

16P111

(Pages:2)

Name:

Reg. No.....

FIRST SEMESTER M.Sc. DEGREE EXAMINATION, NOVEMBER 2016

(Regular/Supplementary/Improvement)

(CUCSS-PG)

CC15P CH1 C02 – ELEMENTARY INORGANIC CHEMISTRY

(Chemistry)

(2015 Admission Onwards)

Time: Three Hours

Maximum: 36 Weightage

Section A

(Answer **all** questions. Each question carries a weightage of one)

1. Give a method of preparation of Borazines
2. What happens 1, 2-dicarboclosodecaborane (12) is heated?
3. Write a note on diagonal relationship.
4. To which class of compounds, polyhedron skeleton electron pair theory is applicable? Explain
5. Give one example for photo nuclear reactions.
6. What are Phosphazenes.
7. State and explain Octet rule.
8. Write notes on formal charges.
9. What is the name of correlation diagram represents energy of molecular orbitals with change in bond angle?
10. Explain why oxygen and fluorine do not participate in hypervalency. ?
11. Explain super heavy elements with examples
12. What is Zeolite? (12 x 1 = 12 weightage)

Section B

(Answer any **eight** questions. Each question carries a weightage of two)

13. What are the differences between 4f and 5f orbitals?
14. Write a short note on Hyper valence
15. Write notes on Pourbaix diagram
16. Explain different types of carbides with suitable examples
17. What is Bent rule of hybridization? Explain.
18. Discuss synthesis, properties and applications of Silicones.
19. Discuss structure of S_2N_2 and S_4N_4
20. Write briefly on nuclear liquid drop model.
21. Explain closo, nido and arachno boranes.

22. Discuss the important chemical reactions that occur in liquid ammonia and FSO_3H
23. Give the structure and preparation of B_5H_9
24. Write a note on superacids.

(8 x 2 = 16 weightage)

Section C

(Answer **any 2** questions. Each question carries a weightage of four)

25. Explain the classification of Lewis acids into hard and soft acid and bases. Comment on the chemical consequences of this concept in the formation of coordination compounds
26. Discuss structure and bonding in Phosphazenes.
27. Write notes on Heteropoly, Isopoly acids of W and Mo and its applications
28. Explain (a) leveling effect of solvents (b) Discuss Frost diagram.

(2 x 4 = 8 weightage)
