

SPACES DEGREE COLLEGE (A)
PAYAKRAOPETA

BOARD OF STUDIES OF CHEMISTRY

B.Sc. Hons. CHEMISTRY MAJORS

UNDER CBCS

DEPARTMENT OF CHEMISTRY

Dt: 23/11/2025, 11: 00 AM

BOARD OF STUDIES MEETING
2025-2026



AUTONOMOUS

Permanently affiliated to Andhra University
Managed by: Sri Prakash Educational Society

Sri Prakash Academy of Computers, Electronics & Sciences



Estd 1993

3.11 CGPA

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PREFACE

The Board of Studies (BoS) is a statutory academic body constituted under the autonomous status of SPACES Degree College, Payakaraopeta, as per the guidelines issued by the University Grants Commission (UGC) and the affiliating university, Andhra University. The BoS plays a pivotal role in shaping and overseeing the academic framework of the respective departments. The primary responsibilities of the Board of Studies include:

- Designing, reviewing, and updating the curriculum and syllabi to ensure alignment with current advancements in the discipline and industry requirements.
- Ensuring the curriculum meets the standards of quality education and addresses the evolving needs of students and society.
- Integrating interdisciplinary, skill-based, and research-oriented components to enhance employability and holistic development.
- Recommending examination patterns, assessment methods, and academic regulations.
- Facilitating academic autonomy by recommending innovations in teaching-learning processes and evaluation systems.

This body serves as a crucial link between the institution, university, and other stakeholders, ensuring that the undergraduate Zoology program remains contemporary, relevant, and of high quality under the autonomous governance framework.

Composition

1. Head of the Department concerned (Chairman).
2. The entire faculty of each specialization.
3. Two subject experts from outside the Parent University to be nominated by the Academic Council.
4. One expert to be nominated by the Vice-Chancellor from a panel of six recommended by the college principal.
5. One representative from industry/corporate sector/allied area relating to placement.
6. One postgraduate meritorious alumnus to be nominated by the principal. The Chairman, Board of Studies, may with the approval of the principal of the college, co-opt:
 - (a) Experts from outside the college whenever special courses of studies are to be formulated.
 - (b) Other members of staff of the same faculty.

Term: The term of the nominated members shall be three years.



S.No.	Category of the Member	Name of the member	Designation
1	University Nominee	Prof. K.Basavaiah	Department Of Chemistry, College of Science & Technology, A.U Visakhapatnam
2	Representative from Industry	Dr. Vijay Vitthal T Mathad	Chief Operating Officer, Cramsn Research Park Ltd (Msn Group),Hyderabad
3	Subject Expert-1	Dr.S.Ramakrishna	Lecturer, Department of Chemistry, Govt Degree College For Men,Srikakulam.
4	Subject Expert-2	Sri.S.Dhilleswara Rao	Lecturer, Department Of Chemistry, Govt Degree College,Tuni.
5	Member	Miss.T.Sai Durga	Lecturer, Department Of Chemistry Spaces Degree College(A),Payakaraopeta
6	Member	Miss.A.A Nagalahari	Lecturer, Department Of Chemistry,SPACES Degree College(A),Payakaraopeta
7	Member	Sri.A.Anjaiah	Lecturer ,Department Of Chemistry,SPACES Degree College(A),Payakaraopeta
8	Member	Sri.D.Lovaraju	Lecturer, Department Of Chemistry,SPACES Degree College(A),Payakaraopeta
9	Member	Dr.P.V.Ravikumar	Lecturer,Department Of Chemistry,SPACES Degree College(A),Payakaraopeta
12	Student Alumni	K.N.V.Chandrika	-
13	BOS Chairman	Sri.K.Nagabhushanam	HOD,Chemistry,SPACESDegree College(A),Payakaraopeta

K.N.Bh

SPACES DEGREE COLLEGE (AUTONOMOUS), PAYAKARAOPETA
DEPARTMENT OF CHEMISTRY
BOARD OF STUDIES
AGENDA

DATE: 23-10-2025

TIME: 11:00 AM

1. To Review the curriculum of I and II semesters of B.Sc. Chemistry as prescribed by APSCHE with effect from academic year 2025-2026.
2. To discuss Whether changes are required in the syllabus.
3. To discuss and propose the criteria and pattern of internal assessment.
4. To discuss and propose the pattern of external assessment.
5. To discuss Model Question papers for The I and II Semesters including Theory and Practical..
6. To discuss about blueprint for Internal exams and Semester End Examinations.
7. To propose the names for Question paper setters and Examiners.
8. To discuss about remedial classes for Slow learners
9. To discuss about Organizing Guest lecturers
10. To discuss about implementation of certificate courses.
11. **Suggestions And Feedback From The Experts And Members Of The Bos.**
12. **Any Other Matter According To The Discretion Of The Chair Person**
13. **Resolutions**
14. **Vote Of Thanks**



BOARD OF STUDIES

Minutes of the Board of Studies (BOS) Meeting

The First Meeting of the Board of Studies (BOS), Department of Chemistry, SPACES Degree College, was held on 23/10/2025, 11:00AM _____ to scrutinize and approve the drafted syllabus of B.Sc. Chemistry. (Major) under autonomous status.

Agenda Item 1: Welcome and Introduction of Members

The Chairperson welcomed all members and introduced participants, including internal faculty, external experts, industry, and alumni representatives.

Agenda Item 2: Presentation and Ratification of Syllabus

The comprehensive syllabus was presented and discussed. Components reviewed included:

- Program Outcomes (PO), Program Specific Outcomes (PSO), Course Outcomes (CO), Learning Outcomes (LO)
- Theory and Practical syllabi
- Internal and External Assessment schemes
- Model Question Papers and Question Bank Aligning with Bloom's Taxonomy
- Innovative Teaching Methods and Pedagogy
- **Certificate Courses**

Agenda Item 3: Suggestions and Feedback

Suggestions were noted for implementation.

Agenda Item 4: Resolution and Approval of Proposed Syllabus

The Board unanimously approved all syllabus components, assessment schemes, question banks, teaching methodologies, and **certificate courses**.

Agenda Item 5: Any Other Business

No other business was raised.

Agenda Item 6: Vote of Thanks

The Chairperson thanked all members and declared the meeting adjourned.



SPACES DEGREE COLLEGE(A),PAYAKARAOPETA.

