit cell contents.	03-08-2022		3	Lecture



15	Imperfections in solids - point, line and plane defects,	11-08-2022	1	3	Lecture
16	Imperfections in solids - non-stoichiometry	22-08-2022	1	3	Lecture
17	Revision	29-08-2022	1	3	Lecture

Staffname & Signature: Neethu Sunny Neethu



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Teaching Plan

Academic Year:2022-23

Faculty Name:NEETHU SUNNY

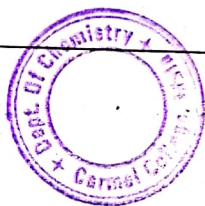
Subject Planner Report Of CHE2C05 Group theory and Chemical Bonding

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Basic principles of group theory	the defining properties of mathematical groups. finite and infinite groups, Abelian and cyclic groups	01-04-2022	5	1	Lecture
2	group multiplication tables	C ₂ , C _{2h} , C _{2v} & C _{3v}	02-04-2022	1	1	Lecture
3	similarity transformation, sub groups & classes in a group		04-04-2022	1	1	Lecture
4	symmetry elements and symmetry operations in molecules	E, i, C _n	08-04-2022	5	1	PPT & Animations
5	symmetry operations in molecules	S _n , Plane of Symmetry	09-04-2022	1	1	PPT & Animations
6	point groups and their systematic identification		16-05-2022	5	1	PPT & Animations
7	matrix algebra, addition and multiplication of matrices, inverse of a matrix, square matrix, character of a square matrix, diagonal matrix		17-05-2022	1	1	PPT & Animations
8	Direct product and direct sum of square matrices. block factored matrices, solving linear equations by the method of matrices		21-05-2022	5	1	Lecture
9	Matrix representation of symmetry operations		21-05-2022	5	1	Lecture

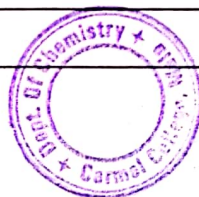


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10	reducible representations and irreducible representations (IR) of point groups		23-05-2022	5	2	Lecture
11	construction of IR by reduction (qualitative demonstration only), Great Orthogonality Theorem (GOT) and its consequences		23-05-2022	5	2	Lecture
12	construction of character tables of point groups (C _{2v} , C _{3v} , C _{2h})		24-05-2022	1	2	Power Point Presentation
13	construction of character tables of point groups (C _{4v} and C ₃)		28-05-2022	1	2	Power Point Presentation
14	nomenclature of IR - Mulliken symbols,		30-05-2022	5	2	Power Point Presentation
15	Relation between group theory and quantum mechanics "		31-05-2022	1	2	Lecture
16	reducible representations and irreducible representations (IR) of point groups		01-06-2022	5	2	Lecture
17	Discussion of Previous year question paper		02-06-2022	1	2	Lecture
18	symmetry species of normal modes of vibration, construction of Γ cart, normal coordinates and drawings of normal modes (e.g., H ₂ O and NH ₃)		08-06-2022	5	3	Lecture
19	selection rules for IR and Raman activities based on symmetry arguments		09-06-2022	1	3	Lecture
20	determination of IR active and Raman active modes of molecules (e.g., H ₂ O, NH ₃ , CH ₄ , SF ₆)		15-06-2022	5	3	Lecture

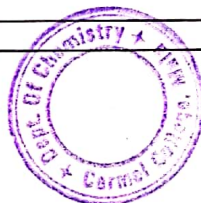


21	complementary character of IR and Raman spectra.		16-06-2022	1	3	Lecture
22	Spectral transition probabilities	direct product of irreducible representations and its use in identifying vanishing and non-vanishing integrals,	22-06-2022	5	3	Lecture
23	transition moment integral" electronic transitions and selection rules and spectral transition probabilities		23-06-2022	1	3	Lecture
24	Laporte selection rule for centro symmetric molecules.		29-06-2022	5	3	Lecture
25	II nd Internal Examination		30-06-2022	1	3	Lecture
26	Treatment of hybridization in BF ₃ and CH ₄ , Inverse transformation and construction of hybrid orbitals		06-07-2022	5	4	Power Point Presentation
27	Molecular orbital theory " HCHO and H ₂ O as examples		07-07-2022	1	4	Power Point Presentation
28	classification of atomic orbitals involved into symmetry species, group orbitals, symmetry adapted linear combinations (SALC)		13-07-2022	5	4	Power Point Presentation
29	projection operator, construction of SALC using projection operator		14-07-2022	1	4	Power Point Presentation
30	use of projection operator in constructing SALCs for the $\hat{1}$ MOs in cyclopropenyl (C ₃ H ₃ ⁺) cation		14-07-2022	3	4	Power Point Presentation
31	Discussion of Problems on SALC, Projection Operator		20-07-2022	3	4	Lecture
32	Revision		20-07-2022	5	5	Lecture
33	Schrodinger equation for a molecule, Born " Oppenheimer approximation		21-07-2022	1	5	Lecture



34	VB theory of H ₂ molecule, singlet and triplet state functions (spin orbitals) of H ₂	21-07-2022	5	5	Lecture
35	MO theory of H ₂ + ion, MO theory of H ₂ molecule	27-07-2022	5	5	Lecture
36	MO treatment of homonuclear diatomic molecules " Li ₂ , Be ₂ , C ₂ , N ₂ , O ₂ & F ₂	29-07-2022	1	5	Lecture
37	MO treatment of heteronuclear diatomic molecules " LiH, CO, NO & HF, bond order, correlation diagrams, non-crossing rule	04-08-2022	5	5	Lecture
38	Spectroscopic term symbols for diatomic molecules	05-08-2022	1	5	Lecture
39	Comparison of MO and VB theories.	12-08-2022	5	5	Lecture
40	quantum mechanical treatment of sp, sp ² & sp ³ hybridisation	16-08-2022	1	6	Lecture
41	Huckel Molecular Orbital (HMO) theory of ethylene, butadiene & allylic anion. Charge distribution, and bond orders from the coefficients of HMO, calculation of free valence	23-08-2022	5	6	Lecture
42	HMO theory of aromatic hydrocarbons (benzene); formula for the roots of the Huckel determinantal equation	24-08-2022	1	6	Lecture
43	Frost -Huckel circle mnemonic device for cyclic polyenes.	30-08-2022	5	6	Lecture
44	Revision	31-08-2022	1	6	Lecture

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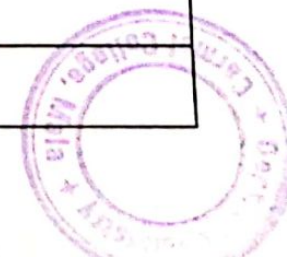
CARMEL COLLEGE (AUTONOMOUS), MALA**DEPARTMENT OF CHEMISTRY**

Academic Year:2022-23

Subject Planner of CHE3C09-Molecular Spectroscopy

Faculty Name:NEETHU SUNNY

Sl.No	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	NMR Spectroscopy in Organic Chemistry - I	Chemical shift, factors influencing chemical shift	15-07-2022	1	6	Lecture	PPT
2	NMR Spectroscopy in Organic Chemistry - I	anisotropic effect. Chemical shift values of protons in common	18-07-2022	2	6	Lecture	PPT
3	NMR Spectroscopy in Organic Chemistry - I	chemical, magnetic and stereochemical	22-07-2022	1	6	Lecture	PPT
4	NMR Spectroscopy in Organic Chemistry - I	Enantiotopic, diastereotopic and	25-07-2022	1	6	Lecture	PPT
5	NMR Spectroscopy in Organic Chemistry - I	Protons on oxygen and nitrogen. Quadrupole broadening. Spin spin	26-07-2022	2	6	Lecture	PPT
6	NMR Spectroscopy in Organic Chemistry - I	types of coupling, coupling constant, factors	01-08-2022	1	6	Lecture	PPT
7	NMR Spectroscopy in Organic Chemistry - I	effects of chemical exchange, fluxional molecules, hindered	02-08-2022	1	6	Lecture	PPT
8	NMR Spectroscopy in Organic Chemistry - I	first order NMR Spectrum	03-08-2022	1	6	Lecture	PPT
9	NMR Spectroscopy in Organic Chemistry - I	non-first order NMR spectra	04-08-2022	1	6	Lecture	PPT



