HINDI MAHAVIDYALAYA

(AUTONOMOUS & NAAC RE-ACCREDITED)
(Affiliated to Osmania University)
Nallakunta, Hyderabad

B.Sc. I YEAR SEMESTER I & II
DEPARTMENT OF CHEMISTRY
(2020-2021)

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
BOARD OF STUDIES
DEPARTMENT OF CHEMISTRY

Chair person
Smt. T. Haritha
Head,Department of Chemistry,
Hindi Mahavidyalaya,
Nallakunta,Hyderabad.

University Nominee
Prof.P.Veerasomaiah
Head,Department of Chemistry,
Osmania University,
Hyderabad.

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Members of BOS
1.Dr.P.Leelavathi
Professor,
Department of Chemistry,
Osmania University,
Hyderabad.

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

2. Dr.P.Saritha Reddy
Asst.Professor,
Department of Chemistry,
Osmania University,
Hyderabad.

3. Dr.Kiranmayi
Head,Department of Chemistry,
Andhra Mahila Sabha Arts & Science college(Autonomous),
OU Campus,Hyderabad.

Alumni:
1. Sri.Vipin Kumar, M.Sc (Organic Chemistry)

2. Sri.Vikesh Kumar
Loan Providing Officer, SBI Head Office,Mumbai.

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)

COMPOSITION OF THE BOARD OF STUDIES IN AN AUTONOMOUS COLLEGE

1. Composition: Department of Chemistry

1. Head of the Department concerned (Chairman)
   Smt. T. Haritha, Department of Chemistry
2. The entire faculty of each specialization
1. Smt. T. Haritha
2. Ms. R. Kalpana
3. One expert to be nominated by the Vice Chancellor from a panel of six recommended by the College Principal
1. Prof.P. Veera Somaiah, Chairperson, BOS, Dept. of Chemistry, Osmania University, Hyderabad.
2. Two experts on the subject from outside the college to be nominated by the Academic Council.
1. Dr. P. Saritha Reddy, Chemistry Department, Osmania University, Hyderabad.
2. Dr. P. Leelavathi, Chemistry Department, Osmania University, Hyderabad.

3. Dr. Kiranmai, Head of the Chemistry Department, Andhra Mahila Sabha Arts & Science College, Hyderabad.

4. 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.
1. Shri Vipin Kumar, M.Sc. Chemistry.
2. Shri Vikesh Kumar loan providing officer in SBI Head Office of Mumbai.

1. Experts from outside the College whenever special courses of studies are to be formulated. -To be nominated.
2. Other members of staff of the same faculty.

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF CHEMISTRY
AGENDA OF THE MEETING

4.1 Welcome address by the chair.

4.2 Previous Meeting Details.

4.3 Details of choice based credit system.

4.4 Discussion and Distribution of Common Core Syllabus for all the Semester (I and II)

4.5 Marks allotted for internal and end semester exams.

4.6 Discussion on Pattern and model paper of Semester Exam and internal exam for all the Semester (I and II)

\4.7 Discussion on Practical exam model paper for all the Semester (I and II)

4.8 Panel of Examiners

4.9 Any other matter

4.10 Vote of thanks

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
DEPARTMENT OF CHEMISTRY
BOARD OF STUDIES
Academic Year – 2020-2021
Minutes of BOS Meeting

BOS meeting of the Department of Chemistry was held On 02-01-2020.
The following members were present

Prof. P. Veerasomaiah	-	University Nominee
Smt. T. Haritha	-	Chairperson
Dr. P. Leelavathi	-	Member of BOS
Dr. P. Saritha Reddy	-	Member of BOS
Dr. Kiranmai	-	Member of BOS

P. Veera Somaiah
Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

Associate Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

Andhra Mahila Sabha
HYDERABAD

4.1 Welcome address by the chair

The chair welcomed the University Nominee, Chairperson BOS, O.U. Department of Chemistry and Member of B.O.S.

4.2 Previous Meeting details

The CBCS system has been introduced by Osmania University from 2016-17. The theory and practical syllabus of I, II & III years of B.Sc., question paper pattern for theory and practical, internal assessment pattern, practical examination scheme and panel of examiners were discussed and approved by all the BOS Members in previous BOS meeting.

4.3 Details of choice based credit system.

Members were informed that TSCHE has referred that from the academic year 2016-17 autonomous institutions have to follow CBCS i.e. From the Academic Year 2016-17 Osmania University has instructed all the Degree colleges including Autonomous Degree colleges to follow CBCS under which after passing the exam student will get the Grade in the Final Result. B.Sc. III YEAR in V and VI semester 3 credits are given for theory paper and 1 credit is given for practical in each semester.

4.4 Discussion and Distribution of Common Core Syllabus for semester I and II.

iv. Syllabus was approved by the Members of BOS.

4.5 Marks allotted for Internal and end Semester exams.

1. Internal assessment is of 30 marks in which 20 marks are for online test, where students have to answer 20 MCQs in 25 minutes. Each question carries 1 mark. In each Semester two online tests of 20 Marks will be conducted and an average of both the tests will be added in the marks of theory exam.
2. Theory Question paper is of 70 marks.
3. Total allotted marks are 70 for each theory paper (I & II).
4. Internal assessment is of 15 marks for AECC. One online internal assessment of 10 Marks will be conducted and added in the marks of Theory exam.
5. Theory Question paper for AECC is of 35 marks.
6. Total allotted marks are 50 for each AECC.

The distribution of marks was approved by the Members of BOS.

4.6 Discussion on Pattern and Model Paper of Semester exam and Model Paper of Internal Exam

1. It was informed by the department that in each Semester Two Online tests will be conducted for DSC of 20 marks. The continuous internal assessment will have three sections.
   - Section – A 20 Multiple choice questions each carries 1 mark (20 x 1 =20M),
   - Section – B Assignment – 5 Marks
   - Section – C Seminar – 5 Marks

   Average of marks of these two online tests will be taken.
2. It was informed by the department that in each Semester one Online test will be conducted for AECC of 10 marks. The internal assessment will have two sections
   - Section – A 10 Multiple choice questions each carries 1 mark (10 x 1 =10M),
   - Section – B Assignment/Seminar – 5 Marks

3. Semester exam will be conducted as per the Almanac which will be provided by the exam branch. Internal exam duration will be 25 Min and Semester exam duration will be of 21/2 hrs.