DEPARTMENT OF CHEMISTRY

The following Board Of Studies members were present

N	Name	Designation	Mobile Number	Signatures
1	Sri.K.N Bhushanam	Chairperson	9581102575	K.N.Bhushanam 23/10/25
2	Prof.K.Basavaiah	University Nominee	9908036203	B. Basavaiah 23/10/25
3	Dr.S.Ramakrishna	Subject Expert	9030768474	S. Ramakrishna 23/10/2025
4	Sri.S.Dhilleswara rao	Subject Expert	8639094333	S. Dhilleswara rao 23/10/25
5	Dr.Vijay Vitthal T Mathad	Industry Expert		
6	K.V.S.Chandrika	Alumna	7386646382	K.V.S.Chandrika
7	Miss.T.Sai Durga	Member	9398033989	T.Sai Durga 23/10/25
8	Miss.A.Adithya Naga Lahari	Member	9154172888	A. Adithya Naga Lahari
9	Sri.A.Anjaiah	Member	7989367079	A. Anjaiah 23/10/25
10	Sri.D.Lovaraju	Member	9966229274	D. Lovaraju 23/10/25
11	Dr.P.V.Ravikumar	Member		
12	D.J.Varsitha	Student Member	9989853440	D.J. Varsitha 23/10
13	Karri Harsini	Student Member	7893058868	K. Harshini 23/10/25
14	Boddapu Sai	Student Member	8184854300	B. Sai 23/10/25

V. Bangaralak
Dean & Academic Co-ordinator

A. S. Jay
IQAC Co-ordinator
CO-ORDINATOR
IQAC
SPACES DEGREE COLLEGE
PAYAKARAOPETA - 531126

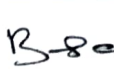
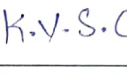
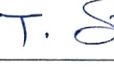
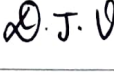
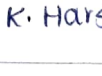
A. Q. B. Reddy
Principal
SPACES DEGREE COLLEGE
PAYAKARAOPETA

SPACES DEGREE COLLEGE(A), PAYAKARAOPETA.

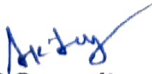
DEPARTMENT OF CHEMISTRY

The following Board of Studies members were present

The above resolutions were approved

Name	Designation	Mobile Number	Signatures
Sri.K.N Bhushanam	Chairperson	9581102575	 23/10/25
Prof.K.Basavaiah	University Nominee	9908036203	 23/10/25
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Sri.D.Lovaraju	Member	9966229274	 23/10/25
Dr.P.V.Ravi Kumar	Member		
D. Varsitha	Student Member	9989853440	 23/10
Karri Harsini	Student Member	7893058868	 23/10/25
Boddapu Sai	Student Member	8184854300	 23/10/25


Dean and Academic Co-ordinator


IQAC Co-ordinator
CO-ORDINATOR
IQAC
SPACES DEGREE COLLEGE
PAYAKARAOPETA - 531126


Principal
PRINCIPAL
SPACES DEGREE COLLEGE
PAYAKARAOPETA

SPACES DEGREE COLLEGE(AUTONOMOUS), PAYAKARAOPETA

DEPARTMENT OF CHEMISTRY

BOARD OF STUDIES MEETING

MINUTES

Date: 23-10-2025

Time: 12:00 Noon

Mode: Offline mode/ Virtual

Members Attended:

1. Prof.K.Basavaiah, Andhra University, Visakhapatnam.
2. Sri Dr.Vijay Vitthal T Mathad Chief operating officer, Cramsn Research Park Ltd , Hyderabad
3. Sri.Dr.S.Ramakrishna ,Lecture,Dept.of Chemistry ,Govt Degree college for Men,Srikakulam.
4. Sri.S.Dhilleswara Rao, Lecturer,Dept of Chemistry,Govt Degree College,Tuni.
5. Miss .T.Sai Durga , Lecturer,Dept.of chemistry,SPACES Degree College,Payakaraopeta
6. Miss A.A.Nagalahari, Lecturer ,Dept.of chemistry, SPACES Degree College,Payakaraopeta
7. Sri.A.Anjaiah ,Lecturer ,Dept.of chemistry ,SPACES Degree College ,Payakaraopeta
8. Sri.D.Lovaraju,Lecturer ,Dept.of chemistry ,SPACES Degree College, Payakaraopeta
9. Dr.P.V.Ravikumar, Lecturer,Dept. Of Chemistry, SPACES degree College, Payakaraopeta
10. K.N.V.Chandrika , Alumini
11. Sri.K.Nagabhushanam , HOD,Chemistry, SPACES Degree College ,Payakaraopeta
12. K.Harshini ,Student member
13. Boddapu Sai , Student member
14. D.Varsitha , Student member
15. The Chairperson of BOS welcomed all members and introduced them. The agenda points were discussed thoroughly and the following resolutions were made.



Resolution1:

It was resolved that the allotted credits and workload particulars for two Major papers in semester I - General and inorganic chemistry, and for the two major subjects in semester -II such as Organic and Physical chemistry will remain unchanged and continue to follow the APSCHE norms. Each subject carries 3 credits for theory and 1 credit for practicals, with 3 hours of theory and 2 hours of practicals per week.

Resolution2:

It was resolved to made certain changes to the existing syllabus issued by APSCHE. The modifications are as follows:

Semester -1

Major-1: General Chemistry – Theory Paper

Two deleted concepts, from unit-2 Effect of polarizaition ,from unit-3 MO diagram of NO

Major -1: Qualitative Analysis of Simple Salt – Practical

No changes were proposed; it was resolved to adopt the syllabus as it is issued by APSCHE.

Major -2: Inorganic Chemistry – Theory Paper:

No changes were proposed; it was resolved to adopt the syllabus as it is issued by APSCHE

Major-2: Inorganic Preparations – Practical Paper

No changes were proposed; it was resolved to adopt the syllabus as it is issued by APSCHE.

Semester-2:

Major-1: Organic chemistry -1 – Theory Paper

Two additional topics , Application of Deils alder reaction and Hyper conjugation reaction.

Major-1: Organic Chemistry – Practical

No changes were proposed; it was resolved to adopt the syllabus as it is issued by APSCHE

Major -2: Physical Chemistry-1 – Theory Paper

No changes were proposed; it was resolved to adopt the syllabus as it is issued by APSCHE.

Major-2: Physical Chemistry-1 – Practical

No changes were proposed; it was resolved to adopt the syllabus as it is issued by APSCHE.



Resolution3:

It was resolved to follow internal and external assessment prescribed by affiliating university, Andhra University. AS per the University's current norms, 30 marks will be allotted for Internal assessment and 70 marks will be allotted for external assessment.

Resolution4:

It was resolved that the internal assessment of students will be based on the performance in mid examinations, student seminars, assignments, and attendance. Two mid examinations will be conducted in each semester for 50 marks each and scaled down to 10 marks. The breakup of internal marks is as follows:

Mid-1: 10 marks, Mid 2: 10 Marks, Seminar-3marks, assignment-3 marks and attendance -4 marks.