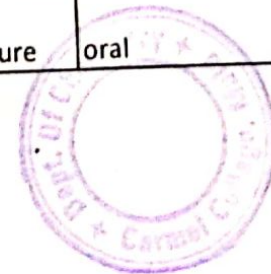
10	NMR Spectroscopy in Organic Chemistry - I	Problems on NMR	05-08-2022	2	6	Lecture	PPT
11	NMR Spectroscopy in Organic Chemistry - II	Simplification of NMR spectra: double resonance, shift reagents, increased	08-08-2022	1	7	Lecture	PPT
12	NMR Spectroscopy in Organic Chemistry - II	NOE spectra	10-08-2022	2	7	Lecture	PPT
13	NMR Spectroscopy in Organic Chemistry - II	heteronuclear coupling, Introduction to	16-08-2022	1	7	Lecture	PPT
14	NMR Spectroscopy in Organic Chemistry - II	Introduction to HMBC, HMQC spectra.	17-08-2022	1	7	Lecture	PPT
15	NMR Spectroscopy in Organic Chemistry - II	3C NMR: General considerations,	19-08-2022	2	7	Lecture	PPT
16	NMR Spectroscopy in Organic Chemistry - II	factors influencing carbon chemical shifts, carbon chemical shifts and structure-saturated aliphatics, unsaturated	24-08-2022	1	7	Lecture	PPT
17	NMR Spectroscopy in Organic Chemistry - II	Off-resonance	25-08-2022	1	7	Lecture	PPT
18	NMR Spectroscopy in Organic Chemistry - II	noise decoupled spectra	26-08-2022	2	7	Lecture	PPT
19	NMR Spectroscopy in Organic Chemistry - II	Introduction to DEPT, INEPT, INADEQUATE	31-08-2022	1	7	Lecture	PPT
20	NMR Spectroscopy in Organic Chemistry - II	revision	01-09-2022	1	7	Lecture	Test Paper
21	NMR Spectroscopy in Organic Chemistry - II	First internal Examination(Molecular	02-09-2022	1	7	Lecture	



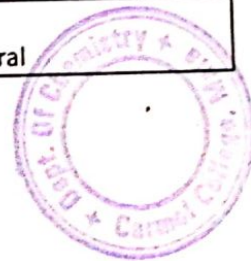
22	Mass Spectrometry and Spectroscopy for Structure Elucidation	Basic concept of EIMS. Molecular ion and metastable ion peaks, isotopic peaks. Molecular	05-09-2022	1	8	Lecture	
23	Mass Spectrometry and Spectroscopy for Structure Elucidation	Single and multiple bond cleavage, rearrangements - McLafferty	06-09-2022	1	8	Lecture	oral
24	Mass Spectrometry and Spectroscopy for Structure Elucidation	Fragmentation pattern of saturated and unsaturated	13-09-2022	1	8	Lecture	oral
25	Mass Spectrometry and Spectroscopy for Structure Elucidation	Fragmentation pattern of ethers, alcohols	14-09-2022	1	8	Lecture	oral
26	Mass Spectrometry and Spectroscopy for Structure Elucidation	Fragmentation pattern of aldehydes and ketones	15-09-2022	2	8	Lecture	oral
27	Mass Spectrometry and Spectroscopy for Structure Elucidation	Fragmentation pattern of amines and amides	20-09-2022	1	8	Lecture	oral
28	Mass Spectrometry and Spectroscopy for Structure Elucidation	High resolution mass spectrometry, index of hydrogen deficiency,	22-09-2022	1	8	Lecture	oral
29	Mass Spectrometry and Spectroscopy for Structure Elucidation	Ionization techniques. FAB spectra	23-09-2022	2	8	Lecture	oral
30	Electronic & Vibrational Spectroscopy in Organic Chemistry Structure Elucidation	UV-Visible spectroscopy: Factors affecting the position and intensity of electronic absorption bands " conjugation,	26-09-2022	2	5	Lecture	oral
31	Electronic & Vibrational Spectroscopy in Organic Chemistry	Empirical rules for calculating λ_{max} of dienes	29-09-2022	1	5	Lecture	oral
32	Electronic & Vibrational Spectroscopy in Organic Chemistry	Empirical rules for calculating enones and	30-09-2022	1	5	Lecture	oral



33	Electronic & Vibrational Spectroscopy in Organic Chemistry	Optical Rotatory Dispersion and Circular Dichroism: Linearly and circularly polarized lights, circular birefringence,	03-10-2022	2	5	Lecture	oral
34	Electronic & Vibrational Spectroscopy in Organic Chemistry	ORD and Cotton effect	07-10-2022	1	5	Lecture	PPT
35	Electronic & Vibrational Spectroscopy in Organic Chemistry	Octant rule and axial haloketone rule for the determination of conformation and	10-10-2022	5	5	Lecture	PPT
36	Electronic & Vibrational Spectroscopy in Organic Chemistry	Octant rule and axial haloketone rule for the determination of conformation and	12-10-2022	1	5	Lecture	PPT
37	Electronic & Vibrational Spectroscopy in Organic Chemistry	Infrared Spectroscopy: Functional group and	14-10-2022	1	5	Lecture	oral
38	Electronic & Vibrational Spectroscopy in Organic Chemistry	Factors affecting vibrational frequency: Conjugation, coupling, electronic, steric, ring	17-10-2022	5	5	Lecture	oral
39	Electronic & Vibrational Spectroscopy in Organic Chemistry	Important absorption frequencies of different class of organic compound hydrocarbons,	19-10-2022	1	5	Lecture	oral
40	Electronic & Vibrational Spectroscopy in Organic Chemistry	Important absorption frequencies of different class of organic	21-10-2022	1	5	Lecture	oral
41	Magnetic Resonance Spectroscopy I	Quantum mechanical description of Energy	25-10-2022	3	3	Lecture	oral

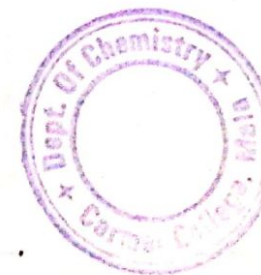


42	Magnetic Resonance Spectroscopy I	Transition probabilities using ladder operators	25-10-2022	5	3	Lecture	oral
43	Magnetic Resonance Spectroscopy I	Nuclear shielding	27-10-2022	1	3	Lecture	oral
44	Magnetic Resonance Spectroscopy I	Chemical shift,	27-10-2022	3	3	Lecture	oral
45	Magnetic Resonance Spectroscopy I	Spin coupling and splitting of NMR signals	31-10-2022	1	3	Lecture	oral
46	Magnetic Resonance Spectroscopy I	Quantum mechanical Description- AX and AB	31-10-2022	3	3	Lecture	oral
47	Magnetic Resonance Spectroscopy I	Effect of Relative magnitudes of J (Spin-Spin coupling) and Chemical	01-11-2022	5	3	Lecture	oral
48	Magnetic Resonance Spectroscopy I	Karplus relationship. Nuclear Overhauser Effect-	03-11-2022	1	3	Lecture	oral
49	Magnetic Resonance Spectroscopy I	2D NMR COSY	07-11-2022	1	3	Lecture	oral
50	Magnetic Resonance Spectroscopy I	Problems on NMR,IR,UV and Mass Spectroscopy	08-11-2022	5	3	Lecture	oral
51	Magnetic Resonance Spectroscopy II	Electron Spin Resonance:: Quantum mechanical description of electron	10-11-2022	1	4	Lecture	oral
52	Magnetic Resonance Spectroscopy II	Electron Spin Resonance:Energy levels- Population- Transition	14-11-2022	1	4	Lecture	oral
53	Magnetic Resonance Spectroscopy II	Electron Spin Resonance:g factor hyperfine interaction	15-11-2022	5	4	Lecture	oral
54	Magnetic Resonance Spectroscopy II	Electron Spin Resonance:Mc Connell	17-11-2022	1	4	Lecture	oral
55	Magnetic Resonance Spectroscopy II	Electron Spin Resonance:Equivalent and	21-11-2022	1	4	Lecture	oral
56	Magnetic Resonance Spectroscopy II	Electron Spin Resonance: g	22-11-2022	5	4	Lecture	oral
57	Magnetic Resonance Spectroscopy II	Electron Spin Resonance:Zero field	24-11-2022	1	4	Lecture	oral