4. Model Question paper for Semester I and Semester II was discussed. Theory paper for each Semester will have 2 sections.
   i) Section A contains 8 short Questions. The student has to answer six questions. Each Question carries 3 Marks (6X3=18 Marks)
   ii) Section B contains 4 Essay type Questions with internal choice. Each Question carries 13 Marks (4X13=52 Marks)
5. Model Question paper of AECC for Semester I and Semester II was discussed. Theory paper for each AECC will have 2 sections.
   i) Section A contains 4 short Questions. The student has to answer THREE questions. Each Question carries 5 Marks (3X5=15 Marks)
   ii) Section B contains 2 Essay type Questions with internal choice. Each Question carries 10 Marks (2X10=20 Marks)

- Pattern of Model Theory Question Papers for DSC and AECC Paper I and Paper II are enclosed.

Pattern of Model Theory Question Papers for DSC and AECC was approved by Members of BOS

Pattern of Model Theory Question Papers for DSC and AECC was approved by Member of BOS

4.7 Discussion on Practical Exam Model paper.

It was decided in BOS meeting that 25 Marks (20 Marks for exam+ 5 Marks Continues assessment) Practical Exam of 3 hrs will be held in each Semester and 1 credit will be given for Practical in each Semester.

2. It is decided that the practical examinations held for B.Sc first years (Semester I & II) from the academic year 2020-21 onwards will have the pattern of 25 marks scheme and the credits will remain the same i.e. 1 credit. The duration of the exam will be 3 hours.
3. Pattern of Model Practical Question Papers for Paper I and Paper II are enclosed.
4. Pattern of Model Practical Question Papers was approved by Members of BOS

4.8 Panel of Examiners

The panel of examiners was approved by the members.

1. List is enclosed

4.9 Any other matter.

4.10 Vote of Thanks

Meeting concluded with the Vote of Thanks by Smt. T. Haritha.

Chairperson **University Nominee** **Members** **Principal**

Department of Chemistry
Hindi Mahavidyalaya
AUTONOMOUS & NAAC REACCREDITED
Nallakunta, Hyderabad-44.

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

1.

Asso. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

2.

3.

PRINCIPAL
HINDI MAHA VIDYALA
(AUTONOMOUS)
Arts, Commerce & Scie
Nallakunta, Hyderabad-

HINDI MAHAVIDYALAYA

(AUTONOMOUS)

Affiliated to Osmania University, Nallakunta, Hyderabad-44

CBCS STRUCTURE FOR 2020-2021 BATCH,Dept. of Chemistry

B.Sc.Bt.Mb.C/Mb.Bc.C/M.P.C(CHEMISTRY) ACADEMIC YEAR 2020-2021

FIRST YEAR SEMESTER - I					Semester End Exam		Continuous Internal Evaluation		TOtal	Practical 3 hours
Code	Course Title	Course Type	HPW	Credits	Duration in Hours	Marks	Exam Duration	Marks		
BS101	Environmental Studies	AECC-1	2	2	1 ½	35	15 min.	15	50	
BS102	English-I	CC-1A	4	4	2 ½	70	25 min.	30	100	
BS103	Second Language-I	CC-1A	4	4	2 ½	70	25 min.	30	100	
BS104	Biotechnology/Biochemistry-I/Mathematics-I	DSC-1A	4T+2P=6	4+1=5	2 ½	70	25 min	30	100	25
BS105	General Microbiology-I/Physics-I	DSC-2A	4T+2P=6	4+1=5	2 ½	70	25 min	30	100	25
BS106	**Chemistry-I**	**DSC-3A**	**4T+2P=6**	**4+1=5**	**2 ½**	**70**	**25 min**	**30**	**100**	**25**
			28	25		385		165	625	

FIRST YEAR SEMESTER - II					Semester End Exam		Continuous Internal Evaluation		TOtal	Practical 3 hours
Code	Course Title	Course Type	HPW	Credits	Duration in Hours	Marks	Exam Duration	Marks		
BS201	Basic Computer Skills	AECC-2	2	2	1 ½	35	15 min.	15	50	
BS202	English-II	CC-1B	4	4	2 ½	70	25 min.	30	100	
BS203	Second Language-II	CC-2B	4	4	2 ½	70	25 min.	30	100	
BS204	Biotechnology/Biochemistry-II/Mathematics-II	DSC-1B	4T+2P=6	4+1=5	2 ½	70	25 min	30	100	25
BS205	General Microbiology-II/Physics-II	DSC-2B	4T+2P=6	4+1=5	2 ½	70	25 min	30	100	25
BS206	**Chemistry-II**	**DSC-3B**	**4T+2P=6**	**4+1=5**	**2 ½**	**70**	**25 min**	**30**	**100**	**25**
			28	25		385		165	625	

Department of Chemistry
Hindi Mahavidyalaya
Hallakunta, Hyderabad-44.
Chairperson

Prof. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007
University Nominee

Professor
Department of Chemistry
Osmania University
HYDERABAD -500 007
Members

Principal

PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Scien

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
B.Sc. I Year Semester – I
Chemistry Paper I

Code: BS106	**DSC – 3A**
Instruction	
Theory Classes	**4 Hrs/Week**
Practical Classes	**2 Hrs/Week**
Credit for Theory	**4**
Credit for Practical	**1**
Duration of Semester Examination	**2 ½ hours**
Duration of Internal Examination	**25 minutes**
Semester Examination Marks	**70 Marks**
Internal Marks	**30 Marks**

Unit-I (Inorganic Chemistry) 15 h (1 hr/week)

S1-I-1. P-Block Elements 1 **7 h**

Group–13: Structure of diborane and higher Boranes (B_4H_{10} and B_5H_9), Boron nitrogen compounds ($B_3N_3H_6$ and BN), Lewis acid nature of BX_3.

Group – 14: Carbides-Classification – ionic, covalent, interstitial – .Structures and reactivity. Industrial applications. Silicones – Classification – straight chain, cyclic and cross-linked.

Group – 15: Nitrides – Classification – ionic, covalent and interstitial. Reactivity – hydrolysis. Reactions of hydrazine, hydroxyl amine, phosphazenes.