Resolution5:

The blue print and Model question paper for internal assessment were reviewed, discussed and approved for implementation. It was resolved that the first mid examination is to be conducted for first two units and second mid examination is to be conducted for next 2 units. The detailed blue print and model question paper were presented in Annexure.

Resolution6:

The blue print and Model paper for Semester End examination were reviewed, discussed and approved for implementation. It was resolved to conduct semester end examination for 70 marks consisting of essay type questions and short answer questions. The detailed blue print and model question paper were presented in Annexure.

Resolution7:

It was resolved to introduce certificate course in the following specializations: Herbal soaps, Extraction of essential oils, Diary effluent waste water to phenyl and liquid soap, hardness of water,alkanity of water. The certificate course may be offered in the sixth semester of their course and it should be designed to enhance Hands-On experience and industrial skills for industrial readiness.



DR. K. D. B. W. COLLEGE
WISAPURAPETA - 521126

Resolution8:

It was resolved to conduct remedial classes for slow learners after Mid -1 Examinations to help improve their academic performance.

Resolution9:

The BOS resolved to organize guest lectures by inviting subject experts from reputed institutions and industries to enhance student's exposure and knowledge.

Resolution10:

The list of question paper setters and examiners for CHEMISTRY was presented, discussed and approved by the board.

The Chairperson thanked all members for their active participation and valuable inputs. The meeting concluded with all the above resolutions being passed unanimously.


DEPARTMENT OF CHEMISTRY
S. JESU'S COLLEGE
PAYAKARAOPETA - 531126

After successful completion of “Three Year Degree Program” in Chemistry, a student will be able to:

- ### Programme Specific Outcomes

After completion of one year syllabus students will have:

- periment

B.Sc. Chemistry HONOURS

Course Structure(A.Y. 2025-26) - 1st Year

Year	Semester	Cour	Course Title	No.of Hours (Theory)	No of Hours (Practical)	Total No. of Hours	No.of Credits (Theory)	No.of Credits (Practical)	Total No. of Credits
I YEAR	Semester-1	1	General Chemistry	3	2	5	3	1	4
		2	Inorganic Chemistry	3	2	5	3	1	4
	Semester-2	3	Organic Chemistry-	3	2	5	3	1	4
		4	Physical Chemistry-	3	2	5	3	1	4



HEAD
DEPARTMENT OF CHEMISTRY
SR. JLL. BANGALORE
DATE: KACAPETA - 531121

ADDITIONAL INPUTS/MODIFICATIONS IN THE SYLLABUS- SEMESTER I

COURSE-1 (General chemistry)

S.No	Course Title	Unit	Added topics	Deleted Topics	Justification
1	General chemistry	2	NIL	Effect Of Polarization	This Topic Links Atomic Properties with Bonding Behavior and Lattice Energy
2	General chemistry	3	NIL	Mo Diagram of NO Molecule	The Complexity and Variability Involved In Its representation.
3	Qualitative Analysis Of Simple Salts		NIL	NIL	NIL

COURSE-2 (Inorganic Chemistry)

S.No	Course Title	Unit	Added topics	Deleted Topics	Justification
1	Inorganic Chemistry	5	NIL	Corrosion Prevention Alloys	This Topic is already covered in earlier (or) related in metallurgy
2	Inorganic Preparations	-	NIL	NIL	NIL



DEPARTMENT OF CHEMISTRY
GOVINDA PILLAI COLLEGE
CHAKKARAPOLE - 531120

ADDITIONAL INPUTS/MODIFICATIONS IN THE SYLLABUS- SEMESTER II

COURSE-3 (Organic Chemistry-1)

S.No	Course Title	Unit	Added topics	Deleted Topics	Justification
1	Organic Chemistry	1	Applications of Hyper Conjugations	NIL	To Understanding The Modern Electronic Structure And Classical Resonance Concepts.
2	Organic Chemistry	3	Diels - Alder Reaction Applications	NIL	To understanding High Regio And Stereo Selectivity, Mild And Catalytic free Conditions, Reversibility & Versatility
3	Organic Preparations	-	NIL	NIL	---

COURSE-4 (Physical Chemistry-1)

S.No	Course Title	Unit	Added topics	Deleted Topics	Justification
1	Physical Chemistry-1	-	NIL	NIL	—
2	Physical Chemistry-1 Practical	-	NIL	NIL	—

K. N. S.

K. N. S. CHETAN
K. N. S. CHETAN COLLEGE
K. N. S. CHETAN - 581124

INTERNAL ASSESSMENT

Component	Max Marks	Duration	Notes
Mid Exam 1 (Scaled)	10	2 hours	Marks scaled down from 50 to 10
Mid Exam 2 (Scaled)	10	2 hours	Marks scaled down from 50 to 10
Assignment & Seminar and Attendance	10	-	
Total	30		

EXTERNAL ASSESSMENT

Component	Marks	Duration
Theory Examination	70	3 Hours
Practical Examination	50	3 Hours

K. N. S. W.

BLUE PRINTS OF MID & SEMESTER-END EXAMINATIONS

Blueprint – Mid Examination

Max Marks :50

Duration: 2 hours

Question Type	Total Questions	Questions to Answer	Marks per Question	Total Marks
Short Questions	7	5	4	20
Essay Questions	6	3	10	30
Total	-	-	-	50

Blueprint – Semester End Examinations

Theory Examination

Max Marks :70 Marks

Credits: 3

Duration: 3 Hours

Question Type	Total Questions	Questions to Answer	Marks per Question	Total Marks
Short Questions	8	5	4	20
Essay Questions	10	5	10	50
Total	-	-	-	70

Blue print for Semester End Examination: Practical Examination

Max Marks: 50 Marks

Credits: 1

Duration: 3 Hours

Component	Max Marks
Documentation / Practical Writing	10
Practical Execution	20
Record submission	10
Viva	10

KDBW

**Model Syllabus for 4-Year UG Honours in B.Sc. (Chemistry) as Major
in consonance with Curriculum framework w.e.f. AY 2025-26**

**SEMESTER-I
COURSE 1: General Chemistry**

Theory

Credits: 3 3 hrs/week

Course Objectives:

1. To understand the structure of the atom and its relation to periodic properties.
2. To explain different types of chemical bonding-ionic, covalent, metallic, hydrogen bonding.
3. To apply bonding theories to predict molecular structure and bonding nature.
4. To correlate periodic trends with physical and chemical properties of elements.
5. To evaluate practical applications of nuclear chemistry in science and industry