58	Magnetic Resonance Spectroscopy II	Mossbauer Spectroscopy:The	28-11-2022	1	4	Lecture	oral
59	Magnetic Resonance Spectroscopy II	Mossbauer Spectroscopy:Doppler	29-11-2022	5	4	Lecture	oral
60	Magnetic Resonance Spectroscopy II	Mossbauer Spectroscopy:Hyperfine	01-12-2022	1	4	Lecture	oral
61	Magnetic Resonance Spectroscopy II	Mossbauer	05-12-2022	1	4	Lecture	oral
62	Magnetic Resonance Spectroscopy II	Mossbauer Spectroscopy:electric quadruple and magnetic	06-12-2022	5	4	Lecture	oral
63	Magnetic Resonance Spectroscopy II	Application of Mossbauer Spectroscopy to	08-12-2022	1	4	Lecture	oral
64	Revision	Discussion of previous years question paper	12-12-2022	1	7	Lecture	Discussion
65	II INTERNAL EXAMINATION	EXAM	13-12-2022	5	7	Lecture	
66	II INTERNAL EXAMINATION	EXAM	15-12-2022	1	7	Lecture	
67	II INTERNAL EXAMINATION	EXAM	19-12-2022	1	7	Lecture	
68	II INTERNAL EXAMINATION	EXAM	20-12-2022	5	7	Lecture	
69	Revision	Discussion	22-12-2022	1	7	Lecture	
70	Revision	Discussion	26-12-2022	1	7	Lecture	
71	Revision	Discussion	27-12-2022	5	7	Lecture	
72	Revision	Discussion	29-12-2022	1	7	Lecture	
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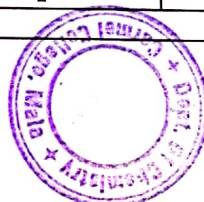

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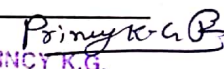
Accademic Year:2022-23

Faculty Name:NEETHU SUNNY

Subject Planner Report Of CHE2C07 Reaction mechanism in Organic Chemistry

Sl.no	Topic Name	Date	Hour	Module	Mode of Instruction
1	Introduction to basics of Photochemistry	09-05-2022	1	5	Lecture
2	Photochemical excitation of molecules	16-05-2022	1	5	Lecture
3	Spin Multiplicity	23-05-2022	1	5	Lecture
4	Jablonki diagram	30-05-2022	1	5	Lecture
5	Posphorescence,Fluorescence	06-06-2022	1	5	Lecture
6	photosensitization, and quenching	13-06-2022	1	5	Lecture
7	Norrish type I cleavage of acyclic, cyclic and alpha -beta unsaturated carbonyl compounds	20-06-2022	1	5	Lecture
8	Norrish type II cleavage, photo reduction	27-06-2022	1	5	Lecture
9	photoenolization	04-07-2022	1	5	Lecture
10	Paterno Buchi reaction	11-07-2022	1	5	Lecture
11	photodimerization of alpha -beta unsaturated ketones	18-07-2022	1	5	Lecture
12	Photo Fries rearrangement	25-07-2022	1	5	Lecture
13	dipi methane, lumi ketone, oxa dipi methane rearrangements.	02-08-2022	1	5	Lecture
14	Barton and Hoffmann Loeffler Freytag reactions. Photo isomerization and dimerization of alkenes	10-08-2022	1	5	Lecture
15	photo isomerization of benzene and substituted benzenes, photooxygenation.	19-08-2022	1	5	Lecture
16	Revision	26-08-2022	1	5	Lecture

Staff Name & Signature - Neethu Sunny 


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CARMEL COLLEGE (AUTONOMOUS)

Department:CHEMISTRY Batch:MSCH2022 Semester:S1

Academic Year:2022-23

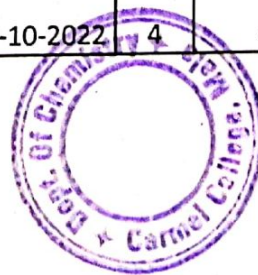
Faculty Name: Neethu Sunny

Subject Planner Report Of CHE1C03 Structure and reactivity of organic Compounds

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Conformational Analysis I	Factors affecting the conformational stability of molecules	15-09-2022	1	3	Lecture	Discussion
2	Conformational Analysis I	Confirmation of acyclic compounds "Ethane, n-butane, alkene dihalides, glycols	16-09-2022	4	3	Lecture	Discussion
3	Conformational Analysis I	Confirmation of chlorohydrins, tartaric acid, erythro and threo isomer.	22-09-2022	1	3	Lecture	Discussion
4	Conformational Analysis I	Interconversion of axial and equatorial bonds in chair conformation of cyclohexane " distance between the various H atoms and C atoms in chair and boat conformations. Monosubstituted cyclohexane "methyl and t-butyl cyclohexanes "flexible and rigid systems.	23-09-2022	4	3	Lecture	Discussion
5	Conformational Analysis I	Confirmation of substituted cyclohexanone, 2-bromocyclohexanone, dibromocyclohexanone, (cis & trans), 2-bromo-4, 4-dimethyl cyclohexanone.	26-09-2022	1	3	Lecture	Discussion



6	Conformational Analysis I	Anchoring group and conformationally biased molecules. Conformations of 1, 4 -cis and-trans disubstituted cyclohexanes in which one of the substituents is 1-butyl and their importance in assessing the reactivity of an axial or equatorial substituent.	27-09-2022	4	3	Lecture	Discussion
7	Conformational Analysis I	Effect of conformation on the course and rate of reactions in (a) debromination of dl and meso 2, 3-dibromobutane or stilbene dibromide using KI. (b) semipinacolic deamination of erythro and threo 1,2-diphenyl-1-(p-chlorophenyl)-2-aminoethanol.	29-09-2022	1	4	Lecture	Discussion
8	Conformational Analysis I	Effect of conformation on the course and rate of reactions in cyclohexane systems illustrated by (a) SN2 and SN1 reactions for (i) an axial substituent, and (ii) an equatorial substituent inflexible and rigid systems.	06-10-2022	1	4	Lecture	Discussion
9	Conformational Analysis II	Effect of conformation on the course and rate of reactions in cyclohexane systems illustrated by E1, E2 eliminations illustrated by the following compounds. (i) 4-t-Butylcyclohexyl tosylate (cis and trans) (ii) 2-Phenylcyclohexanol (cis and trans) (iii) Menthyl and neomenthyl chlorides and benzene hexachlorides.	07-10-2022	4	4	Lecture	Discussion



10	Conformational Analysis II	Pyrolytic elimination of esters (cis elimination) & Esterification of axial as well as equatorial hydroxyl and hydrolysis of their esters in rigid and flexible systems.	13-10-2022	1	4	Lecture	Discussion
11	Conformational Analysis II	Esterification of axial as well as equatorial carboxyl groups and hydrolysis of their esters. (g) Hydrolysis of axial and equatorial tosylates. (h) Oxidation of axial and equatorial hydroxyl group to ketones by chromic acid.	14-10-2022	4	4	Lecture	Discussion
12	Conformational Analysis II	Compare the rate of esterification of methanol, isomenthol, neomenthol, and neoisomenthol	20-10-2022	1	4	Lecture	Discussion
13	Conformational Analysis II	Bredt's rule. Stereochemistry of fused, bridged and caged ring systems - decalins	21-10-2022	4	4	Lecture	Discussion
14	Conformational Analysis II	Stereochemistry of norbornane, barrelene, and adamantanes.	28-10-2022	1	4	Lecture	Discussion
15	Conformational Analysis II	Esterification of axial as well as equatorial carboxyl groups and hydrolysis of their esters. (g) Hydrolysis of axial and equatorial tosylates. (h) Oxidation of axial and equatorial hydroxyl group to ketones by chromic acid.	31-10-2022	4	4	Lecture	Discussion
16	Stereochemistry	Concept of chirality, recognition of symmetry elements and chiral structures, conditions for optical activity, optical purity	04-11-2022	1	5	Lecture	Discussion



17	Stereochemistry	Concept of chirality, recognition of symmetry elements and chiral structures, conditions for optical activity, optical purity	04-11-2022	1	5	Lecture	Discussion
18	Stereochemistry	Concept of chirality, recognition of symmetry elements and chiral structures, conditions for optical activity, optical purity	04-11-2022	1	5	Lecture	Discussion
19	Stereochemistry	Concept of chirality, recognition of symmetry elements and chiral structures, conditions for optical activity, optical purity	04-11-2022	1	5	Lecture	Discussion
20	Stereochemistry	Specific rotation and its variation in sign and magnitude under different conditions, relative and absolute configurations, Fisher projection formula, sequence rule Δ " R and S notation in cyclic and acyclic compounds	07-11-2022	4	5	Lecture	Discussion
21	Stereochemistry	Cahn-Ingold-Prelog (CIP) rule. Mixtures of stereoisomers; enantiomeric excess and diastereomeric excess and their determination. Methods of resolution diastereomers. Resolution of racemates after conversion into diastereomers; use of S-brucine, kinetic resolution of enantiomers, chiral chromatography.	11-11-2022	1	5	Lecture	Discussion