S1-I-2. General Principles of Inorganic Qualitative Analysis **8 h**

Anion analysis: Theory of sodium carbonate extract,classification and reactions of anions- CO_3^{2-}, Cl^-, Br^-, SO_4^{2-}, PO_4^{3-}, BO_3^{3-} , CH_3COO^-, NO_3^-. Interfering ions. Cation Analysis: Principles involved - Solubility product, common ion effect, general discussion for the separation and identification of group I individual cations (Hg_2^{2+} , Ag^+, Pb^{2+}) with flow chart and chemical equations. Principle involved in separation of group II & IV cations. General discussion for the separation and identification of group II (Hg^{2+}, Pb^{2+}, Bi^{3+}, Cd^{2+}, Sb^{3+}), III (Al^{3+}, Fe^{3+}), IV (Mn^{2+}, Zn^{2+}) individual cations with flow chart and chemical equations. General discussion for the separation and identification of group V individual cations (Ba^{2+}, Sr^{2+}, Ca^{2+}) with flow chart and chemical equations. Theory of flame test. Identification of Group VI cations (Mg^{2+}, NH_4^+).

Unit - II (Organic Chemistry) 15h(1 hr/week)

S1-O-1: Structural Theory in Organic Chemistry **5 h**

Bond polarization: Factors influencing the polarization of covalent bonds, electro negativity – inductive effect. Application of inductive effect (a) Basicity of amines (b) Acidity of carboxylic acids (c) Stability of carbonium ions. Resonance - Mesomeric effect, application to (a) acidity of phenol. (b) acidity of carboxylic acids and basicity of anilines. Stability of carbo cations, carbanions and free radicals. Hyper conjugation and its application to stability of carbonium ions, free radicals and alkenes.

6 h

S1-O-2: Acyclic Hydrocarbons

Alkanes– Methods of preparation: From Grignard reagent, Kolbe synthesis. Chemical reactivity - inert nature, free radical substitution, Halogenation example- reactivity, selectivity and orientation.

Alkenes - Preparation of alkenes (with mechanism) (a) by dehydration of alcohols (b) dehydrohalogenation of alkyl halides (c) by dehalogenation of 1,2 dihalides, Zaitsev's rule. Properties: Anti-addition of halogen and its mechanism. Addition of HX, Markonikov's rule, addition of H_2O, HOX, H_2SO_4 with mechanism and addition of HBr in the presence of peroxide (anti – Markonikov's addition). Oxidation (cis – additions) – hydroxylation by $KMnO_4$, OsO_4, 2 anti addition- peracids (via epoxidation), hydroboration, ozonolysis – location of double bond. Dienes – Types of dienes, reactions of conjugated dienes – 1,2 and 1,4 addition of HBr to 1,3 – butadiene and Diels – Alder reaction.

Alkynes– Preparation by dehydrohalogenation of vicinal dihalides, dehalogenation of tetrahalides. Physical Properties: Chemical reactivity – electrophilic addition of X_2, HX, H_2O (tautomerism), Oxidation (formation of enediol, 1,2 diones and carboxylic acids) and reduction (Metal-ammonia reduction, catalytic hydrogenation).

4h

Aromatic Hydrocarbons

Introduction to aromaticity: Huckel's rule – Benzene, Naphthalene and Anthracene. Reactions - General mechanism of electrophilic substitution, mechanism of nitration, sulphonation and halogenation, Friedel Craft's alkylation and acylation. Orientation of aromatic substitution - Definition of ortho, para, and meta directing groups. Ring activating and deactivating groups with examples. Orientation – (i) activating groups: Amino, methoxy and alkyl groups. (ii) Deactivating groups - nitro, nitrile, carbonyl, carboxylic acid, sulphonic acid and halo groups.

Unit – III (Physical Chemistry)

15h(1 hr/week)

5 h

S1-P-1: Gaseous State

Deviation of real gases from ideal behavior. van der Waals equation of state. Critical phenomenon. PV isotherms of real gases, continuity of state. Andrew's isotherms of CO_2. The van der Waal's equation and critical state. Derivation of relationship between critical constants and van der Waal's constants. The law of corresponding states, reduced equation of states. Joule Thomson effect and inversion temperature of a gas. Liquifaction of gases: i) Linde's method based on Joule Thomson effect ii) Claude's method based on adiabatic expansion of a gas.

S1-P-2: Liquid State and Solutions **6 h**

Liquid State Intermolecular forces, structure of liquids (qualitative description). Structural differences between solids, liquids and gases. Surface tension and its determination using stalagmometer. Viscosity of a liquid and determination of coefficient of viscosity using Ostwald viscometer. Effect of temperature on surface tension and coefficient of viscosity of a liquid (qualitative treatment only).

Solutions Liquid - liquid mixtures, ideal liquid mixtures, Raoult's and Henry's laws. Non ideal systems. Azeotropes: HCl-H_2O and C_2H_5OH - H_2O systems. Fractional distillation. Partially miscible liquids: Phenol – Water, Trimethyl amine – Water and Nicotine – Water systems.

S1-P-3: Solid state Chemistry **4 h**

Laws of Crystallography: (i) Law of Constancy of interfacial angles (ii) Law of SymmetrySymmetry elements in crystals (iii) Law of rationality of indices. Definition of space lattice, unit cell. Bravais Lattices and Seven Crystal systems (a brief review). X-ray diffraction by crystals; Derivation of Bragg's equation. Determination of structure of NaCl, KCl and CsCl (Bragg's method and Powder method).

Unit - IV (General Chemistry) 15h(1 hr/week)

S1-G-1: Atomic structure and elementary quantum mechanics **3 h**

Black body radiation, heat capacities of solids, Rayleigh Jeans law, Planck's radiation law, photoelectric effect, Limitations of classical mechanics, Compton effect, de Broglie's hypothesis. Heisenberg's uncertainty principle. Quantum numbers and their significance.