Course Outcomes:

On Completion of the course, the students will be able to		Cognitive Domain
CLO1	Describe the electronic configuration of elements and periodic trends	Knowledge
CLO2	Analyze the formation and properties of ionic and covalent compounds.	Understanding
CLO3	Apply VSEPR, hybridization, and MOT to predict molecular geometry and bonding.	Applying
CLO4	Explain metallic bonding, hydrogen bonding, and intermolecular forces and relate them to physical properties..1.	Evaluating
CLO5	E Explain types of radioactivity, nuclear reactions, and real-life applications.	Analysing

Course with focus on employability / entrepreneurship / Skill Development modules

Skill-development		Employability		Entrepreneurship	
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 K. R. Ravi
 ST. JOSE'S COLLEGE
 PATAKARAOPETA - 531125

Syllabus

UNIT-1: ATOMIC STRUCTURE AND PERIODIC TABLE

(9 h)

Electronic configuration-Aufbau principle, Hund's rule and Pauli's exclusion principle. Periodic law and arrangement of elements in the periodic table, horizontal, vertical, and diagonal relationships in the periodic table. Definition and periodic trends of atomic radii, ionic radii, covalent radii, ionization potential, electron affinity, and electronegativity, Pauling scale. Variable Valency Inert Pair Effect.

UNIT-2: IONIC BOND

(9 h)

Properties of ionic compounds, factors favouring the formation of ionic compounds, Lattice energy: definition, factors affecting lattice energy, Born-Haber cycle - enthalpy of formation of ionic compound and stability, Covalent character in ionic compounds - polarization and Fajan's rules.

UNIT- 3: COVALENT BOND

(9 h)

Valence Bond theory: Hybridization of atomic orbitals and geometry of molecules - BeCl_2 , BF_3 , CH_4 , PCl_5 , and SF_6

VSEPR model: Effect of bonding and nonbonding electrons on the structure of molecules - NH_3 , H_2O , SF_4 , ICl_2^- and XeF_4

Molecular orbital theory: LCAO method, construction of M.O. diagrams for homo nuclear and hetero nuclear diatomic molecules (N_2 , O_2 , CO)

UNIT - 4: METALLIC AND HYDROGEN BONDS

(9 h)

Metallic bond: Metallic properties, free electron theory, band theory of metals. Explanation of conductors, semiconductors and insulators.

Hydrogen bonding: Intra and Inter-molecular hydrogen bonding, influence on the physical properties of molecules, Van der waals forces, dipole-dipole interactions.

UNIT-5: NUCLEAR CHEMISTRY

(9 h)

Definition, Isotopes, n/p ratio, binding energy, types of radioactivity, Soddy-Fajan's displacement law, Law of Radioactivity, Radioactive decay series, Nuclear Reactions- Fission and Fusion, Applications of radioactivity in agriculture and medicine



References:

1. J.D. Lee, Concise Inorganic Chemistry, 5th ed., Blackwell Science, London, 1996.
2. B. R. Puri, L.R. Sharma, K.C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 1996.
3. D.F. Shriver and P.W. Atkins, Inorganic Chemistry, 3rd ed., W. H. Freeman and Co, London,
4. James E. Huheey, Inorganic Chemistry: Principles of Structure and Reactivity, 4th ed., 2017.
5. W.U. Malik, G.D Tuli, R.D Madan, Selected Topics in Inorganic Chemistry, S. Chand Publishing, 1998.
6. H.J. Amikar, Essentials of Nuclear Chemistry, New Age International Publishers, 2015..
7. Prof. M.N. Sastry.


DEPARTMENT OF CHEMISTRY
PUNJAB COLLEGE
BATHINDA - 151006

SEMESTER-I
COURSE 1: General Chemistry

Practical

Credits: 1 2 hrs/week

Course Objectives:

1. To understand the theoretical principles behind classical qualitative analysis of cations and anions.
2. To develop the ability to identify common cations and anions in inorganic salts
3. To practice laboratory safety and correct handling of reagents
4. To record and interpret observations accurately in systematic salt analysis.

Course Outcomes:

On Completion of the course, the students will be able to		Cognitive Domain
CL O1	Proper use of glassware, equipment and chemicals in the laborator	Understanding
CL O2	Apply systematic procedures to identify one cation and one anion in a given inorganic salt.	Understanding
CL O3	Analyze reactions based on solubility, color changes, and precipitate formation	Applying
CL O4	Interpret results to draw conclusions and confirm the identity of ions	Evaluating



SYLLABUS:

Analysis of simple salt containing **one anion and one cation** from the following:

Anions: Carbonate, sulphate, chloride, bromide, acetate, nitrate, borate, phosphate.

Cations: Lead, copper, iron, aluminium, zinc, nickel, manganese, calcium, strontium, barium, ammonium.

REFERENCES:

1. G. Svehla, Vogel's Textbook of Qualitative Inorganic Analysis, Pearson Education, 2008.
2. K. Nagaraj, S. Kamalesu, S. Lokhandwala, N.M. Parekh, Textbook of Semi-micro Inorganic Qualitative Analysis, Notion Press, 2023.
3. G. Pass, H. Sutcliffe, Practical Inorganic Chemistry. 2nd edition, John-Wiley & Sons, 2020.
4. Prof.A.V. Prasadrao, Inorganic Qualitative Analysis.

SHRI SRI SRI COLLEGE
PATTAKRASPETA - 531126

Course: 1 – General Chemistry

Credits:3

BLUE PRINT

Unit	Shorts	Essays(Internal choice)
Unit 1	2	2
Unit 2	1	2
Unit 3	2	2
Unit 4	2	2
Unit 5	1	2
Total	8 Out of 8, 5 questions should be answered $5 \times 4 = 20$ Marks	10 Out of 10, 5 questions should be answered $5 \times 10 = 50$ Marks



DEPARTMENT OF CHEMISTRY
SPRINGSIDE COLLEGE
PENAKADAMPALA - 507122

Course: 1 – General Chemistry-I

Credits:3

BLUE PRINT

SECTION -A

Answer any 5 questions .Each question carries 10 marks. (5 x 10 =50M)

(Each question (both A or B) from each Unit.