22	Stereochemistry	Optical Isomerism-enantiotopic, homotopic, diastereotopic hydrogen atoms, prochiral centre. Pro-R, Pro-S, Re, and Si.	14-11-2022	4	5	Lecture	Discussion
23	Stereochemistry	Optical Isomerism in biphenyls, allenes, and nitrogen and sulphur compounds, conditions for optical activity, R and S notations. Optical activity in cis-trans conformational isomers of 1, 2-, 1, 3- and 1,4-dimethylcyclohexanes.	18-11-2022	1	5	Lecture	Discussion
24	Stereochemistry	Restricted rotation in biphenyls ΔC Molecular overcrowding. Chirality due to the folding of helical structures.	21-11-2022	4	5	Lecture	Discussion
25	Stereochemistry	Geometrical Isomerism ΔC E and Z notation of compounds with one and more double bonds in acyclic systems. Configuration of cyclic compounds ΔC monocyclic, fused and bridged ring systems, interconversion of geometrical isomers.	25-11-2022	1	5	Lecture	Discussion
26	Asymmetric Synthesis	Asymmetric synthesis, need for asymmetric synthesis, stereoselectivity and stereospecificity. Chiral pool: chiral pool synthesis of beetle pheromone component (S)- (ΔC)-ipenol from (S)-(ΔC)-leucine	28-11-2022	4	6	Lecture	Discussion



27	Asymmetric Synthesis	Classification of Asymmetric reactions into (1) Substrate controlled (2) Chiral auxiliary controlled (3) Chiral reagent controlled and (4) Chiral catalyst controlled.	02-12-2022	1	6	Lecture	Discussion
28	Asymmetric Synthesis	Substrate controlled asymmetric synthesis: Nucleophilic addition to chiral carbonyl compounds. 1, 2-asymmetric induction, Cram's rule and Felkin-Anh model. Chiral auxiliary controlled asymmetric synthesis: \pm -Alkylation of chiral enolates, azaenolates, imines and hydrazones, chiral sulfoxides.	05-12-2022	4	6	Lecture	Discussion
29	Asymmetric Synthesis	1, 4-Asymmetric induction and Prelog's rule. Use of chiral auxiliary in Diels-Alder and Copereactions. Chiral reagent controlled asymmetric synthesis: Asymmetric reduction using BINOL-H. Asymmetric hydroboration using IPC2BH and IPCBH2. Reduction with CBH reagent.	09-12-2022	1	6	Lecture	Discussion
30	Asymmetric Synthesis	Stereochemistry of Sharpless asymmetric epoxidation and dihydroxylation. Asymmetric aldol reaction: Diastereoselective aldol reaction and its explanation by Zimmerman-Traxler model.	12-12-2022	4	6	Lecture	Discussion
31	Asymmetric Synthesis	Auxiliary controlled aldol reaction. Double diastereoselection-matched and mismatched aldol	16-12-2022	1	6	Lecture	Discussion



32	Asymmetric Synthesis	Revision	19-12-2022	4	6	Lecture	Discussion
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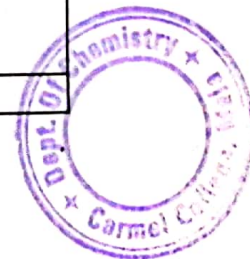
Department:CHEMISTRY Batch:MSCH2022 Semester:S1

Academic Year:2022-23

Faculty Name:Neethu Sunny

Subject Planner Report Of CHE1C04 Thermodynamics, kinetics and catalysis

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Chemical Kinetics	Kinetics of reactions involving reactive atoms and free radicals - Rice - Herzfeld mechanism and steady state approximation in the kinetics of organic gas phase decompositions -acetaldehyde	13-09-2022	4	2	Lecture	Discussion
2	Chemical Kinetics	Rice - Herzfeld mechanism and steady state approximation in the kinetics of organic gas phase decompositions -ethane	20-09-2022	4	3	Lecture	Discussion
3	Chemical Kinetics	Kinetics of chain reactions " branching chain and explosion limits	27-09-2022	4	3	Lecture	Discussion
4	Chemical Kinetics	Branching reactions of H ₂ -O ₂ reaction	29-09-2022	4	3	Lecture	Discussion
5	Chemical Kinetics	Kinetics of fast reactions relaxation methods, molecular beams, flash photolysis;	11-10-2022	4	3	Lecture	Discussion
6	Chemical Kinetics	Solution kinetics: Factors affecting reaction rates in solution.Effect of solvent and ionic strength (primary salt effect) on the rate constant, secondary salt effects.	18-10-2022	4	3	Lecture	Discussion
7	Chemical Kinetics	First Internal Examination	26-10-2022	4	3	Lecture	Discussion

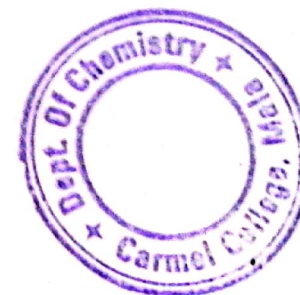


8	Molecular Reaction Dynamics	Collision theory, diffusion-controlled reactions, the material balance equation,	02-11-2022	4	4	Lecture	Discussion
9	Molecular Reaction Dynamics	Activated Complex theory " the Eyring equation, thermodynamic aspects of ACT; Comparison of collision and activated complex theories;	09-11-2022	4	4	Lecture	Discussion
10	Molecular Reaction Dynamics	The dynamics of molecular collisions " Molecular beams, principle of crossed-molecular beams;	16-11-2022	4	4	Lecture	Discussion
11	Molecular Reaction Dynamics	Potential energy surfaces - attractive and repulsive surfaces, London equation, Statistical distribution of molecular energies;	23-11-2022	4	4	Lecture	Discussion
12	Molecular Reaction Dynamics	Theories of unimolecular reactions - Lindemann's theory	30-11-2022	4	4	Lecture	Discussion
13	Molecular Reaction Dynamics	Hinshelwood's modification	07-12-2022	4	4	Lecture	Discussion
14	Molecular Reaction Dynamics	Rice -Ramsperger and Kassel (RRK) model	14-12-2022	4	4	Lecture	Discussion
15	Molecular Reaction Dynamics	Revision	21-12-2022	4	4	Lecture	

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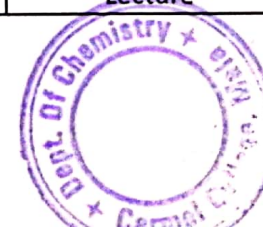
Department:CHEMISTRY Batch:MSCH2022 Semester:S1

Academic Year:2022-23

Faculty Name:NEETHU SUNNY

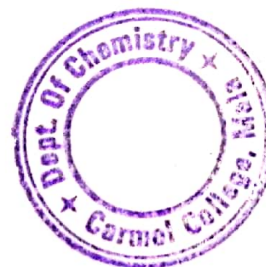
Subject Planner Report Of CHE1C01 Quantum Mechanics and Computational Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching
1	Introduction to Computational Chemistry - I	Electronic structure of molecules Basics of HF-SCF method of molecules	12-09-2022	1	7	Lecture	PPT
2	Introduction to Computational Chemistry - I	Classification of Computational Chemistry methods "Molecular mechanics methods (the concept of the force field) and Electronic structure	19-09-2022	1	7	Lecture	PPT
3	Introduction to Computational Chemistry - I	ab initio and semi-empirical methods	26-09-2022	1	7	Lecture	PPT
4	Introduction to Computational Chemistry - I	Concept of post HF methods.	28-09-2022	1	7	Lecture	PPT
5	Introduction to Computational Chemistry - I	Concept of electron correlation and post HF methods.	10-10-2022	1	7	Lecture	PPT
6	Introduction to Computational Chemistry II	Basis set approximation in ab initio methods	17-10-2022	1	8	Lecture	PPT
7	I Internal Examination		25-10-2022	1	6	Lecture	Examination
8	Introduction to Computational Chemistry II	classification of basis sets-minimal, double zeta, triple zeta, split-valence, polarization	01-11-2022	1	8	Lecture	PPT
9	Introduction to Computational Chemistry II	classification of basis sets-diffuse basis sets, Pople-style basis sets, and their nomenclature.	08-11-2022	1	8	Lecture	PPT



