

**16U511**

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Name: .....

Reg. No. ....

**FIFTH SEMESTER B.Sc. DEGREE EXAMINATION, NOVEMBER 2018**

(CUCBCSS-UG)

**CC15U CHE5 B06 - INORGANIC CHEMISTRY - III**

(Chemistry - Core Course)

(2015 - Admission onwards)

Time: Three Hours

Maximum: 80 Marks

**Section A**

Answer *all* questions. Each question carries 1 mark.

1. .... is an example for a pseudohalogen.
2. The hybridisation of iodine in  $IF_7$  is .....
3. Write the auto ionisation of liquid  $NH_3$ .
4. Except ..... and ..... all other alkaline earth metals impart characteristic colours to the flame.
5. Which alkali metal has the highest density?
6. The compound which was responsible for Bhopal tragedy is .....
7. The general formula of silicones is .....
8. .... is the most electronegative element in the periodic table.
9. Acid rain is caused chiefly due to the pollution by the oxides of ..... and .....
10. The expression for solubility product of silver sulphate is .....

**(10 x 1 = 10 Marks)**

**Section B**

Answer any *ten* questions. Each question carries 2 marks.

11. What is meant by diagonal relationship? Explain with an example.
12. Differentiate between accuracy and precision in a measurement.
13. In the oxygen family, the acid strength of hydrides increases from  $H_2O$  to  $H_2Te$ . Give reason.
14. What is meant by DO of a water sample? What is its significance?
15. Why do we keep alkali metals in kerosene oil?
16. Differentiate between ortho and para hydrogen.
17. Define the terms a) incineration b) composting used in solid waste management.
18. Why noble gases are chemically inert?
19. What is meant by greenhouse effect? Name two gases causing greenhouse effect.
20. Explain the term post precipitation in gravimetric analysis with an example.

21. What happens when acetic acid is dissolved in liquid ammonia? Give the chemical Equation.
22. Arrange  $\text{HClO}$ ,  $\text{HClO}_2$ ,  $\text{HClO}_3$  and  $\text{HClO}_4$  in the increasing order of acid strength. Give reasons for your answer.

**(10 x 2 = 20 Marks)**

### Section C

Answer any *five* questions. Each question carries 6 marks.

23. Write a note on phosphazenes.
24. Discuss briefly about the position of hydrogen in periodic table.
25. Comment on the electropositive character of iodine.
26. Discuss the structure and properties of major allotropes of carbon.
27. Write a note on impact of medical waste and its disposal.
28. Explain the role of Se in xerography.
29. Discuss briefly about the structure and bonding in diborane.
30. Briefly discuss about the anomalous properties of oxygen.

**(5 x 6 = 30 Marks)**

### Section D

Answer any *two* questions. Each question carries 10 marks.

31. Discuss briefly the preparation, properties, structure and uses of sulphuric acid.
32. Discuss the structures of fluorides and oxy fluorides of xenon.
33. Discuss the nature, sources, effects and control of thermal pollution.
34. 1) Define solubility product and common ion effect with examples.  
2) Briefly describe the applications of solubility product and common ion effect in the precipitation of cations.

**(2 x 10 = 20 Marks)**

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