S1-G-2. Chemical Bonding **7 h**

Ionic solids- lattice and solvation energy, solubility of ionic solids, Fajan's rule, polarity and polarizability of ions. VSPER Theory - Common hybridization-sp, sp^2 , sp^3 , sp^3 d, sp^3 d^2 and sp^3 d^3 , shapes of molecules. Molecular orbital theory: Shapes and sign convention of atomic overlapping.σ and πorbitals. Modes of bonds. Criteria for orbital overlap. LCAO concept. Concept of Types of molecular orbitals- bonding, antibonding and non bonding. MOED of homonuclear diatomics - H_2, N_2, O_2^-, O_2^{2-}, F_2 (unhybridized diagrams only) and heteronuclear diatomics CO, CN^-, NO, NO^+ and HF. Bond order, stability and magnetic properties.

S1-G-3. Isomerism **5 h**

Isomerism: Definition of isomers. Classification of isomers: Constitutional and Stereoisomers - definition and examples. Constitutional isomers: chain, functional and positional isomers. Stereoisomers: enantiomers and diastereomers – definitions and examples. Representation of stereoisomers – Wedge, Fischer projection, Sawhorse, Newmann formulae.

Conformational analysis : Classification of stereoisomers based on energy. Definition and examples Conformational and configurational isomers. Conformational analysis of ethane, nbutane, 1,2-dichloroethane,2-chloroethanol .Cyclic compounds: Baeyer's strain theory, Conformational analysis of cyclohexane Cis-trans isomerism: E-Z-Nomenclature.

References

General reference: B.Sc I Year Chemistry : Semester I, Telugu Academy publication, Hyd

Unit- I

1. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications 1996.
2. Concise Inorganic Chemistry by J.D. Lee 3rd edn.
3. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers 2001. Chem.
4. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th edn.
5. Chemistry of the elements by N.N.Greenwood and A. Earnshaw Pergamon Press 1989.
6. Inorganic Chemistry by Shriver and Atkins 3rd edn Oxford Press 1999. 9. Textbook of Inorganic Chemistry by R Gopalan.

Unit- II

1. Organic Chemistry by Morrison and Boyd.
2. Organic Chemistry by Graham Solomons.
3. Organic Chemistry by Bruice Yuranis Powla.
4. Organic Chemistry by L. G. Wade Jr.
5. Organic Chemistry by M. Jones, Jr

6. Organic Chemistry by John McMurry.
7. Organic Chemistry by Soni.
8. General Organic chemistry by Sachin Kumar Ghosh.
9. Organic Chemistry by C N pillai

Unit III

1. Principles of physical chemistry by Prutton and Marron.
2. Text Book of Physical Chemistry by Soni and Dharmahara..
3. Text Book of Physical Chemistry by Puri and Sharma.
4. Text Book of Physical Chemistry by K. L. Kapoor.
5. Physical Chemistry through problems by S.K. Dogra.
6. Text Book of Physical Chemistry by R.P. Verma.
7. Elements of Physical Chemistry byLewis Glasstone.

Unit IV

1. Qualitative analysis by Welcher and Hahn.
2. Vogel's Qualitative Inorganic Analysis by Svehla.
3. Text Book of Organic Chemistry by Morrison And Boyd.
4. Text Book of Organic Chemistry by Graham Solomons.
5. Text Book of Organic Chemistry by Bruice Yuranis Powla.
6. Text Book of Organic Chemistry by Soni.
7. Text Book of Physical Chemistry by Soni And Dharmahara..
8. Text Book of Physical Chemistry by Puri And Sharma.
9. Text Book of Physical Chemistry by K. L. Kapoor.

Laboratory Course **45h (3 h / week)**

Paper I - Qualitative Analysis - Semi micro analysis of mixtures

Analysis of two anions (one simple, one interfering) and two cations in the given mixture.

Anions: CO_3^{2-}, SO_3^{2-}, S^{2-}, Cl^-, Br^-, I^-, CH_3COO^-, NO_3^-, PO_4^{3-}, BO_3^{3-}, SO_4^{2-}.

Cations: Hg_2^{2+}, Ag^+, Pb^{2+} Hg^{2+}, Pb^{2+}, Bi^{3+}, Cd^{2+}, Cu^{2+}, $As^{3+/5+}$, $Sb^{3+/5+}$, $Sn^{2+/4+}$

Al^{3+}, Cr^{3+}, Fe^{3+}

Zn^{2+}, Ni^{2+}, Co^{2+}, Mn^{2+}

Ba^{2+}, Sr^{2+}, Ca^{2+}

Mg^{2+}, NH_4^+

3.

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD

(AUTONOMOUS)

B.Sc - I Year Semester –I

Chemistry Practical Paper- I

Semimicro Qualitative Analysis

Laboratory course:	45 hrs
Instruction	(2 h / week)
Duration of exam	3 hrs
Marks for exam	25 marks

Analysis of two anions (one simple, one interfering) and two cations in the given mixture.

Anions: $CO_3^{\ 2-}$, $SO_3^{\ 2-}$, $S^{\ 2-}$, Cl^-, Br^-, I^-, CH_3COO^-, $NO_3^{\ -}$, $PO_4^{\ 3-}$, $BO_3^{\ 3-}$, $SO_4^{\ 2-}$.

Cations: $Hg_2^{\ 2+}$, Ag^+, Pb^{2+} Hg^{2+}, Pb^{2+}, Bi^{3+}, Cd^{2+}, Cu^{2+}, $As^{3+/5+}$, $Sb^{3+/5+}$, $Sn^{2+/4+}$
Al^{3+}, Cr^{3+}, Fe^{3+}
Zn^{2+}, Ni^{2+}, Co^{2+}, Mn^{2+}
Ba^{2+}, Sr^{2+}, Ca^{2+}
Mg^{2+}, $NH_4^{\ +}$

Chairperson
Department of Chemistry
Hindi Mahavidyalaya
AUTONOMOUS & NAAC REACCREDITED
Nallakunta, Hyderabad-44.

University Nominee
P. Veera Somaiah
Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Members
1. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

2. Asst. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

3. Department of Chemistry
Arts & Science College for Women
Andhra Mahila Sabha
HYDERABAD

Principal
PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Science
Nallakunta, Hyderabad

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
B.Sc- I Year
Semester – I Paper - I
Practical Model Question Paper

Time: 3 hrs Max. Marks: 25

(20 external exam + 5 marks internal assessment)

I. Write the systematic procedure for the analysis of the following anions and cations. (3 Marks)

II. Analyse the given mixture using semi-micro qualitative technique systematically and report two anions and two cations present in it. (12 Marks)

III. Record (2 Marks)

IV. Viva (3 Marks)

Chairperson University Nominee Members Principal

Department of Chemistry
Hindi Mahavidyalaya
AUTONOMOUS & NAAC REACCREDITED
Nallakunta, Hyderabad-44.