10	Introduction to Computational Chemistry II	Simple calculations using Gaussian programme	15-11-2022	1	8	Lecture	PPT
11	Introduction to Computational Chemistry II	The structure of a Gaussian input file	22-11-2022	1	8	Lecture	PPT
12	Introduction to Computational Chemistry II	Types of keywords	29-11-2022	1	8	Lecture	PPT
13	Introduction to Computational Chemistry II	Specification of molecular geometry using a) Cartesian coordinates and b) Internal coordinates.	06-12-2022	1	8	Lecture	PPT
14	Introduction to Computational Chemistry II	The Z-matrix, Z- matrices of some simple molecules like H ₂ , H ₂ O, formaldehyde	13-12-2022	1	8	Lecture	PPT
15	Introduction to Computational Chemistry II	Z- matrices of some simple molecules like ammonia and methanol.	20-12-2022	1	8	Lecture	PPT
Staffname & Signature: Neethu Sunny <i>Neethu</i>							

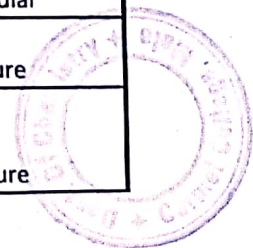
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		Academic Year 2022-23				
Department:CHEMISTRY Batch:BSCH2021 Semester:S4						
CHE4B04 Organic Chemistry-I						
Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Stereochemistry	Concept of isomerism: Types of isomerism - constitutional isomerism	01-11-2022	1	2	Lecture
2	Stereochemistry	Elements of symmetry of molecules	04-11-2022	3	2	Lecture
3	Stereochemistry	Representation of organic molecules	08-11-2022	1	2	Lecture
4	Stereochemistry	Conformational analysis of ethane and n-butane including energy diagrams.	11-11-2022	3	2	Lecture
5	Stereochemistry	Baeyer's strain theory	15-11-2022	1	2	Lecture
6	Stereochemistry	Axial and equatorial bonds	18-11-2022	3	2	Lecture
7	Stereochemistry	Optical isomerism and Geometrical isomerism	22-11-2022	1	2	Lecture
8	Stereochemistry	Optical activity, Concept of chirality	25-11-2022	3	2	Lecture
9	Stereochemistry	Diastereomers and Meso compounds	28-11-2022	3	2	Lecture
10	Stereochemistry	Optical isomerism in glyceraldehyde, lactic acid and tartaric acid	29-11-2022	1	2	Lecture
11	Stereochemistry	Relative and absolute configuration	02-12-2022	3	2	Lecture
12	Stereochemistry	Erythro and threo representations	06-12-2022	1	2	Lecture
13	Stereochemistry	Resolution methods	09-12-2022	3	2	Lecture
14	Stereochemistry	Cis-trans, syn-anti and E-Z notations with examples	13-12-2022	1	2	Lecture
15	Aliphatic Hydrocarbons and	Alkanes: Preparation from alkyl halides	16-12-2022	3	3	Lecture
16	Aliphatic Hydrocarbons and alkyl halides	Halogenation - Mechanism of free radical chlorination.	20-12-2022	1	3	Lecture
17	Aliphatic Hydrocarbons and	Alkenes: Preparation	23-12-2022	3	3	Lecture



18	Aliphatic Hydrocarbons and alkyl halides	Dehydrohalogenation of alkyl halides (Saytzeff's rule)	27-12-2022	1	3	Lecture
19	Aliphatic Hydrocarbons and alkyl halides	Addition of halogens (electrophilic addition with mechanism)	30-12-2022	3	3	Lecture
20	Aliphatic Hydrocarbons and alkyl halides	Addition of hydrogen halides (Markownikov and Anti-Markownikov addition with mechanism)	04-01-2023	1	3	Lecture
21	Aliphatic Hydrocarbons and alkyl halides	Oxidation of alkenes	09-01-2023	3	3	Lecture
22	Aliphatic Hydrocarbons and alkyl halides	Alkynes: Preparation from dihalides and acetylides	11-01-2023	1	3	Lecture
23	Aliphatic Hydrocarbons and alkyl halides	Addition of hydrogen using Lindlar's catalyst and Na/liquid ammonia	16-01-2023	3	3	Lecture
24	Aliphatic Hydrocarbons and alkyl halides	Chemistry of the test for unsaturation	18-01-2023	1	3	Lecture
25	Aliphatic Hydrocarbons and alkyl halides	Alkyl halides: Preparation	23-01-2023	3	3	Lecture
26	Aliphatic Hydrocarbons and alkyl halides	Types of aliphatic nucleophilic substitution reactions	25-01-2023	1	3	Lecture
27	Aliphatic Hydrocarbons and alkyl halides	SN1 and SN2 mechanisms with stereochemical aspects	26-01-2023	3	3	Lecture
28	Aliphatic Hydrocarbons and alkyl halides	Effects of substrate structure, solvent, nucleophile and leaving group	28-01-2023	1	3	Lecture
29	Aliphatic Hydrocarbons and alkyl halides	Elimination reactions: E1 & E2 mechanisms	31-01-2023	3	3	Lecture
30	Aliphatic Hydrocarbons and alkyl halides	Revision	02-02-2023	1	3	Lecture
31	Aliphatic Hydrocarbons and alkyl halides	Revision	07-02-2023	3	3	Lecture
32	Aliphatic Hydrocarbons and alkyl halides	Revision	09-02-2023	1	3	Remedial
33	Aliphatic Hydrocarbons and alkyl halides	Revision	14-02-2023	3	3	Remedial
34	Aromaticity	Structure of benzene - Huckel's (4n+2) electron rule	16-02-2023	1	4	Lecture
35	Aromaticity	Applications of Huckel's rule to aromatic - anti-aromatic - non-aromatic compounds	21-02-2023	3	4	Lecture



36	Aromaticity	Aromaticity of benzenoid compounds	23-02-2023	1	4	Lecture
37	Aromaticity	Aromaticity of nonbenzenoid compounds	28-02-2023	3	4	Lecture
38	Aromaticity	Aromaticity of cyclopropene and cyclopropenyl ions	02-03-2023	1	4	Lecture
39	Aromaticity	Aromaticity of cyclopentadiene and cyclopentadienyl ions	07-03-2023	3	4	Lecture
40	Aromaticity	Aromaticity of cycloheptatriene and tropylium ion	09-03-2023	1	4	Lecture
41	Aromaticity	Aromaticity of cyclooctatetraene, azulene and annulenes	14-03-2023	3	4	Lecture
42	Aromaticity	Revision	16-03-2023	1	4	Lecture
43	Aromaticity	Revision	21-03-2023	3	4	Lecture
44	Aromaticity	Revision	23-03-2023	1	4	Lecture
45	Aromaticity	Revision	28-03-2023	3	4	Remedial
46	Aromaticity	Revision	30-03-2023	1	4	Remedial
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						Faculty: Dr.Roshini K.Thumpakara

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Academic Year 2022-23

Department:CHEMISTRY Batch:BSCH2020 Semester:S6

CHE6B12 Advanced and Applied Chemistry

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	New vistas in chemistry	Green Chemistry: Introduction	02-11-2022	2	2	Lecture
2	New vistas in chemistry	Twelve principles of green chemistry with explanations	07-11-2022	1	2	Lecture
3	New vistas in chemistry	Green solvents " Green synthesis of ibuprofen	09-11-2022	2	2	Lecture
4	New vistas in chemistry	Microwave and ultrasound assisted green synthesis: Diels-Alder reaction and Cannizzaro reaction	14-11-2022	1	2	Lecture
5	New vistas in chemistry	Supramolecular chemistry: Introduction	16-11-2022	2	2	Lecture
6	New vistas in chemistry	Molecular recognition " Host-guest interactions	21-11-2022	1	2	Lecture
7	New vistas in chemistry	Combinatorial Chemistry: Introduction	23-11-2022	2	2	Lecture
8	New vistas in chemistry	Applications of combinatorial synthesis	28-11-2022	1	2	Lecture
9	Applied inorganic chemistry	Cement: Manufacture, composition and setting	30-11-2022	2	5	Lecture
10	Applied inorganic chemistry	Glass: Manufacture, annealing, types of glasses and uses	05-12-2022	1	5	Lecture
11	Applied inorganic chemistry	Refractory materials: borides and carbides	07-12-2022	2	5	Lecture
12	Applied inorganic chemistry	Inorganic fertilizers	12-12-2022	1	5	Lecture
13	Applied inorganic chemistry	Rocket propellants	14-12-2022	2	5	Lecture
14	Applied inorganic chemistry	Tooth paste and Talcum powder	19-12-2022	1	5	Lecture
15	Applied inorganic chemistry	Chemical industries in kerala	21-12-2022	2	5	Lecture
16	Applied inorganic chemistry	Revision	26-12-2022	1	5	Lecture
17	Applied inorganic chemistry	Revision	28-12-2022	2	5	Lecture