1. A. Unit I

Or

B. Unit I

2. A. Unit II

Or

B. Unit II

3. A. Unit III

Or

B. Unit III

4. A. Unit IV

Or

B. Unit IV

5. A. Unit V

Or

B. Unit V

SECTION- B

II. Answer any 5 questions. Each question carries 5 marks. (5 x 4 =20M)

6.Unit-I

7.Unit-I

8.Unit-II

9.Unit-III

10.Unit-III

11.Unit-IV

12.Unit-IV

13.Unit-V


DEPARTMENT OF CHEMISTRY
ST. CLS DEGREE COLLEGE
KARAIKATA - 751001

SEMESTER-I

COURSE 2: Inorganic Chemistry

Theory

Credits: 4

4 hrs/week

Course Objectives:

1. To explain preparation and uses of selected p-block compounds.
2. To understand the structural and chemical properties of selected p-block compounds.
3. To classify and analyse the characteristics of d- and f-block elements.
4. To compare the properties of lanthanides and actinides.
5. To understand the processes involved in the extraction of metals from their ores.

Course Outcomes:

On Completion of the course, the students will be able to		Cognitive Domain
CLO1	Explain the structure, bonding, and preparation methods of compounds of some p-block elements	Understand, Apply
CLO2	Classify various types of oxides, oxoacids, and halogen derivatives and analyze their properties, reactivity, and industrial relevance.	Analyze, Evaluate
CLO3	Describe the general characteristics of d-block elements and their applications (Understand, Analyze)	Understand, Analyze
CLO4	Compare the chemistry of lanthanides and actinides and their importance	Understand, Analyze, Evaluate
CLO5	Explain the occurrence of metals, extraction, and refining of ores and assess modern methods of metal recovery.	Understand, Apply, Evaluate

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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HEAD
DEPARTMENT OF CHEMISTRY
SUNDERGANDHI COLLEGE
TAMIL NADU

Syllabus

UNIT-1: CHEMISTRY OF p-BLOCK ELEMENTS – I

(9 h)

Group 13: Preparation and structure of Diborane, Borazine and $(\text{BN})_x$.

Group 14: Preparation, classification and uses of silicones.

Group 15: Preparation and structure of Phosphonitrilic Chloride $\text{P}_3\text{N}_3\text{Cl}_6$.

UNIT-2: CHEMISTRY OF p-BLOCK ELEMENTS – II

(9 h)

Group 16: Classification of oxides, structures of oxides and oxoacids of sulphur.

Group 17: Preparation and structures of Interhalogen compounds, Pseudo halogens.

UNIT-3: CHEMISTRY OF d-BLOCK ELEMENTS (9 h)

Characteristics of d-block elements with special reference to electronic configuration, variable valency, colour, magnetic properties, catalytic properties and ability to form complexes. Stability of various oxidation states of 3d-series.

UNIT-4: CHEMISTRY OF f-BLOCK ELEMENTS

(9 h)

Chemistry of Lanthanides: Electronic configuration, oxidation states, colour, magnetic properties, lanthanide contraction, consequences of lanthanide contraction.

Chemistry of Actinides: Electronic configuration, oxidation states, actinide contraction, comparison of lanthanides and actinides.

UNIT-5: GENERAL PRINCIPLES OF METALLURGY

(9 h)

Occurrence of metals, minerals and ores, Concentration of ores – levitation, magnetic separation, froth flotation, leaching, Conversion of concentrated ores to oxide - calcination and roasting, reduction of oxide to the metal, Refining of crude metal - distillation, liquation, poling, electrolysis, zone refining and vapour phase refining, Introduction to Corrosion.

References:

1. J. D. Lee, Concise Inorganic Chemistry, 5th ed., Blackwell Science, London, 1996.
2. B.R. Puri, L.R. Sharma, K.C. Kalia, Principles of Inorganic Chemistry, Shoban Lal Nagin Chand and Co., 1996.
3. D.F. Shriver, P.W. Atkins, Inorganic Chemistry, W. H. Freeman and Co, London, 1999.
4. J.E. Huheey, Inorganic Chemistry: Principles of Structure and Reactivity, 4th ed., 2017.
5. A.K. Das, Fundamentals of Metallurgy. Tata McGraw Hill Education, 2011.
6. Chemistry of the Elements 2nd Edition, Kindle Edition By N N Green Wood (Author)

KARW

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Course: 2 – In-Organic Chemistry-1

Credits:3

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SECTION -A

Answer any 5 questions .Each question carries 10 marks. (5 x 10 =50M)

(Each question (both A or B) from each Unit.

1. A. Unit I

Or

B. Unit I

2. A. Unit II

Or

B. Unit II

3. A. Unit III

Or

B. Unit III

4. A. Unit IV

Or

B. Unit IV

5. A. Unit V

Or

B. Unit V

SECTION- B

II. Answer any 5 questions. Each question carries 5 marks. (5 x 4 =20M)

6.Unit-I

7.Unit-I

8.Unit-II

9.Unit-III

10.Unit-III

11.Unit-IV

12.Unit-IV

13.Unit-V


SRI ANAND COLLEGE
SRI ANAND COLLEGE
PAYAKARAOPETA - 531126

SEMESTER-I
COURSE 1: InOrganic Chemistry

Practical

Credits: 1

2 hrs/week

Course Objectives:

1. To understand and apply stoichiometry and principles of inorganic salt preparation.
2. To learn techniques such as crystallization, filtration and drying.
3. To calculate percentage yields.
4. To handle reagents and lab apparatus safely and precisely.

Course Outcomes:

On Completion of the course, the students will be able to		Cognitive Domain
CLO1	Demonstrate safe use of laboratory equipment and chemicals handling	Understand
CLO2	Analyse the theoretical background for the preparation of inorganic salts.	Analyse
CLO3	Perform synthesis of potash alum, ferrous salts and cuprous chloride following proper procedures.	Apply
CLO4	Analyze colour changes, crystal formation and yields to evaluate reaction completion.	Evaluate

Course with focus on employability / entrepreneurship / Skill Development modules

Skill Development		Employability		Entrepreneurship	
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SYLLABUS:

1. Preparation of Potash alum.
2. Preparation of Ferrous oxalate.
3. Preparation of Ferrous ammonium sulphate.
4. Preparation of Cuprous chloride.
5. Preparation of Chrome alum.


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SPRCLS DEGREE COLLEGE
WYAKARAO PETA - 531126

REFERENCES:

1. G. Svehla, Vogel's Textbook of Qualitative Inorganic Analysis, Pearson Education, 2008.
2. G.H. Jeffery, J. Bassett, J. Mendham, R.C. Denney, Vogel's Textbook of Quantitative Chemical Analysis, John Wiley and Sons, 1989.

