F.Y. Diploma : Sem. I

Basic Chemistry

Time: 2 Hrs.] Prelim Question Paper **[Marks : 50**

Instructions : (1) All Questions are compulsory.
(2) Illustrate your answers with neat sketches wherever necessary.
(3) Figures to the right indicate full marks.
(4) Assume suitable data, if necessary.

1. Attempt any **NINE** of the following : **[18]**

(a) Distinguish between orbit and orbital (Any two points).
(b) State Hund's Rule of Maximum Multiplicity.
(c) Define valency. Name the types of valencies.
(d) State Faraday's second law of electrolysis.
(e) Calculate the pH of solution whose hydrogen ion concentration is 5.5×10^{-5} gm ion per litre.
(f) Name the four factors which affect degree of ionization.
(g) Define :
(i) Ore (ii) Gangue
(h) Define Alloy. Give the classification of Alloy with one example of each.
(i) Give composition and uses of Wood's metal.
(j) Define polymerization. Give the types of polymerization.
(k) Write the two purposes of making alloys with one example of each.
(l) Give two properties and related applications of plastics.

2. Attempt any **FOUR** of the following. **[16]**

(a) Write orbital electronic configuration of $_{13}Al^{27}$, $_{20}Ca^{40}$, $_{24}Cr^{52}$, $_{10}Ne^{20}$.
(b) Describe formation of $CaCl_2$ molecule with diagram and name the type of bonding.
(c) Give the assumption of Bohr's theory of atomic structure.
(d) Why Copper is electrorefined? Describe the process of electrorefining of copper with suitable diagram.
(e) State Faraday's first law of electrolysis. When 0.3956 g of copper was deposited by a current of 0.4 ampere in 50 mins. What is ECE of copper?
(f) Give any four assumption of Arrhenius theory of electrolytic dissociation.

3. Attempt any **FOUR** of the following. **[16]**

(a) Define :
(i) Tensile strength (ii) Soldering
(iii) Castability (iv) Machinability
(b) Describe the fusion method for preparation of Alloy with suitable diagram.
(c) Describe vulcanization of rubber. Why is rubber vulcanized?
(d) Distinguish between thermosoftening and thermosetting plastics.
(e) How glass wool is prepared? Give its properties and uses.
(f) Write any four uses of rubber based on its different properties.

❑ ❑ ❑ ❑ ❑

Paper Discussion Schedule for FY Diploma Sem-I

Date	Day	Timing	Centres
20 Nov. 2016	Sunday	9 a.m. to 11 a.m.	Dadar, Ghatkopar
20 Nov. 2016	Sunday	12 a.m. to 2 p.m.	Andheri, Chembur Nerul, Panvel
20 Nov. 2016	Sunday	3 p.m. to 5 p.m.	Borivali ,Thane, Kalyan