

Vivekanand College, Kolhapur (Autonomous)
Department of Chemistry
B. Sc. I Sem. I Chemistry
Theory Internal Examination Nov-2020

All the students of B.Sc. I (A, B & C) are hereby informed that their theory Internal Examination of Chemistry will be conducted in online manner (Google Forms) on **24th Nov, 2020 at 10.00 am to 11.00 am**. The google form link will be communicated on departmental Google Classroom and What's-App group 10 min prior to examination time. The examination will be conducted only one time, students are directed to attend the examination without fail. Syllabus for examination will be as mentioned in following table.

Sr. No.	Name of Paper	Topics
1	DSC-1002A- Section-I: Inorganic Chemistry	Unit I: Atomic Structure and Periodicity of Elements Unit II: Covalent Bonding
2	DSC-1002A- Section-II: Organic Chemistry	Unit I- Fundamentals of Organic Chemistry Unit III - Stereochemistry

***Nature of question paper :- 40 MCQs of One mark each**



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B.Sc. I, Sem-I Inorganic and Organic Chemistry Examination Nov.2020

Paper Code: DSC-1002A

- Instructions: 1) Solve any 20 questions out of 25.
2) Each question carries 2 marks.
3) Figures to the right indicates marks.

Date:24/11/2020, Tuesday

Time: 10 am to 11 am
Total Marks: 40 M

1. Email *

2. Name of Student

3. PRN Number

4. Seat Number or Roll Number

Untitled section

5. To form a co-ordinate bond, acceptor atom must have at least----- in its valence shell. 2 points

Mark only one oval.

- Two lone pair of electrons
 One lone pair of electrons
 Three lone pairs of electrons
 All of these

6. Born-Haber cycle is not used to calculate----- 2 points

Mark only one oval.

- Lattice energy
 Electron affinity
 Heat of formation
 Conductivity

7. In phase combination of AOs gives----- 2 points

Mark only one oval.

- Bonding MO
 Antibonding MO
 Nonbonding orbitals
 Unstable MOs

8. Molecules is diamagnetic if it has----- 2 points

Mark only one oval.

- All paired electrons
 Unpaired electrons
 High bond order
 Low bond order

9. Lower the bond order-----

2 points

Mark only one oval.

- Stronger is the bond
- Weaker is the bond
- No bond
- Molecule is stable

10. The strength of covalent bond depends upon-----

2 points

Mark only one oval.

- Number of electrons
- Extent of overlap of atomic orbitals
- Types of hybridization
- Types of orbitals

11. ----- is not the suitable condition for successful overlap of orbitals

2 points

Mark only one oval.

- The atomic orbitals should have same or similar energy.
- The combining atomic orbitals should be able to overlap appreciably.
- The atomic orbitals should not have same or similar energy.
- The combining atomic orbitals should have same symmetry about the molecular axis.

12. The principle states that, we cannot measure the position (x) and the momentum (p) of a particle with absolute precision is called as-----

2 points

Mark only one oval.

- Pauli's Exclusion Principle
- Bohr's Theory
- Heisenberg's Uncertainty Principle
- All of these

13. Pauli's exclusion principle states that two electrons in the same orbitals have -----

2 points

Mark only one oval.

- Opposite spin
- Different spin
- Vertical Spin
- Same spin

14. Atomic radius (size) not depends on-----

2 points

Mark only one oval.

- Number of shell
- Effective nuclear charge
- Screening Effect
- All of these

15. In the 'S' block, along the group as atomic size increases, ionization potential is ----- 2 points

Mark only one oval.

- Remains constant
 Decreases
 Increases
 None of these

16. The order of melting point of first IA group is as----- 2 points

Mark only one oval.

- Na>K>Rb>Cs>Li
 Li<Na<K<Rb<Cs
 Li> Cs >K>Rb>Na
 Li>Na>K>Rb>Cs

17. The order of ionization energy of group sixteen elements is as----- 2 points

Mark only one oval.

- O<S<Se<Te<Po
 O>S>Se>Te>Po
 Po<S<Se<Te<O
 O<S<Po<Se<Te

18. As Electron donating group increases strength of base ----- 2 points

Mark only one oval.

- Decreases
 Increases
 Constant
 None of these

19. The reactive intermediate that does not obey Lewis octet rule is-----

2 points

Mark only one oval.

- Carbanion
- Carbocation
- Free radical
- Carbene

20. Homolytic covalent bond cleavage forms-----

2 points

Mark only one oval.

- Carbanion
- Carbocation
- Free radical
- Carbene

21. Optical inactivity of a meso compound is due to-----

2 points

Mark only one oval.

- External compensation
- Internal compensation
- Racemisation
- Any of these

22. The compound 2-chloro propanoic acid shows ----- isomerism.

2 points

Mark only one oval.

- geometrical
- Optical
- Cis-trans
- Conformational

23. The dehydration of alcohol in presence of acid to gives-----

2 points

Mark only one oval.

- The dehydration of alcohol in presence of acid to gives-----
- Alkene
- Alcohol
- Alkyl halide
- Alkane

24. The order of E1 reaction is-----

2 points

Mark only one oval.

- 4
- 3
- 2
- 1

25. The reduction of alkynes with sodium in liq. ammonia yields the major product-----

2 points

Mark only one oval.