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007

2.

Asso. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007

3.

PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Scien
Nallakunta, Hyderabad-

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
B.Sc Chemistry- Ist Year
Semester – I Paper - I
Theory Model Question Paper

Time: 2 ½ hrs **Max. Marks: 70**

SECTION A

I Write short notes on any Six of the following: **6 X 3 = 18 Marks**

1. A question from Unit I
2. A question from Unit I
3. A question from Unit II
4. A question from Unit II
5. A question from Unit III
6. A question from Unit III
7. A question from Unit IV
8. A question from Unit IV

SECTION B

II Answer all the Questions. Each question carries 13 marks **4X13=52 Marks**

9 (a) A question from Unit I — 7 Marks
(b) A question from Unit I — 6 Marks
(OR)
(c) A question from Unit I — 7 Marks
(d) A question from Unit I — 6 Marks

10 (a) A question from Unit II — 7 marks
(b) A question from Unit II — 6 Marks
(OR)
9. A question from Unit I — 7 Marks
10. A question from Unit I — 6 Marks

11 (a) A question from Unit II — 7 Marks
(b) A question from Unit II — 6 Marks
(OR)
1. A question from Unit I — 7 Marks
2. A question from Unit I — 6 Marks

12 (a) A question from Unit II — 7 Marks
(b) A question from Unit II — 6 Marks
(OR)
1. A question from Unit I — 7 Marks
2. A question from Unit I — 6 Marks

Chairperson **University Nominee** **Members** **Principal**

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007

Asst. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007

PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Science
Hyderabad

(old pattern)

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
B.Sc Chemistry- I[st] Year
Semester – I Paper - I
Theory Model Question Paper

Time: 3 hrs Max. Marks: 70

SECTION A

I Write short notes on any Six of the following (short Answer type): 6 X 3 = 18 Marks

1. A question from Unit I
2. A question from Unit I
3. A question from Unit II
4. A question from Unit II
5. A question from Unit III
6. A question from Unit III
7. A question from Unit IV
8. A question from Unit IV

SECTION B

II Answer all the Questions. Each question carries 13 marks
(Essay Answer type) 4 x 13 = 52 Marks

9 (a) A question from Unit I
(OR)
(b) A question from Unit I

10 (a) A question from Unit II
(OR)
(b) A question from Unit II .

11 (a) A question from Unit III.
(OR)
(b) A question from Unit III.

12 (a)A question from Unit IV
(OR)
(b) A question from Unit IV.

Chairperson

University Nominee
P. Veera Somaiah
Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Members
1. P. Leela
Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.
2.
Asst. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.
3.

15

Principal
PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Scien
Nallakunta, Hyderabad

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)

B.Sc. I Year Semester – II

Chemistry Paper II

Code: BS106	**DSC – 3A**
Instruction	
Theory Classes	**4 Hrs/Week**
Practical Classes	**2 Hrs/Week**
Credit for Theory	**4**
Credit for Practical	**1**
Duration of Semester Examination	**2 ½ hours**
Duration of Internal Examination	**25 minutes**
Semester Examination Marks	**70 Marks**
Internal Marks	**30 Marks**

Unit-I (Inorganic Chemistry) — 15 h (1 hr/week)

S2-I-1 P-block Elements -II — **7 h**

Oxides: Types of oxides (a) Normal- acidic, basic amphoteric and neutral (b) Mixed (c) sub oxide d) peroxide e) superoxide. Structure of oxides of C, N, P, S and Cl - reactivity, thermal stability, hydrolysis.

Oxy acids: Structure and acidic nature of oxyacids of B, C, N, P, S, Cl and I. Redox properties of oxyacids of Nitrogen: HNO_2 (reaction with $FeSO_4$, $KMnO_4$, $K_2Cr_2O_7$), HNO_3 (reaction with H_2S, Cu), HNO_4 (reaction with KBr, Aniline), $H_2N_2O_2$ (reaction with $KMnO_4$). Redox properties of oxyacids of Phosphorus: H_3PO_2 (reaction with $HgCl_2$), H_3PO_3 (reaction with $AgNO_3$, $CuSO_4$) . Redox properties of oxyacids of Sulphur: H_2SO_3 (reaction with $KMnO_4$, $K_2Cr_2O_7$), H_2SO_4 (reaction with Zn, Fe, Cu), $H_2S_2O_3$ (reaction with Cu, Au), H_2SO_5 (reaction with KI, $FeSO_4$), $H_2S_2O_8$ (reaction with $FeSO_4$, KI). Redox properties of oxy acids of Chlorine.

Interhalogens- Classification- general preparation- structures of AB, AB_3, AB_5 and AB_7 type and reactivity. Poly halides- Definition and structure of ICl_2^-, ICl_4^- and I_3.

Pseudohalogens: Comparision with halogens.

S2-I-2: Chemistry of Zero group elements — **2 h**

Isolation of noble gases, Structure, bonding and reactivity of Xenon compounds – Oxides, Halides and Oxy-halides. Clatherate compounds and Anomalous behavior of He (II)

S2-I-3: Chemistry of d-block elements — **6 h**

Characteristics of d-block elements with special reference to electronic configuration, variable valence, ability to form complexes, magnetic properties &catalytic properties. Stability of various oxidation states and standard reduction potentials. Comparative treatment of second and third transition series with their 3d analogues. Study of Ti, Cr and Cu traids. Titanium triad – electronic configuration and reactivity of +3 and +4 states – oxides and halides. Chromium triad – reactivity of +3 and +6 states. Copper triad – reactivity of +1, +2 and +3 states.

Unit - II (Organic Chemistry) 15h (1 hr/week)

S2-O-1: Halogen compounds 4 h

Classification: alkyl (primary, secondary, tertiary), aryl, aralkyl, allyl, vinyl, benzyl. Chemical reactivity - reduction, formation of RMgX, Nucleophilic substitution reactions – classification into SN^1 and SN^2. Mechanism and energy profile diagrams of SN^1 and SN^2 reactions. Stereochemistry of SN^2 (Walden Inversion) 2-bromobutane, SN^1 (Racemisation) 1- bromo-1-phenylpropane Structure and reactivity – Ease of hydrolysis - comparison of alkyl, vinyl, allyl, aryl, and benzyl halides.