Course: 1 – InOrganic Chemistry

Credits:3

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Unit	Shorts	Essays(Internal choice)
Unit 1	2	2
Unit 2	1	2
Unit 3	2	2
Unit 4	2	2
Unit 5	1	2
Total	8 Out of 8, 5 questions should be answered $5 \times 4 = 20$ Marks	10 Out of 10, 5 questions should be answered $5 \times 10 = 50$ Marks


DEPARTMENT OF CHEMISTRY
SPACLS DEGREE COLLEGE
PAYAKARAOPETA - 531126

SEMESTER-II

COURSE 3: Organic Chemistry-I

Theory

Credits: 3

3 hrs/week

Course Objectives:

- To understand the structural theory behind reactivity in organic chemistry.
- To identify and classify hydrocarbons, their reactions, and stability.
- To explain organic reaction mechanisms and orientation in aromatic substitution.
- To apply concepts like resonance, inductive effects, hyperconjugation, and aromaticity.
- To analyze stereochemistry through molecular representations and optical activity.

Course Outcomes:

On Completion of the course, the students will be able to		Cognitive Domain
CLO1	Study Inductive effect, Mesomeric effect, Hyperconjugation and its applications.	Knowledge
CLO2	Explain the preparation and chemical properties of alkanes, alkenes, alkynes and benzene.	Understanding
CLO3	Analyze and apply Huckel's rule to benzenoid and non-benzenoid aromatic compounds.	Analysing
CLO4	Differentiate between Markownikoff and Anti- markownikoff addition, Ring activating and deactivating groups	Evaluating
CLO5	Interpret stereochemical representations and identify chiral molecules	Applying

K. Arshad
K. ARSHAD
K. ARSHAD & COLLEGE
K. ARSHAD P. II - 531126

UNIT-1: STRUCTURAL THEORY IN ORGANIC CHEMISTRY**(9 h)**

Functional groups in organic chemistry, Types of bond fission, Electrophiles, Nucleophiles, Reactive intermediates-carbocations, carbanions & free radicals. Inductive effect and its application: (a) Basicity of amines and (b) Acidity of carboxylic acids, Resonance or Mesomeric effect and its application: (a) Acidity of phenol, and (b) Acidity of carboxylic acids. Hyper conjugation and its application to the stability of carbonium ions, & Free Radicals.

UNIT-2: SATURATED HYDROCARBONS (ALKANES & CYCLOALKANES) (9 h)

Types of organic reactions: Addition, Elimination, Substitution and Rearrangement reactions.

Alkanes: Preparation of alkanes by Corey House synthesis, Substitution reactions of alkanes.

Cycloalkanes: Cycloalkanes and their relative stability, Baeyer strain theory, Cyclohexane conformations with energy diagram.

UNIT-3: UNSATURATED HYDROCARBONS (ALKENES & ALKYNES) (9 h)

Alkenes: Preparation of alkenes by dehydration of alcohols, Saytzeff and Hofmann eliminations, Electrophilic Additions of X_2 , H_2O , HX to alkene, Markownikoff and Anti-markownikoff addition, Ozonolysis, Diels-Alder reaction its applications, 1,2- and 1,4-addition reactions in conjugated dienes.

Alkynes: Additions of X_2 , H_2O , HX to alkynes, acidity and alkylation of terminal alkynes.

UNIT-4: AROMATICITY, BENZENE AND ITS REACTIVITY**(9 h)**

Aromaticity: Concept of aromaticity, Huckel's rule - application to Benzenoid (Benzene, Naphthalene) and Non- Benzenoid compounds (cyclopropenylcation, cyclopentadienyl anion and tropylium cation). Electrophilic aromatic substitution benzene- Halogenation, Nitration, Friedel-Craft's alkylation and Friedel- Craft's acylation.

Orientation of aromatic substitution: Ortho, para and meta directing groups with examples, Ring activating and deactivating groups with examples.

UNIT- 5: STEREOCHEMISTRY OF CARBON COMPOUNDS

(9 h)

Molecular representations - Wedge, Fischer, Newman and Saw-Horse formulae.

Optical isomerism: Optical activity, optical rotation and specific rotation. Chiral molecules-Symmetry elements- enantiomers and diastereomers, Explanation of optical isomerism with examples- Glyceraldehyde, Lactic acid, and Tartaric acid. Relative configuration (D, L-notation), CIP rules, Absolute configuration (R, S-Configuration)

IV. REFERENCES:

1. R.N. Morrison, R.N. Boyd, Organic Chemistry, Pearson Education, 7th edition, 2010.
2. Peter Sykes, Guidebook to Mechanism in Organic Chemistry, 6th edition, 1985.
3. S.P. Singh, O. Prakash, Reaction mechanism in organic chemistry, Laxmi Publications, 2017.
4. P.Y. Bruice, Organic Chemistry, 8th Edition, Pearson, 2017.
5. V.K. Ahluwalia, P. Bhagat, R. Aggarwal, R. Chandra, Intermediate for Organic Synthesis, I.K. International. 2005.
6. T.W.G. Solomons, C.B. Fryhle, S.A. Snyder, Organic Chemistry, 12th Edition, Wiley, 2016.
7. P.S. Kalsi, Stereochemistry, New Age International, 2015.
8. D. Nasipuri, Stereochemistry of organic compounds, New Age International, 2020


DEPARTMENT OF CHEMISTRY
SPACES DEGREE COLLEGE
PAAKARAOPETA - 531126

COURSE 3: Organic Chemistry-1

Practical

Credits: 1

2 hrs/week

Course Objectives:

1. Understand mechanisms and conditions for common organic synthesis reactions (nitration, bromination, esterification, acetylation).
2. Perform organic synthesis using appropriate techniques such as heating, reflux, crystallization, and filtration.
3. Develop safe laboratory practices and chemical handling procedures.

Course Outcomes:

		Domain
CL O1	Describe the theoretical background and reaction mechanisms of organic preparations.	Understanding
CL O2	Synthesize organic compounds using standard laboratory procedures.	Understanding
CL O3	Analyze reaction steps and evaluate the melting point, and yield of synthesized products.	Applying
CL O4	Relate synthesis methods to pharmaceutical and industrial applications	Evaluating

KABU

Dr. K. A. B. U.
2020-21 Academic Year
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SYLLABUS:

1. Preparation of tribromo aniline
2. Preparation of p-nitroacetanilide
3. Preparation of nerolin
4. Preparation of aspirin (Acetylsalicylic acid)
5. Preparation of paracetamol (Acetaminophen)

REFERENCES:

1. B.S. Furniss, A.J. Hannaford, P.W.G. Smith, A.R. Tatchell, Vogel's Textbook of Practical Organic Chemistry, Pearson, 2012.
2. V.K. Ahluwalia, R. Agarwal, Comprehensive Practical Organic Chemistry, University Press, 2010.