- Cis alcohol
- Trans alkene
- Cis alkene
- Trans alcohol

26. The ozonolysis of but-2-yne in presence of carbon tetrachloride to form---- 2 points

Mark only one oval.

- Acetaldehyde
- Acetic acid
- Formic acid
- Formaldehyde

27. The carbon atom in acetylene are in-----hybridization.

2 points

Mark only one oval.

- sp
- sp²
- sp³
- dsp³

28. The two alkyl halides react with sodium metal to form higher alkane is known as ----- reaction.

2 points

Mark only one oval.

- Birch
- Wurtz
- Kolbes
- Clemmensen

29. Which of the following is not chiral compound?

Mark only one oval.

- 2-aminopropionic acid
- Lactic acid
- 2-chlorobutane
- 3-bromopentane

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Google Forms

**VIVEKANAND COLLEGE, KOLHAPUR
(AUTONOMOUS)**

B.Sc. I, Sem-I Inorganic and Organic Chemistry Examination Nov.2020

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Department of Chemistry
B. Sc. I Sem. II Chemistry
Theory Internal Examination August-2021

All the students of B.Sc. I (A, B & C) are hereby informed that their theory Internal Examination of Chemistry will be conducted in online manner (Google Forms) on **20th August, 2021 at 10.00 am to 11.00 am**. The google form link will be communicated on departmental Google Classroom and What's-App group 10 min prior to examination time. The examination will be conducted only one time, students are directed to attend the examination without fail. Syllabus for examination will be as mentioned in following table.

Sr. No.	Name of Paper	Topics
1	DSC-1002A- Section-I: Physical Chemistry	Unit I: Thermodynamics
2	DSC-1002A- Section-II: Organic Chemistry	Unit I- Alcohols and Phenol Unit III – Aldehydes and Ketones

***Nature of question paper :- 30 MCQs of One mark each**

S. D. Shirke

Dr. Mrs. S. D. Shirke
Head

Dept. of Chemistry
Vivekanand College, Kolhapur



B.Sc.I, Sem-II, Physical & Organic Chemistry Internal exam-August-2021

Paper Code-DSC-1002B

1. Email *
2. Full Name of the Students
3. Roll No. or Seat No.
4. PRN Number

Section-I: Physical Chemistry

5. The process that occurs of its own accord called as_____.

Mark only one oval.

- Spontaneous
- Non-spontaneous
- Reversible
- All of these

Hot reservoir represents _____ heat

Mark only one oval.

- Sink
- Engine
- Efficiency
- Source

7. Efficiency of heat engine is one when temperature of cold reservoir is _____

Mark only one oval.

- High
- Low
- Any
- Zero

8. 'No machine in this universe has unit efficiency' is statement of _____ law.

Mark only one oval.

- First Law of thermodynamics
- Third Law of thermodynamics
- Second Law of thermodynamics
- Zeroth Law of thermodynamics

9. In adiabatic process $q=0$; true of false.

Mark only one oval.

- False
- True
- depends on another conditions
- Always false

Entropies of all perfectly crystalline substances are zero at ___ temperature.

Mark only one oval.

- Any temperature
- lowering
- Absolute Zero
- Zero Celsius

11. Free energy is a measure of _____

Mark only one oval.

- Unavailable energy to do work.
- Available energy to do work.
- Both of these
- None of these

12. Debye equation is used to evaluate interval CP/T in the determination of absolute entropy for the temperature range _____

Mark only one oval.

- 0 K to lowest possible temperature
- 0 K to any higher temperature
- 0 K to any temperature
- All of these

13. S. I. of unit heat is _____

Mark only one oval.

- Erg
- Joule
- calories
- Kelvin

In cyclic process the change in each state function is _____

Mark only one oval.

Zero

One

Two

Three

Section-II Organic Chemistry

15. The order of SN1 Reaction is

Mark only one oval.

1.2

2.3

3.1

4.0

16. The solubility of alcohol in water is due to

Mark only one oval.

intermolecular H-bonding

intramolecular H-bonding

hydrophobic moiety

amphoteric nature

In Nitration reaction of benzene the attacking electrophile is

Mark only one oval.

- SO₃
- Cl⁺
- NO₂⁺
- NO

18. In aryl halides the melting and boiling points increases as the size of the halogen atom.....

Mark only one oval.

- increases
- decreases
- remain constant
- none

19. Benzene shows extra stability due to

Mark only one oval.

- resonance energy
- delocalised electrons
- pi-electrons clouds
- all of these

20. Alkyl halide react with alcoholic KOH to form

Mark only one oval.

- alcohol
- alkane
- ether
- aldehyde

In Phenol, all ring carbon atoms are hybridisation

Mark only one oval.

- sp²
- sp³
- sp
- sp³d

22. Benzene undergoesreaction.

Mark only one oval.

- Electrophilic addition
- Nucleophilic addition
- Electrophilic substitution
- Nucleophilic substitution

23. Cyclic ethers with four membered ring are called

Mark only one oval.

- Oxirane
- Lactone
- Pyran
- Oxitane

24. SN₂ reaction is _____ step.

Mark only one oval.

- 1.1
- 2.3
- 3.4
- 4.2