

Roll No.

(07/20-I)

5252

B. Sc. EXAMINATION

(Sixth Semester)

CHEMISTRY

Paper-XVIII (CH-304)

Inorganic Chemistry

Time : Three Hours

Maximum Marks : 27

Note : Q. No. 1 is compulsory and short answer type. Attempt *five* questions in all, selecting at least *two* questions from each Section.

1. (a) What is Rochow's Process for preparation of methylchlorosilane ?
- (b) What is Bohr effect ?
- (c) Explain Symbiosis process in hard-soft Acid-Bases.

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- (d) Give the IUPAC name for the compound
K [Pt Cl₃ (C₂H₄)]
- (e) State *one* method of preparation of
organotin compound.
- (f) What are phosphazenes ? Cite an example.
- (g) Draw the structure of porphin ligand.

1×7=7

Section A

2. (a) How will you explain the occurrence of
ores and minerals on the basis of HSAB
principle ? 2
- (b) Explain Lux-Flood and solvent system
concept of Acid and Bases. 3
3. (a) What is EAN rule ? Which of the
following compounds obeys EAN rule ?
Mn₂(CO)₁₀, Ni(η⁵-C₅H₅)₂, Fe(CO)₅. 2
- (b) Explain bonding in metal-olefinic
complexes. 3

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4. (a) Discuss the relative acidic strength order
for :
HClO, HClO₂, HClO₃, HClO₄ 3
- (b) What are the limitations of HSAB
principle ? 2
5. (a) Discuss in brief the preparation, properties
and bonding in Alkyl lithium. 3
- (b) Give the evidence for Multiple bonding in
metal carbonyls with the help of
vibrational spectra. 2

Section B

6. (a) What types of bonding occur in (N₂PCl₂)₃ ?
Explain. 3
- (b) Explain the uses of Silicone oil and
Silicone resins. 2
7. (a) Discuss the co-operativity effect. 2
- (b) Account for the role of Na⁺ - K⁺ pump
in biological system. 3

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8. (a) What is a Nitrogenase ? What role does it play in N_2 -fixation ? 3
- (b) Draw the structure of Haemoglobin and Myoglobin. 2
9. (a) Explain the preparation of silicones and its uses. 3
- (b) What are essential and trace elements ? Give *two* examples of each. 2