

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2011 – 12 and thereafter)

SUBJECT CODE: 11CH/MC/IC34

B.Sc. DEGREE EXAMINATION, NOVEMBER 2014
BRANCH IV- CHEMISTRY
THIRD SEMESTER

REG.NO

COURSE : MAJOR CORE

PAPER : INORGANIC CHEMISTRY-II

TIME : 30 MINUTES

MAX.MARKS : 30

SECTION – A

ANSWER ON THE QUESTION PAPER ITSELF

Answer all the questions

I Choose the correct answer:

(10x1= 10 marks)

- Hydrazoic acid is
a) HNO_2 b) $\text{H}_2\text{N}_2\text{O}_2$ c) HN_3 d) $\text{H}_4\text{N}_2\text{O}_4$
- The name of $\text{MgSO}_4 \cdot 7\text{H}_2\text{O}$ is
a) magnesite b) carnallite c) epsom d) gypsum
- The colour of potassium flame is
a) yellow b) violet c) blue d) crimson
- The general configuration of the nitrogen family is
a) ns^2np^1 b) ns^2np^2 c) ns^2sp^3 d) ns^2sp^4
- Identify the metalloid
a) Ga b) Ge c) Se d) Sr
- HNO_3 is manufactured by _____ process.
a) Haber b) contact c) Ostwald d) Dow
- The last element of the oxygen family is
a) Bi b) Pb c) Te d) Po
- Phosphorus acid is a _____ acid.
a) mono basic b) di basic c) tri basic d) poly basic
- The structure of NH_3 is
a) triangular b) tetrahedral c) pyramidal d) octahedral
- The metal used in galvanization is
a) Zn b) Cu c) Sn d) Al

II Fill in the blanks:

11. Fast moving _____ are slowed down by heavy water.
12. Cryptates and crown ethers are called as _____.
13. Inorganic benzene is _____.
14. NaH is a/an _____ hydride.
15. Ionisation potential of the alkali metals _____ along the group.
16. _____ is used as a rocket fuel.
17. Elements of the _____ family are known as chalcogens.
18. Quartz is the crystalline form of _____.
19. Silane is _____.
20. NaBH_4 is a powerful _____ agent.

III. State whether true or false:

(5x1 = 5 marks)

21. Fullerene is an allotrope of fluorine.
22. H_2SO_4 is diluted by adding water to acid.
23. Hydroxylamine is less basic than ammonia.
24. BeO is an amphoteric oxide.
25. O_2 is a diamagnetic molecule.

IV. Answer the following in a line or two:

(5x1 = 5 marks)

26. What is Catenation?

27. Write the chemical composition of plaster of paris.

28. Write the formula of Caro's and Marshall's acids.

29. What is Freon?

30. Name 2 refractory materials.

STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI-86
(For candidates admitted during the academic year 2011 – 12 and thereafter)

SUBJECT CODE: 11CH/MC/IC34

B.Sc. DEGREE EXAMINATION, NOVEMBER 2014
BRANCH IV- CHEMISTRY
THIRD SEMESTER

COURSE : MAJOR CORE

PAPER : INORGANIC CHEMISTRY-II

TIME : 2½ HOURS

MAX.MARKS: 70

SECTION – B

Answer any five questions:

(5x6=30 marks)

1. What is the action of heavy water on
a) CaC_2 b) NaOH c) HCl
2. How are silicates classified?
3. Describe the extraction of Beryllium.
4. Write the anomalous behaviour of nitrogen (or) oxygen.
5. Draw the structures and name the following compounds:
a) H_3PO_4 b) $\text{H}_4\text{P}_2\text{O}_7$ c) HPO_3 d) Cl_2O
6. What are pseudo halogens? Why are they called so? Give 2 examples.
7. Write short notes on clathrate compounds (or) chrome tanning.

SECTION – C

Answer any two questions:

(2x20=40 marks)

8. a) How is Lithium extracted from spodumene? (8)
b) Explain the classification of hydrides. (8)
c) Compare the oxides formed by alkali metals and their action on water. (4)
9. a) Write the preparation of diborane and discuss its structure in detail. (8)
b) How will you prepare i) BN ii) Borazole (4)
c) Write the preparation, properties and uses of silicones. (8)
10. a) What are the various types of interhalogen compounds? Give an example for each type and their structures. (8)
b) Explain the basic nature of iodine. (6)
c) Discuss the preparation, properties and structure of XeF_6 (or) the chemical composition and setting of cement. (6)
