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SUBJECT CODE NO:-B-2008
FACULTY OF SCIENCE & TECHNOLOGY
B.Sc. F.Y (Sem-II)
Examination November/December- 2022
Chemistry Paper- V
Inorganic Chemistry

[Time: 1:30 Hours]

[Max. Marks: 50]

Please check whether you have got the right question paper.

- N.B
- i) Attempt all questions.
 - ii) Illustrate your answer with suitable labeled diagram.
- Q. 1
- | | | |
|-----|---|----|
| (a) | Give the structure and bonding in XeF ₄ | 10 |
| (b) | Explain the formation of Ammonia molecule with the help of VSEPR theory | 10 |

OR

- | | | |
|-----|---|----|
| (a) | What is free electron concept of metallic bond? | 10 |
| (b) | Explain the formation of SF ₄ molecule | 10 |
- Q. 2
- | | | |
|-----|---|----|
| (a) | What is radioactivity? Discuss the properties of B-particles. | 20 |
| (b) | Explain the role of phenolphthalein in acid-base titration. | |

OR

Write short notes on any two

- (a) Chemistry of Xenon
- (b) Alpha & Gamma rays
- (c) Calibration of Burette
- (d) Hydrogen Bonding

Q. 3 Write down the correct option for each of the following

- (1) The elements of group 18 are _____
(a) Alkali metal (b) Noble gases
(c) Halogens (d) Actinides
- (2) Phenolphthalein is a _____
(a) Weak base (b) Strong base
(c) Strong acid (d) Weak acid
- (3) Hydrogen bonding is present in _____
(a) C_2H_5OH (b) $NaCl$ (c) MgO (d) KCl
- (4) Which of the following is complexing agent
(a) EDTA (b) Oxalic acid (c) $KMnO_4$ (d) $NaOH$
- (5) Bond order of N_2 is _____
(a) Zero (b) One (c) Two (d) Three
- (6) The bond angle of BF_3 is _____
(a) 120° (b) 105° (c) 90° (d) 60°
- (7) Dative bond is also called _____ bond.
(a) Coordinate (b) Ionic (c) Covalent (d) None of these
- (8) Geometry of IF_7 is _____
(a) Tetrahedral (b) Octahedral
(c) Pentagonal bipyramidal (d) Trigonal pyramidal
- (9) The hybridized state of XeO_3 is _____
(a) sp^3 (b) sp^3d^2 (c) sp^2 (d) sp
- (10) Which of the following is polydentate ligand _____
(a) NH_3 (b) H_2O (c) Cl^- (d) EDTA