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SPACLS DEGREE COLLEGE
PAYAKARAOPETA - 531126

Course: 3 – Organic Chemistry-I

Credits:3

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SECTION -A

Answer any 5 questions .Each question carries 10 marks. (5 x 10 =50M)

(Each question (both A or B) from each Unit.

1. A. Unit I

Or

B. Unit I

2. A. Unit II

Or

B. Unit II

3. A. Unit III

Or

B. Unit III

4. A. Unit IV

Or

B. Unit IV

5. A. Unit V

Or

B. Unit V

SECTION- B

II. Answer any 5 questions. Each question carries 5 marks. (5 x 4 =20M)

6.Unit-I

7.Unit-I

8.Unit-II

9.Unit-III

10.Unit-III

11.Unit-IV

12.Unit-IV

13.Unit-V


DEPARTMENT OF CHEMISTRY
SPACS DEGREE COLLEGE
PAYAKARAOPETA - 531126

SEMESTER-II
COURSE 4: Physical Chemistry-I

Theory

Credits: 3

3 hrs/week

Course Objectives:

1. To understand the theoretical principles governing gases, liquids, solids, and colloidal systems.
2. To apply gas laws and interpret the behavior of real and ideal gases.
3. To describe physical properties of matter in various states and relate them to structural features.
4. To interpret phase diagrams and apply Gibbs' phase rule to one- and two-component systems.

Course Outcomes:

On Completion of the course, the students will be able to-		Cognitive Domain
CLO1	To understand the theoretical principles governing gases, liquids solids, and colloidal systems.	Understand
CLO2	To apply gas laws and interpret the behavior of real and idea gases.	Apply, Analyze
CLO3	To describe physical properties of matter in various states and relate them to structural features.	Remember, Understand
CLO4	To interpret phase diagrams and apply Gibbs' phase rule to one- and two-component systems.	Analyze, Apply


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LPACS BASILE COLLEGE
PATAKARAOPETA - 521120

SYLLABUS:

UNIT-1: GASEOUS STATE

(9 h)

Gas laws, Ideal Gas equation, Vander Waal's equation of state, Andrew's isotherms of carbon dioxide, Critical phenomena, Relationship between critical constants and van der Waal's constants, Law of corresponding states, Joule-Thomson effect, Inversion temperature.

UNIT-2: LIQUID STATE

(9 h)

Physical properties of liquids: Definition of vapour pressure, boiling point, surface tension and coefficient of viscosity, Effect of temperature and addition of solutes on surface tension and viscosity.

Liquid crystals: Mesomorphic state, Differences between liquid crystal and solid/liquid. Classification of liquid crystals into Smectic and Nematic, Application of liquid crystals as LCD devices.

UNIT-3: SOLID STATE

(9 h)

Law of constancy of interfacial angles, The law of rationality of indices-Miller indices, Symmetry in crystals, definition of lattice point, space lattice, unit cell, Bravais lattices and crystal systems, X-ray diffraction and crystal structure, Bragg's law and its derivation, Defects in crystals: Stoichiometric and Non-stoichiometric defects.

UNIT-4: PHASE RULE

(9 h)

The concept of phase, components, degrees of freedom, Gibbs phase rule, Phase diagram of one component system – water system, Definition and examples for systems having congruent and incongruent melting point, Study of Phase diagrams of Simple eutectic systems

(i) Pb-Ag system, desilverisation of lead (ii) NaCl-Water system, freezing mixtures

UNIT-5: SURFACE CHEMISTRY

(9 h)

Colloids: Definition and classification of Colloids, Coagulation of colloids, Hardy-Schulze rule, Stability of colloids, Protection of Colloids-Gold number.

Adsorption: Physical and chemical adsorption, Freundlich and Langmuir adsorption isotherm, applications of adsorption.


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SPRINGS COLLEGE
PATTARAPETA - 531126

REFERENCES:

1. P.W. Atkins, J.de., Paula, Atkin's Physical Chemistry, 10th Edition, Oxford University Press, 2014.
2. D.W. Ball, Physical Chemistry, 2nd Edition, Cengage Learning, 2017.
3. G.W. Castellan, Physical Chemistry, 4th Edition, Narosa, 2014.
4. K.L. Kapoor, A Textbook of Physical Chemistry, 6th Edition, McGraw-Hill Education, 2015.

PROPOSED ACTIVITIES:

1. Model building: Bravais lattices and symmetry in crystals
2. Chart preparation of phase diagrams (Water, Pb-Ag, NaCl-H₂O)
3. PPT: Adsorption isotherms or colloidal behavior.
4. List out applications of Liquid crystals in different display devices.
5. Peer Teaching: Phase rule and eutectic systems

CO-CURRICULAR ACTIVITIES AND ASSESSMENT METHODS:

1. Continuous Internal Evaluation (CIA): Monitoring the progress of student's learning
2. Class Tests, Worksheets, Quizzes, Industrial/Field visits, Student seminars, Poster and PPT presentations, Peer learning, Project-based learning, Assignments, Debates, Group Discussions: Enhances critical thinking skills.
3. Semester End Examination (SEE): Critical indicator of student's learning and teaching methods adopted by teachers throughout the semester.



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SPACES & LBSM COLLEGE
DAYAKARAPETA - 531123

SEMESTER-II

COURSE 4: Physical Chemistry-1

Practical

Credits: 1

2

hrs/week

Course Objectives:

- 1.To understand the concepts of surface tension and viscosity of liquids.
- 2.To familiarize students with using different lab equipment and glassware for the determination of the coefficient of viscosity and surface tension.
- 3.To gain hands-on experience in preparing colloidal solutions.

Course Outcomes:

On Completion of the course, the students will be able to-		Cognitive Domain
CO1	Use glassware, equipment and follow experimental procedures in the laboratory.	Apply
CO2	Determine surface tension and viscosity using standard experimental techniques.	Apply, Analyze
CO3	Prepare colloidal solutions and study their stability.	Apply, Analyze
CO4	Conduct adsorption experiments and verify Freundlich isotherm	Apply, Analyze, Evaluate


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SPRINGS COLLEGE
PAYAKARAPOETA - 531126

Practical Syllabus:

50M

1. Determination of surface tension of liquid by drop count method.
2. Determination of surface tension of liquid by drop weight method.
3. Determination of coefficient of viscosity of an organic liquid.
4. Preparation of sols: $\text{Al}(\text{OH})_3$, $\text{Fe}(\text{OH})_3$ and starch.
5. Adsorption of acetic acid on animal charcoal, verification of Freundlich isotherm.

