

Roll No.

(05/16-I)

5252

B. Sc. EXAMINATION

(Sixth Semester)

CHEMISTRY (INORGANIC)

Paper XVIII (CH-304)

Time : Three Hours

Maximum Marks : 27

Note : Attempt Five questions in all. Question number 1 (7 questions of 1 mark each) is compulsory. In addition to question no. 1, candidate are required to attempt two questions from each Section A and B.

- (a) What is organometallic compound ?
- (b) Give the IUPAC names of $\text{Fe}(\text{CO})_5$ and $\text{Fe}_2(\text{CO})_4(\text{C}_5\text{H}_5)_2$.
- (c) What is ionisation constant ?
- (d) Why is ammonia termed as a base through it does not contain OH^- ions ?

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- (e) What are nitrogenases ?
- (f) What is the role of iodine in human body ?
- (g) What are silicon fluids ? 1×7=7

Section A

- 2. (a) What is Zeise salt and how is it prepared ? Discuss the nature of bond in this compound. 3
- (b) How does Wilkinson's catalyst play its role in hydrogenation of alkenes ? 2
- 3. (a) Define acids and bases in term of Lux-floré concept. Give its advantages. 3
- (b) Justify by Lewis concept that CO_2 is an acid. 2
- 4. (a) Which factors are responsible for kinetic instability of transition metal sigma bonded organometallic compounds ? 3
- (b) Describe the application of HSAB principle. 2

Section B

5. What are metalloporphyrins ? Explain the structure of hemoglobin and myoglobin. 5
6. (a) Discuss biological importance of Ca^{2+} ?
How does it differ from the Mg^{2+} ? 3
- (b) Discuss important properties of Silicon. 2
7. (a) Discuss the structure of (NPCl_2) and $(\text{NPCl}_2)_3$. 3
- (b) Write brief notes on the following : 2
- (i) Silicon resins
- (ii) Silicon rubber.