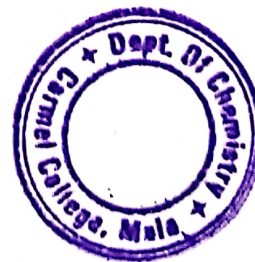


18	Applied organic chemistry	Petroleum: Carbon range and uses of various fractions of petroleum distillation	02-01-2023	1	6	Lecture
19	Applied organic chemistry	Knocking Δ €" Octane number Δ €" Anti-knocking compounds	03-01-2023	1	6	Lecture
20	Applied organic chemistry	Flash point Δ €" Composition and uses of LPG and CNG	05-01-2023	2	6	Lecture
21	Applied organic chemistry	Prodrug, pharmacy, pharmacology, pharmacodynamics	07-01-2023	1	6	Lecture
22	Applied organic chemistry	Antipyretics, analgesics, antacids, antihistamines	10-01-2023	1	6	Lecture
23	Applied organic chemistry	Cleansing agents: Soaps and detergents	12-01-2023	2	6	Lecture
24	Applied organic chemistry	Shampoos: Ingredients and functions	14-01-2023	1	6	Lecture
25	Applied organic chemistry	Pesticides: Insecticides, rodenticides and fungicides	17-01-2023	1	6	Lecture
26	Applied organic chemistry	Organo chlorine pesticides	19-01-2023	2	6	Lecture
27	Applied organic chemistry	Structure of Endosulfan, DDT and BHC	21-01-2023	1	6	Lecture
28	Applied organic chemistry	Herbicides Δ €" glyphosate Δ €" side effects	24-01-2023	1	6	Lecture
29	Applied organic chemistry	Revision	27-01-2023	2	6	Lecture
30	Applied organic chemistry	Revision	01-02-2023	1	6	Lecture
31	Applied organic chemistry	Revision	03-02-2023	2	6	Lecture
32	Applied organic chemistry II	Dyes: Definition Δ €" Requirements of a dye	08-02-2023	1	7	Lecture
33	Applied organic chemistry II	Theories of colour and chemical constitution	10-02-2023	2	7	Lecture
34	Applied organic chemistry II	Preparation and uses of Rosaniline and Indigo. Composition of hair dyes	15-02-2023	1	7	Lecture
35	Applied organic chemistry II	Food adulterants: Common food adulterants in various food materials and their identification	17-02-2023	2	7	Lecture



36	Applied organic chemistry II	Milk, vegetable oils, tea, coffee powder and chilli powder	22-02-2023	1	7	Lecture
37	Applied organic chemistry II	Food additives: Food preservatives, artificial sweeteners and antioxidants	24-02-2023	2	7	Lecture
38	Applied organic chemistry II	Structure of BHT, BHA and Ajinomoto	01-03-2023	1	7	Lecture
39	Applied organic chemistry II	Common permitted and non-permitted food colours	03-03-2023	2	7	Lecture
40	Applied organic chemistry II	Natural pigments in fruits and vegetables	08-03-2023	1	7	Lecture
41	Applied organic chemistry II	Artificial ripening of fruits	10-03-2023	2	7	Lecture
42	Applied organic chemistry II	Composition of chocolate, milk powder	15-03-2023	1	7	Lecture
43	Applied organic chemistry II	Composition of soft drinks	17-03-2023	2	7	Lecture
44	Applied organic chemistry II	Revision	22-03-2023	1	7	Lecture
45	Applied organic chemistry II	Revision	24-03-2023	2	7	Lecture
46	Applied organic chemistry II	Revision	29-03-2023	1	7	Lecture
47	Applied organic chemistry II	Revision	31-03-2023	2	7	Lecture
						<i>R.K.</i>
						Faculty: Dr.Roshini K.Thumpakara

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CARMEL COLLEGE (AUTONOMOUS)

Academic Year 2022-23

Department:CHEMISTRY Batch:BSCH2020 Semester:S6

CHE6B10 Organic Chemistry-III

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Structure Elucidation Using Spectral Data	Electromagnetic spectrum	01-11-2022	3	1	Lecture
2	Structure Elucidation Using Spectral Data	UV-Visible Spectroscopy	03-11-2022	1	1	Lecture
3	Structure Elucidation Using Spectral Data	IR Spectroscopy	04-11-2022	1	1	Lecture
4	Structure Elucidation Using Spectral Data	IR spectra of alcohols, phenols, amines, ethers, aldehydes, ketones	08-11-2022	3	1	Lecture
5	Structure Elucidation Using Spectral Data	¹ H NMR: Chemical shift & Spin-spin splitting	10-11-2022	1	1	Lecture
6	Structure Elucidation Using Spectral Data	Structure elucidation of simple organic compounds	11-11-2022	1	1	Lecture
7	Structure Elucidation Using Spectral Data	Column, paper and thin layer chromatography	15-11-2022	3	1	Lecture
8	Structure Elucidation Using Spectral Data	Gas Chromatography. Classification. Monosaccharides: Fischer projection	17-11-2022	1	1	Lecture
9	Carbohydrates	Epimers and anomeres	18-11-2022	1	2	Lecture
10	Carbohydrates	Reactions of glucose & Killiani-Fischer synthesis	24-11-2022	1	2	Lecture
11	Carbohydrates		25-11-2022	1	2	Lecture



12	Carbohydrates	Disaccharides: Cyclic structure of maltose, lactose and sucrose	29-11-2022	3	2	Lecture
13	Carbohydrates	Polysaccharides: Structure of cellulose, starch and glycogen	01-12-2022	1	2	Lecture
14	Carbohydrates	Test for carbohydrates	02-12-2022	1	2	Lecture
15	Proteins and Nucleic acids	Amino acids " Classification " Structure of amino acids	06-12-2022	3	3	Lecture
16	Proteins and Nucleic acids	Amino acids: Synthesis	08-12-2022	1	3	Lecture
17	Proteins and Nucleic acids	Structure determination of peptides	09-12-2022	1	3	Lecture
18	Proteins and Nucleic acids	Enzymes " characteristics and examples	13-12-2022	3	3	Lecture
19	Proteins and Nucleic acids	Tests for proteins	15-12-2022	1	3	Lecture
20	Proteins and Nucleic acids	Nucleic acids: Introduction, constituents of nucleic acids	16-12-2022	1	3	Lecture
21	Proteins and Nucleic acids	Double helical structure of DNA. Codon and genetic code	20-12-2022	3	3	Lecture
22	Proteins and Nucleic acids	DNA replication " Difference between DNA & RNA	22-12-2022	1	3	Lecture
23	Proteins and Nucleic acids	DNA finger printing and its applications	23-12-2022	1	3	Lecture
24	Proteins and Nucleic acids	Polymerase chain reaction	27-12-2022	3	3	Lecture
25	Biomolecules	Lipids: Classification " Fats and oils	29-12-2022	1	4	Lecture
26	Biomolecules	Phospholipids	30-12-2022	1	4	Lecture
27	Biomolecules	Steroids: Classification " Structure and biological functions	04-01-2023	3	4	Lecture
28	Biomolecules	Elementary idea of HDL and LDL	06-01-2023	1	4	Lecture
29	Biomolecules	Hormones: Definition, examples	09-01-2023	1	4	Lecture
30	Biomolecules	Vitamins: Classification " Sources and deficiency diseases	11-01-2023	3	4	Lecture
31	Biomolecules	Revision	13-01-2023	1	4	Lecture
32	Biomolecules	Revision	16-01-2023	1	4	Lecture



33	Natural products	Alkaloids: Extraction. Classification based on structure of heterocyclic ring	18-01-2023	3	5	Lecture
34	Natural products	Terpenes: Classification " Isoprene rule	20-01-2023	1	5	Lecture
35	Natural products	Uses of lemongrass oil, eucalyptus oil	23-01-2023	1	5	Lecture
36	Natural products	Physiological actions of nicotine, quinine, coniine.	25-01-2023	3	5	Lecture
37	Natural products	Isolation of terpenes from essential oils (elementary idea)	26-01-2023	1	5	Lecture
38	Natural products	Source, structure and uses of citral, geraniol	28-01-2023	3	5	Lecture
39	Natural products	Structure of natural rubber " "				
39	Natural products	Vulcanization and its advantages	30-01-2023	1	5	Lecture
40	Natural products	Revision	31-01-2023	1	5	Lecture
41	Pericyclic Reactions	Introduction " Molecular orbitals of conjugated π systems	02-02-2023	3	6	Lecture
42	Pericyclic Reactions	Types of pericyclic reactions	04-02-2023	1	6	Lecture
43	Pericyclic Reactions	Cycloaddition reactions	06-02-2023	1	6	Lecture
44	Pericyclic Reactions	Sigmatropic reactions	07-02-2023	1	6	Lecture
45	Pericyclic Reactions	Electrocyclic reactions	09-02-2023	3	6	Lecture
46	Pericyclic Reactions	FMO explanations and Woodward-Hoffmann selection rules	11-02-2023	1	6	Lecture
47	Pericyclic Reactions	Pericyclic reactions in human body	13-02-2023	1	6	Lecture
48	Pericyclic Reactions	Revision	14-02-2023	1	6	Lecture
49	Pericyclic Reactions	Revision	16-02-2023	3	6	Lecture