REFERENCES:

1. B.D. Khosla, V.C. Garg, A. Gulati, Senior Practical Physical Chemistry, R. Chand & Co, New Delhi, 2015.
2. K.L. Kapoor, A Textbook of Physical Chemistry, McGraw-Hill Education, 2019.
3. C.W. Garland, J.W. Nibler, D.P. Shoemaker, Experiments in Physical Chemistry, 8th Edition, McGraw-Hill, New York, 2003.

CO-CURRICULAR ACTIVITIES AND ASSESSMENT METHODS:

1. Internal Practical Assessment
2. Lab Record Evaluation
3. Final Practical Examination
4. Oral/Viva Voce



Course: 4 – Physical Chemistry-1

Credits:3

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SECTION -A

I. Answer any 5 questions .Each question carries 10 marks. (5 x 10 =50M)

(Each question (both A or B) from each Unit.

1. A. Unit I

Or

B. Unit I

2. A. Unit II

Or

B. Unit II

3. A. Unit III

Or

B. Unit III

4. A. Unit IV

Or

B. Unit IV

5. A. Unit V

Or

B. Unit V

SECTION- B

II. Answer any 5 questions. Each question carries 5 marks. (5 x 4 =20M)

6. Unit-I

7. Unit-I

8. Unit-II

9. Unit-III

10. Unit-III

11. Unit-IV

12. Unit-IV

13. Unit-V

KABW
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SPACES 7 COLLEGE
PAYAKKADUMPET - 581125

SPACES DEGREE COLLEGE (A),PAYAKARAOPETA

LIST OF PAPER SETTERS AND EXAMINERS

DEPARTMENT OF CHEMISTRY

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3	Sri.Y VENKATESH	LECTURER IN CHEMISTRY	Dr.V S KRISHNA GOVT DEGREE COLLEGE VIZAG	yeduruvenkateshchem@gmail.com	9492781437
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12	Dr. K NAGU	LECTURER IN CHEMISTRY	Aditya Degree college (A) KAKINADA	knagu86@gmail.com	8985572352
13	Sri. R S SURYANARAYANA	LECTURER IN CHEMISTRY	IDEAL COLLEGE OF ARTS AND SCIENCES	snrampilla5872@gmail.com	9247165040

SPACES DEGREE COLLEGE(A) ,PAYAKARAOPETA

DEPARTMENT OF CHEMISTRY

MID-1

Time: 3 hours

PAPER : GENERAL CHEMISTRY

Maximum MARKS: 50

I. ANSWER ALL THE FOLLOWING QUESTIONS

3*10=30M

1.(a) Define Aufbau, Hund's, Pauli's Exclusion Principle With Example

(Or)

(b) Define Diagonal Relationship, Atomic Radii And Explain Pauling Scale.

2.(a) Explain Ionic Bond And Its Properties And Its Factors.

(Or)

(b) Define Lattice Energy And Explain Factors Effecting Lattice Energy.

3.(a) Define Valency Bond Theory And Explain The Hybridization And Geometry Of PCl_5 And CH_4 And SF_6 .

(Or)

(b) Define VESPER Theory And Explain The Structure Of NH_3 And H_2O Molecules.

II. Answer Any Four Questions

4*5=20M

1. Define Ionic And Covalent Radii.

2. Define Inert Pair Effect With Example.

3. Define Polarization And Effects Of Polarization.

4. Explain The Structure Of SF_4 , XeF_4 Molecules.

5. Explain Fajan's Rule.

6. Define Ionization Potential And Electron Affinity.


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SPACES DEGREE COLLEGE (A), PAYAKARAOPETA
DEPARTMENT OF CHEMISTRY
SEM-I MODEL QUESTION PAPER
GENERAL CHEMISTRY MAX MARKS: 70M

I Answer all the questions (5x10=50M)

1. A. Explain About Horizontal And Vertical Arrangements Of Elements And Diagonal Relationship In Periodic Table
(Or)
B. Define Ionization Potential, Electronegativity And Pauling Scale With Example
2. A. Define Ionic Compound And Explain Properties, Factors Favoring The Formation Of Ionic Compounds.
(Or)
B. Define Lattice Energy And Explain Factors Effecting Lattice Energy.
3. A. Define Valency Bond Theory And Explain The Geometry Of BeCl_2 , CH_4 And PCl_5 .
(Or)
B. Draw The Molecular Orbital Diagram Of N_2 And CO .
4. A. Explain About Band Theory Of Metals.
(Or)
B. Define Hydrogen Bonding And Its Types With Examples.
5. A. Define Radioactivity And Its Types And Law Of Radioactivity And Applications
(Or)
B. Explain About Nuclear Fission And Nuclear Fusion.

II Answer Any Five Of The Following Questions (5x4=20M)

1. Define Aufbau's And Hund's Principle.
2. Explain Inert Pair Effect With Example.
3. Write About Fajan's Rule.
4. Explain The Structure Of Molecules Of NH_3 , H_2O By Using VSEPR Theory.
5. Explain Free Electron Theory.
6. Define Soddy-Fajan's Displacement Law.
7. Define Isotope And n/p Ratio.
8. Define About Conductors, Semiconductors And Insulators.


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SPACES DEGREE COLLEGE (A), PAYAKARAOPETA
DEPARTMENT OF CHEMISTRY
SEM-1 MODEL QUESTION PAPER
INORGANIC CHEMISTRY MAX MARKS: 70M

I Answer all the questions

(5x10=50M)

1. A. Explain The Structure Of Diborane With a Diagram

(Or)

B. Write The Preparations And Applications Of Silicon.

2. A. Explain The Classification And Structure Of Oxides Of SO_2, SO_3

(Or)

B. Discuss About The Structure Of Interhalogen Compounds.

3. A. Explain The Variable Valency And Magnetic Properties Of D-Block Elements

(Or)

B. Explain Stability Of Various Oxidation States Of 3-d Series.

4. A. Define Lanthanide Contraction And Its Consequences.

(Or)

B. Write The Electronic Configuration And Oxidation State Of Actinides.

5. A. Explain The Conversion Of Concentrated Ores To Oxides By Roasting And Calcination Method.

(Or)

B. Explain The Refining Of Crude Metal By Using Distillation Process

II Answer Any Five Question

(5x4=20M)

1. Define Pseudo Halogen Compounds.

2. Explain The Structure Of Phosphor Nitric Chloride.

3. Define Froth Flotation Process.

4. Define Corrosion And Its Prevention.

5. Write Any Five Differences Between Lanthanides And Actinides.

6. Write The Stability Of Oxidation State Of 3d Series.

7. Write Any Two Preparations Of Diborane.

8. Explain The Magnetic Properties Of d Block Elements.


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