S2-O-2: Hydroxy compounds and ethers 6 h

Alcohols: Preaparation: 1°, 2° and 3° alcohols using Griganard reagent, Reduction of Carbonyl compounds, carboxylic acids and esters. Physical properties: H-bonding, Boiling point and Solubility. Reactions with Sodium, $HX/ZnCl_2$ (Lucas reagent), esterification, oxidation with PCC, alk. $KMnO_4$, acidic dichromates, conc. HNO_3 and Oppenauer oxidation (Mechanism).

Phenols: Preapartion: (i) from diazonium salts of anilines, (ii) from benzene sulphonic acids and (iii) Cumene hydroperoxide . Properties: Acidic nature, formation of phenoxide and reaction with R-X, electrophilic substitution; halogenations, Riemer Tiemann reaction (Mechanism), Kolbe reaction (Mechanism), Gattermann-Koch reaction, Azo-coupling reaction, Schotton-Boumann raction, Houben-Hoesch condensation, .

Ethers: Nomenclature, preparation by (a) Williamson's synthesis (b) from alkenes by the action of conc. H_2SO_4. Physical properties – Absence of Hydrogen bonding, insoluble in water, low boiling point. Chemical properties – inert nature, action of conc. H_2SO_4 and HI.

S2-O-3 Carbonyl compounds 5 h

Preparation of aldehydes & ketones from acid chloride,1,3-dithianes, nitriles and from carboxylic acids. Special methods of preparing aromatic aldehydes and ketones by (a) Oxidation of arenes (b) Hydrolysis of benzal halides Physical properties – absence of Hydrogen bonding. Reactivity of the carbonyl groups in aldehydes and ketones. Chemical reactivity: Addition of (a) $NaHSO_3$ (b) HCN (c) RMgX (d) NH_3 (e) RNH_2 (f) NH_2OH (g) $PhNHNH_2$ (h) 2,4-DNP (Schiff bases). Addition of H_2O to form hydrate , chloral hydrate (stable), addition of alcohols - hemi acetal and acetal formation. Cannizaro reaction. Oxidation reactions – $KMnO_4$ oxidation and auto oxidation, reduction – catalytic hydrogenation, mechanism of Clemmenson's reduction, Wolfkishner reduction, Meerwein Pondoff Verly reduction. Reduction with LAH, $NaBH_4$.

Unit - III (Physical Chemistry) 15h(1 hr/week)

S2-P-1: Electrochemistry 15 h

Electrical transport – conduction in metals and in electrolyte solutions, specific conductance and equivalent conductance, measurement of equivalent conductance, variation of specific and equivalent conductance with dilution. Migration of ions and Kholrausch's law, Arrhenius theory of electrolyte dissociation and its limitations, weak and strong electrolytes, Ostwald's dilution law - its uses and limitations. Debye-Huckel-Onsagar's equation for strong electrolytes (elementary treatment only). Transport number, definition and determination by Hittorf's method for attackable electrodes. Applications of conductivity measurements: Determination of degree of dissociation, determination of Ka of acids, determination of solubility product

of a sparingly soluble salt, conductometric titrations. Electrolytic and Galvanic cells – reversible and irreversible cells, conventional representation of electrochemical cells. Electro motive force (EMF) of a cell and its measurement. Computation of EMF. Types of reversible electrodes- the gas electrode, metal-metal ion, metal-insoluble salt and redox electrodes. Electrode reactions, Nernst equation, cell EMF and Single electrode potential, Standard Hydrogen electrode – reference electrodes (calomel electrode) – standard electrode potential, sign conventions, electrochemical series and its significance. Applications of EMF measurements. Calculation of thermodynamic quantities of cell reactions (Gibbs free energy G, Helmholtz free energy and Equilibrium constant K). Determination of pH using hydrogen electrode, glass electrode and quinhydrone electrode. Solubility product of AgCl. Potentiometric titrations.

Unit – IV (General Chemistry)

15 h (1 hr/week)

S2-G-1: Theory of Quantitative Analysis **6 h**

Volumetric Analysis: Introduction, standard solutions, indicators, end point, titration curves, Types of titrations: i) neutralization titration- principle, theory of acid base indicators, titration curves and selection of indicators- strong acid - strong base, strong acid –weak base, weak acidstrong base and weak acid –weak base. Theory of redox titrations - internal(KMnO4) and external indicators – use of diphenylamine and ferroin indicators. Theory of complexometric titrations – use of EBT, Murexide and Fast sulphone black indicators. Role of pH in complexometric titrations. Precipitation titrations – theory of adsorption indicators.

Gravimetric analysis- Introduction, nucleation, precipitation, growth of precipitate, filtration and washing, drying and incineration of precipitate, coprecipitation and post precipitation. Determination of Ni2+

S2-G-2: Stereoisomerism **5 h**

Optical activity: Definition, wave nature of light, plane polarised light, optical rotation and specific rotation, chiral centers. Chiral molecules: definition and criteria - absence of plane, center and Sn axis of symmetry – asymmetric and dissymmetric molecules. Examples of asymmetric molecules (Glyceraldehyde, Lactic acid, Alanine) and disymmetric molecules (trans1,2-dichlorocyclopropane). Molecules with constitutionally symmetrical chiral carbons (Tartaric acid) Molecules with constitutionally unsymmetrical chiral carbons (2,3dibromopentane). D, L configuration – examples. R, S – configuration: Cahn-Ingold-Prelog rules, examples for asymmetric and disymmetric molecules.

S2-G-3: Dilute Solutions & Colligative Properties **4 h**

Dilute Solutions, Colligative Properties, Raoult's law, relative lowering of vapour pressure, molecular weight determination. Osmosis - laws of osmotic pressure, its measurement, determination of molecular weight from osmotic pressure. Elevation of boiling point and depression of freezing point. Derivation of relation between molecular weight and elevation in boiling point and depression in freezing point.