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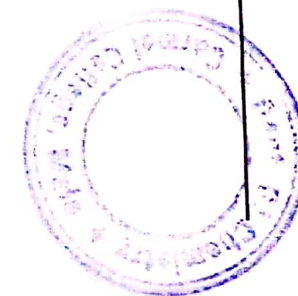
Department : CHEMISTRY Batch:BSCH2020 Semester: S5

CHE5B07 Organic Chemistry-II

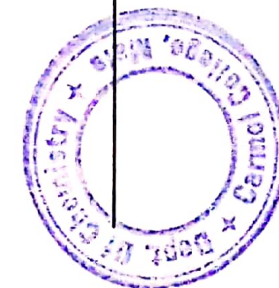
Sl.no	Topic Name	Description	Date	Hou	Module	Mode of	Teaching Pedagogy
1	Alcohols and Phenols	Methods of formation of alcohols by reduction of carbonyl compounds.	02-06-2022	2	1	Lecture	PPT
2	Alcohols and Phenols	Reaction of carbonyl compounds with Grignard reagent	03-06-2022	1	1	Lecture	PPT
3	Alcohols and Phenols	Reaction of carbonyl compounds with Grignard reagent	09-06-2022	2	1	Lecture	PPT
4	Alcohols and Phenols	From alkenes (hydration, hydroboration)	10-06-2022	1	1	Lecture	PPT
5	Alcohols and Phenols	Acidic and basic nature of alcohols, formation of ester, reaction with hydrogen halides (Lucas test)	13-06-2022	2	1	Lecture	PPT
6	Alcohols and Phenols	oxidation (with PCC and KmnO4) " pinacol-pinacolone rearrangement	14-06-2022	1	1	Lecture	PPT
7	Alcohols and Phenols	Phenols "Nomenclature, preparation of phenols	16-06-2022	2	1	Lecture	PPT
8	Alcohols and Phenols	Reactions of phenols " electrophilic aromatic substitution	17-06-2022	1	1	Lecture	PPT
9	Alcohols and Phenols	Liebermann's nitroso reaction and Hauben-Hoesch reaction	20-06-2022	2	1	Lecture	PPT
10	Alcohols and Phenols	Preparation of phenolphthalein and fluorescein and colour change of phenolphthalein with pH.	21-06-2022	1	1	Lecture	PPT
11	Exam	Exam	23-06-2022	2	1	Lecture	



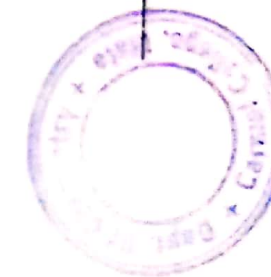
12	Ethers and Epoxides	Reactions of ethers: Acidic cleavage and Claisen rearrangement	24-06-2022	1	2	Lecture	
13	Ethers and Epoxides	Zeisel's method of estimation of methoxy groups	27-06-2022	2	2	Lecture	
14	Ethers and Epoxides	Crown ethers: Nomenclature and importance in organic synthesis and phase transfer catalysis (PTC)	28-06-2022	1	2	Lecture	
15	Ethers and Epoxides	Epoxides: Synthesis	30-06-2022	2	2	Lecture	
16	Ethers and Epoxides	Revision	01-07-2022	1	2	Lecture	
17	Organometallic Compounds	Preparation of Grignard reagent	04-07-2022	2	3	Lecture	
18	Organometallic Compounds	Preparation and synthetic applications of Organo zinc compounds	05-07-2022	1	3	Lecture	
19	Organometallic Compounds	synthetic applications	07-07-2022	2	3	Lecture	
20	Organometallic Compounds	Revision	08-07-2022	1	3	Lecture	
21	Aldehydes and Ketones	Nucleophilic addition reactions	11-07-2022	2	4	Lecture	
22	Aldehydes and Ketones	Carbon nucleophiles (addition of HCN, wittig reaction), Oxygen nucleophiles (H ₂ O, alcohols,)	12-07-2022	1	4	Lecture	PPT
23	Aldehydes and Ketones	Nitrogen nucleophiles	14-07-2022	2	4	Lecture	PPT
24	Aldehydes and Ketones	Oxidation using acidified K ₂ Cr ₂ O ₇ , KmnO ₄ , CrO ₃ ; Oppenauer oxidation. Distinguishing aldehydes and ketones (Tollen's reagent, Fehling's solution)	15-07-2022	1	4	Lecture	PPT
25	Aldehydes and Ketones	Reduction using Catalytic hydrogenation, Wolf-Kishner, Clemmensen, metal hydride (LiAlH ₄ and NaBH ₄), and MPV reduction	18-07-2022	2	4	Lecture	PPT
26	Aldehydes and Ketones	Aldol condensation, Cannizzaro reaction	19-07-2022	1	4	Lecture	
27	Aldehydes and Ketones	Benzoin condensation and Perkin's reactions.	21-07-2022	2	4	Lecture	



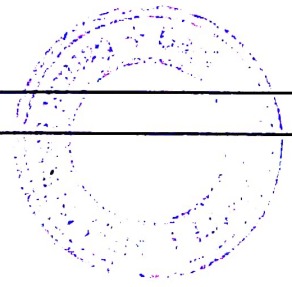
28	Aldehydes and Ketones	Synthetic utility of Wittig reaction, Reformatsky reaction and Beckmann rearrangement.	22-07-2022	1	4	Lecture	PPT	
29	Aldehydes and Ketones		Revision	25-07-2022	2	4	Lecture	
30	Aldehydes and Ketones		Exam	26-07-2022	1	4	Lecture	
31	Carboxylic Acids and Sulphonic Acids	Carboxylic acids "Hydrolysis of nitrile and carboxylation of Grignard reagent	29-07-2022	2	5	Lecture	PPT	
32	Carboxylic Acids and Sulphonic Acids	Chemical properties: Acidity (effect of substituent on the acidity of aliphatic and aromatic carboxylic acids)	01-08-2022	1	5	Lecture	PPT	
33	Carboxylic Acids and Sulphonic Acids	Reactions of carboxylic acids "conversion to acid chlorides, esters, amides and acid anhydrides	02-08-2022	2	5	Lecture	PPT	
34	Carboxylic Acids and Sulphonic Acids	Relative reactivity of carboxylic acid derivatives (acid chlorides, esters, amides and acid anhydrides)	03-08-2022	1	5	Lecture	PPT	
35	Carboxylic Acids and	Fisher esterification, HVZ reaction	05-08-2022	2	5	Lecture	PPT	
36	Carboxylic Acids and	Kolbe electrolysis	09-08-2022	1	5	Lecture	PPT	
37	Carboxylic Acids and Sulphonic Acids	Hydroxy acids "Citric acid" preparation by Reformatsky reaction and uses.	10-08-2022	2	5	Lecture	PPT	
38	Carboxylic Acids and	Lactic acid, Malic acid and Tartaric acid	11-08-2022	1	5	Lecture	PPT	
39	Carboxylic Acids and Sulphonic Acids	Methods of formation and chemical reactions of unsaturated monocarboxylic acids	16-08-2022	2	5	Lecture	PPT	
40	Carboxylic Acids and Sulphonic Acids	Ascend and descend in carboxylic acid series	17-08-2022	1	5	Lecture	PPT	
41	Carboxylic Acids and Sulphonic Acids	Preparation and properties of benzene sulphonc acid	19-08-2022	2	5	Lecture	PPT	
42	Carboxylic Acids and	Tosylation	22-08-2022	1	5	Lecture	PPT	