References

General reference:

B.Sc I Year Chemistry : Semester II, Telugu Academy publication, Hyd

Unit I

1. Principles of Inorganic Chemistry by Puri, Sharma and Kalia Vishal Publications1996.
2. Concise Inorganic Chemistry by J.D. Lee 3rd edn.
3. Basic Inorganic Chemistry by F.A.Cotton, G.Wilkinson and Paul.L. Gaus 3rd edn Wiley Publishers 2001. 4. Chemistry of the elements by N.N.Greenwood and A. Earnshaw Pergamon Press1989.
5. Inorganic Chemistry by Shriver and Atkins 3rd edn Oxford Press 1999.
6. Inorganic Chemistry Principles of structure and reactivity by James E.Huhey, E.A. Keiter and R.L. Keiter 4th Edn.
7. Textbook of inorganic chemistry by R Gopalan.

Unit II

1. Organic Chemistry by Morrison and Boyd.
2. Organic Chemistry by Graham Solomons.
3. Organic Chemistry by Bruice Yuranis Powla.
4. Organic Chemistry by L. G. Wade Jr.
5. Organic Chemistry by M. Jones, Jr
6. Organic Chemistry by John McMurry.
7. Organic Chemistry by Soni.
8. General Organic chemistry by Sachin Kumar Ghosh.
9. Organic Chemistry by C N pillai

Unit III

1. Physical chemistry by P W Atkins
2. Principles of physical chemistry by Prutton and Marron.
3. Text Book of Physical Chemistry by Soni and Dharmahara.
4. Text Book of Physical Chemistry by Puri and Sharma
5. Text Book of Physical Chemistry by K. L. Kapoor
6. Physical Chemistry through problems by S.K. Dogra.
7. Elements of Physical Chemistry by Lewis and Glasstone.
8. Material science by Kakani & Kakani

Unit IV

1. Vogel's Text Book of Quantitative Analysis by G.H.Jeffery, J.Bassett, J.Mendham and R.C. Denney 5th edn Addison Wesley Longman Inc. 1999.
2. Quantitative Analysis by Day and Underwood Prentice Hall (India) VI Edn..
3. Nano: The Essentials by T. Pradeep, McGraw-Hill Education.
4. Chemistry of nanomaterials: Synthesis, Properties and applications by CNR Rao et.al.
5. Nanostructured Materials and Nanotechnology, edited by Hari Singh Nalwa, Academic Press
6. Practical chemistry by V K Ahluwalia, Sunitha Dhingra and AdarshGulati.

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD

(AUTONOMOUS)

B.Sc - I Year Semester –II

Chemistry Practical Paper - II

Quantitative Analysis

Laboratory course:	45 hrs
Instruction	(2 h / week)
Duration of exam	3 hrs
Marks for exam	25 marks

I.Acid - Base titrations

1. Estimation of Carbonate in Washing Soda.
2. Estimation of Bicarbonate in Baking Soda.
3. Estimation of Carbonate and Bicarbonate in the Mixture.
4. Estimation of Alkali content in Antacid using HCl.
5. Estimation of NH_4^+ by back titration

II.Redox Titrations

1. Determination of Fe(II) using $K_2Cr_2O_7$
2. Determination of Fe(II) using $KMnO_4$ with sodium oxalate as primary standard. ✓
3. Determination of Cu(II) using $Na_2S_2O_3$ with $K_2Cr_2O_7$ as primary standard

odd - CO_3
even $K_2Cr_2O_7$

III.Complexometric Titrations

1. Estimation of Mg^{2+}
2. Estimation of Cu^{2+}

Chair person
Department of Chemistry
Hindi Mahavidyalaya
AUTONOMOUS & NAAC REACCREDITED
Nallakunta, Hyderabad-44.

University Nominee
P. Veera Somaiah
Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Members
1. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007
2. Asso. Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007
3. Lecturer in CHEMISTRY
Arts & Science College for Women
Andhra Mahila Sabha
HYDERABAD

Principal
PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Science
Nallakunta, Hyderabad

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD

(AUTONOMOUS)

B.Sc Chemistry- Ist year

Semester –II Paper - II

Practical Model Question Paper

Time: 3 hrs **Max. Marks: 25**

(20 external exam + 5 marks internal assessment)

1. **Write brief procedure along with principle involved in the following given experiment.** **(3 Marks)**
   1. Estimation of Carbonate in Washing Soda.
   2. Estimation of Bicarbonate in Baking Soda.
   3. Estimation of Carbonate and Bicarbonate in the Mixture.
   4. Estimation of Alkali content in Antacid using HCl.
   5. Estimation of NH_4^+ by back titration
   6. Determination of Fe(II) using $K_2Cr_2O_7$
   7. Determination of Fe(II) using $KMnO_4$ with sodium oxalate as primary standard.
   8. Determination of Cu(II) using $Na_2S_2O_3$ with $K_2Cr_2O_7$ as primary standard.
   9. Estimation of Mg^{2+}
   10. Estimation of Cu^{2+}

2. **Estimate the amount in the given following experiments.** **(12 Marks)**
   1. Estimation of Carbonate in Washing Soda.
   2. Estimation of Bicarbonate in Baking Soda.
   3. Estimation of Carbonate and Bicarbonate in the Mixture.
   4. Estimation of Alkali content in Antacid using HCl.
   5. Estimation of NH_4^+ by back titration
   6. Determination of Fe(II) using $K_2Cr_2O_7$
   7. Determination of Fe(II) using $KMnO_4$ with sodium oxalate as primary standard.
   8. Determination of Cu(II) using $Na_2S_2O_3$ with $K_2Cr_2O_7$ as primary standard.
   9. Estimation of Mg^{2+}
   10. Estimation of Cu^{2+}

3. **Record** **(2 Marks)**

4. **Viva** **(3 Marks)**

Chairperson **University Nominee** **Members** **Principal**

Department of Chemistry
Hindi Maha Vidyalaya
AUTONOMOUS / NAAC REACCREDITED
Nallakunta, Hyderabad-44.

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

1.
2.
3.

Lecturer in CHEMISTRY
Arts & Science College for Women
Andhra Mahila Sabha
HYDERABAD-5.

PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Sc.
Nallakunta, Hyderaba

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
B.Sc Chemistry- I[st] Year
Semester – II Paper - II
Theory Model Question Paper

Time: 2 ½ hrs Max. Marks: 70

SECTION A

I Write short notes on any Six of the following: **6 X 3 = 18 Marks**

5. A question from Unit I
6. A question from Unit I
7. A question from Unit II
8. A question from Unit II
9. A question from Unit III
10. A question from Unit III
11. A question from Unit IV
12. A question from Unit IV

SECTION B

II Answer all the Questions. Each question carries 13 marks **4X13=52 Marks**

9 (a) A question from Unit I 7 Marks
(b) A question from Unit I 6 Marks
(OR)
(c) A question from Unit I 7 Marks
(d) A question from Unit I 6 Marks

10 (a) A question from Unit II 7 Marks
(b) A question from Unit II 6 Marks
(OR)
(c) A question from Unit II 7 Marks
(d) A question from Unit II 6 Marks

11 (a) A question from Unit III 7 Marks
(b) A question from Unit III 6 Marks
(OR)
(c) A question from Unit III 7 Marks
(d) A question from Unit III 6 Marks

12 (a) A question from Unit IV 7 Marks
(b) A question from Unit IV 6 Marks
(OR)
(c) A question from Unit IV 7 Marks
(d) A question from Unit IV 6 Marks

Chairperson **University Nominee** **Members** **Principal**

Department of Chemistry, Hindi Mahavidyalaya, Nallakunta, Hyderabad-44.

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

1. Professor, Department of Chemistry, Osmania University, HYDERABAD
2. Department of Chemistry, Osmania University, HYDERABAD - 500 007
3.

PRINCIPAL
HINDI MAHA VIDYALAYA
(AUTONOMOUS)
Arts, Commerce & Science
Nallakunta, Hyderabad

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD
(AUTONOMOUS)
B.Sc Chemistry- I Year
Semester – II Paper - II
Theory Model Question Paper

Time: 3 hrs | Max. Marks: 70

SECTION A

I Write short notes on any Six of the following: 6 X 3 = 18 Marks

1. A question from Unit I
2. A question from Unit I
3. A question from Unit II
4. A question from Unit II
5. A question from Unit III
6. A question from Unit III
7. A question from Unit IV
8. A question from Unit IV

SECTION B

II Answer all the Questions. Each question carries 13 marks 4 X 13 = 52 Marks

9 (a) A question from Unit I
(OR)
(b) A question from Unit I

10 (a) A question from Unit II
(OR)
(b) A question from Unit II .

11 (a) A question from Unit III.
(OR)
(b) A question from Unit III.

12 (a)A question from Unit IV
(OR)
(b) A question from Unit IV.

Chairperson

University Nominee

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Members

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

Asso. Professor
Department of Chem.
Osmania University
HYDERABAD - 500 007.

Principal
PRINCIPAL
HINDI MAHA VIDYALAY
(AUTONOMOUS)
Arts, Commerce & Scienc
Nallakunta, Hyderabad-4

Lecturer in CHEMISTRY
Arts & Science College for W
Andhra Mahila Sabha
HYDERABAD-1

HINDI MAHAVIDYALAYA, NALLAKUNTA, HYDERABAD

(AUTONOMOUS)

B.Sc - I Year

Semester –I & II

Chemistry Paper – I & II

Scheme of Model Question Paper

Time : 3 hrs **Max.Marks : 100**

Semester Exam Pattern **70 Marks**

Section –A – 8 Short Answer Questions-Answer any 6 6 X 3 = 18 Marks
Each Question carries 3 Marks.

Section – B—4 Long Answer Questions-With Internal Choice 4 X 13 = 52 Marks
Each Question carries 13 Marks.

Total = 70 Marks

Internal Assessment Pattern **20 Marks** **Duration - 25 Minutes**

In Internal Assessment there will be
20 Multiple Choice Questions(Online) 20 X 1 = 20 Marks
Two times Online test will be conducted and average of these two tests is considered.
(20 + 20) /2 = 20 Marks

Assignment	5 Marks
Seminar	5 Marks
Total Internal Assessment Marks	30 Marks

Chairperson **University Nominee** **Members** **Principal**

Prof P. Veera Somaiah
Department of Chemistry
Osmania University
Hyderabad-500 007

Professor
Department of Chemistry
Osmania University
HYDERABAD - 500 007.

PRINCIPAL
HINDI MAHA VIDYA
(AUTONOMO
Arts, Commerce &
Nallakunta, Hyd

HINDI MAHAVIDYALAYA,HYDERABAD

(Autonomous)

Department of Chemistry

Panel of Examiners

S.No	Name and Designation	Mobile.No
1	Dr.kiranmai Head, Dept.of Chemistry Andhra Mahila Sabha,Arts&Science College,O.U Campus, Hyderabad.	9849641932
2	Dr. Shanti Sudha Dept.Of Chemistry, Andhra Mahila Sabha,Arts&Science College,O.U Campus, Hyderabad.	8801565859
3	B.Gopal Naidu Dept. of Chemistry, Aurora Degree College Chikkadpally,Hyd	9885017710

Department of Chemistry

4	Mrs. Swapna Dept.Of Chemistry, Andhra Mahila Sabha,Arts&Science College,O.U Campus, Hyderabad.	9299406771
5	Dr.MadhumithaBattacharjee Head,Dept. of Chemistry Bhavan's Vivekananda college of science,Humanities & Commerce, Sainikpuri,Sec.	9391096672
6	Dr. G. Vijayalakshmi Asst.Professor, Dept.ofChemistry University college of Women, koti,Hyd	7893547611
7	Dr. M. Kavitha Asst.Professor, Dept.ofChemistry University college of Women, koti,Hyd	9491062918

Department of Chemistry

8.	Dr. Jeevana Jyothi Head,Dept.Of Chemistry, RBVRR Women's College, Narayanaguda Hyderabad.	8121498096
9	Dr. Swapna Dept.Of Chemistry, RBVRR Women's College, Narayanaguda,Hyd.	8106916444
10	Dr. Vijaya Jyothi Asst.Professor, Dept.ofChemistry BJR Govt. Degree College,Hyd.	9441780533
11	Dr. A. Santhoshi Asst.Professor, Dept.ofChemistry BJR Govt. Degree College,Hyd.	9515876485