43	Carboxylic Acids and Sulphonic Acids	Comparison of acidity of alcohols, phenols, carboxylic acids and sulphonic acids	24-08-2022	2	5	Lecture	PPT
44	Nitrogen Compounds	Nitro-aci tautomerism " Difference between alkyl nitrites and nitro alkanes	25-08-2022	1	6	Lecture	PPT
45	Nitrogen Compounds	Diazotization and couplin	26-08-2022	2	6	Lecture	PPT
46	Nitrogen Compounds	Ketones from nitro compounds " Nef's reaction	29-08-2022	1	6	Lecture	PPT
47	Carboxylic Acids and	Revision	31-08-2022	2	5	Lecture	
48	Carboxylic Acids and	Revision	01-09-2022	1	5	Lecture	
49	Nitrogen Compounds	Reduction products of nitrobenzene in acidic, neutral and alkaline media	02-09-2022	2	6	Lecture	PPT
50	Nitrogen Compounds	Amines: Nomenclature " Isomerism.	05-09-2022	1	6	Lecture	PPT
51	Nitrogen Compounds	Preparation: From alkyl halides, nitro compounds, nitriles, isonitriles and amides Hofmann's bromamide reaction, Schmidt reaction and Gabriel phthalamide synthesis	12-09-2022	2	6	Lecture	PPT
52	Nitrogen Compounds	Electrophilic substitution reactions of aniline: Halogenation, nitration and sulphonation	13-09-2022	1	6	Lecture	PPT
53	Nitrogen Compounds	Preparation and uses sulpha drugs	14-09-2022	2	6	Lecture	PPT
54	Nitrogen Compounds	Structural formula of sulphapyridine, sulphadiazine, sulphathiazole and sulphaguanidine	15-09-2022	1	6	Lecture	PPT
55	Nitrogen Compounds	Separation of amines by Hinsberg's method	19-09-2022	2	6	Lecture	PPT
56	Nitrogen Compounds		20-09-2022	1	6	Lecture	PPT



		ynthetic transformations of aryl diazonium salts, azo coupling. Preparation of methyl orange " Reason for its colour change with pH	22-09-2022	2	6	Lecture	PPT
57	Nitrogen Compounds						
58	Nitrogen Compounds	Revision	23-09-2022	1	6	Lecture	
59	Nitrogen Compounds	Exam	27-09-2022	2	6	Lecture	
	: Heterocyclic & Active						
60	Methylene Compounds	Heterocyclic Compounds: Classification	28-09-2022	1	7	Lecture	PPT
	: Heterocyclic & Active	Nomenclature " Preparation and					
61	Methylene Compounds	properties of furan	29-09-2022	2	7	Lecture	PPT
	: Heterocyclic & Active	Indole " Fischer indole synthesis and					
62	Methylene Compounds	resonance structures	30-09-2022	1	7	Lecture	PPT
	: Heterocyclic & Active						
63	Methylene Compounds	Active Methylene Compounds: Examples	06-10-2022	2	7	Lecture	PPT
	: Heterocyclic & Active	Preparation of ethyl acetoacetate by					
64	Methylene Compounds	Claisen condensation	07-10-2022	1	7	Lecture	PPT
	: Heterocyclic & Active	Tautomerism " Synthetic applications of					
65	Methylene Compounds	ethylacetoacetate	10-10-2022	2	7	Lecture	PPT
	: Heterocyclic & Active						
66	Methylene Compounds	Preparation and properties of pyridine	11-10-2022	1	7	Lecture	PPT
67	Revision	Qus paper discussion	13-10-2022	2	7	Lecture	
68	Revision	Qus paper discussion	14-10-2022	1	7	Lecture	
69	Revision	Qus paper discussion	17-10-2022	2	7	Lecture	
70	Revision	Qus paper discussion	18-10-2022	1	7	Lecture	
71	Revision	Qus paper discussion	20-10-2022	2	7	Lecture	
72	Revision	Qus paper discussion	21-10-2022	1	7	Lecture	
73	Revision	Qus paper discussion	25-10-2022	2	7	Lecture	
74	Revision		26-10-2022	1	7	Lecture	
75	Revision		28-10-2022	2	7	Lecture	
76	Modal Exam		31-10-2022	1	7	Lecture	



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Academic Year 2022-23

Faculty: Dr Roshini K.Thumpakara

Department:CHEMISTRY Batch:BSCH2022 Semester:S1

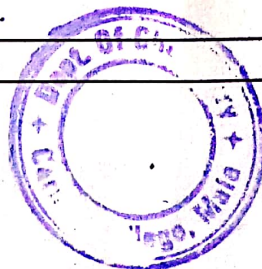
Subject Planner Report Of CHE1B01 Theoretical and Inorganic Chemistry- I

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction
1	Acids and Bases	Arrhenius concept	26-08-2022	2	5	Lecture
2	Acids and Bases	Bronsted -Lowry concept	02-09-2022	2	5	Lecture
3	Acids and Bases	Lux flood and solvent system concept	15-09-2022	2	5	Lecture
4	Acids and Bases	Lewis and usanovich concept	26-09-2022	2	5	Lecture
5	Acids and Bases	HSAB Concept	06-10-2022	2	5	Lecture
6	Revision	Revision	13-10-2022	2	5	Lecture
7	Revision	Revision	20-10-2022	2	5	Lecture
8	Nuclear Chemistry	Introduction	28-10-2022	2	6	Lecture
9	Nuclear Chemistry	Nuclear stability	04-11-2022	2	6	Lecture
10	Nuclear Chemistry	Nuclear forces	11-11-2022	2	6	Lecture
11	Nuclear Chemistry	Isotopes - detection	18-11-2022	2	6	Lecture
12	Nuclear Chemistry	Isotopes - Isolation	25-11-2022	2	6	Lecture
13	Nuclear Chemistry	Applications-Isotopes	02-12-2022	2	6	Lecture
14	Nuclear Chemistry	Applications-Isotopes	09-12-2022	2	6	Lecture
15	Revision	Revision	16-12-2022	2	6	Lecture

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2022-23

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Department:CHEMISTRY Batch:BSCH2021 Semester:S3

CHE3B03 Physical Chemistry-I

Sl.no	Topic Name	Description	Date	Hour	Module	Mode of Instruction	Teaching Pedagogy
1	Gaseous State	Fundamentals of Gaseous state. Postulates of kinetic theory of gases	01-06-2022	1	1	Lecture	PPT
2	Gaseous State	Derivation of kinetic gas equation - Maxwell's distribution of molecular velocities	08-06-2022	1	1	Lecture	PPT
3	Gaseous State	Root mean square, average and most probable velocities.	15-06-2022	1	1	Lecture	PPT
4	Gaseous State	Collision number - Mean free path	22-06-2022	1	1	Lecture	PPT
5	Gaseous State	Collision diameter - Deviation from ideal behavior - Compressibility factor	29-06-2022	1	1	Lecture	PPT
6	Gaseous State	van der Waals equation of state, Virial equation - Expression of van der Waals equation in virial form and calculation of Boyle temperature	06-07-2022	1	1	Lecture	PPT
7	Gaseous State	van der Waals equation of state, Virial equation - Expression of van der Waals equation in virial form and calculation of Boyle temperature	06-07-2022	1	1	Lecture	PPT
8	Gaseous State	PV isotherms of real gases - Continuity of states - Isotherm of van der Waals equation	13-07-2022	1	1	Lecture	PPT



		Critical phenomena - Critical constants and their determination - Relationship between critical constants and van der Waals constants.					
9	Gaseous State	constants.	20-07-2022	1	1	Lecture	PPT
10	Gaseous State	Revision	27-07-2022	1	5	Lecture	
11	Gaseous State	Revision	04-08-2022	1	5	Lecture	
12	Gaseous State	Exam	12-08-2022	1	5	Lecture	
13	Molecular	symmetry operations	23-08-2022	1	5	Lecture	
14	Molecular	Elements of symmetry of molecules	30-08-2022	1	5	Lecture	
15	Molecular	Identity, proper axis of rotation	06-09-2022	1	5	Lecture	
	Molecular						
	Symmetry and	plane of symmetry, centre of symmetry and					
16	Group Theory	improper axis of rotation	16-09-2022	1	5	Lecture	
17	Molecular	Schonflies notation	26-09-2022	1	5	Lecture	
	Molecular						
18	Symmetry and	Binary combinations of symmetry operations	03-10-2022	1	5	Lecture	
	Molecular	C _{nv} , C _{nh} , D _{nh} . Group multiplication table for					
19	Symmetry and	C _{2v} , and C _{2h} .	12-10-2022	1	5	Lecture	PPT
20	Revision		19-10-2022	1	5	Lecture	
21	Exam		27-10-2022	1	5	Lecture	

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