

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech. Summer 2017 - 18 Examination**

**Semester: 1, 2**  
**Subject Code: 03103101**  
**Subject Name: Chemistry**

**Date: 02/06/2018**  
**Time: 2:00pm to 4:30pm**  
**Total Marks: 60**

**Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

**Q.1 Objective Type Questions - (All are compulsory) (Each of one mark) (15)**

1. Proteins consist of  
a) Amino acids b) Fat and oils c) Sugar & starch d) Nucleotides.
2. The ignition temperature of CNG is  
a) 440°C b) 630°C c) 310°C d) 550°C
3. Bulk density of insulator is measured in  
a)  $\text{Cm}^3$  b)  $\text{Gm} \cdot \text{Eq}^{-1}$  c)  $\text{Gm}/\text{Cm}^3$  d)  $\text{KJ}/\text{Cal}$
4. Primary cells are \_\_\_\_\_ in price than secondary cells.  
a) Higher b) Lower c) Equal d) None of above
5. After rusting of iron the metal oxide formed is  
a) Hydrus ferric oxide b) Ferrous sulphate c) Ferrous oxalate d) Ferric chlorate
6. Ionic compounds are soluble in \_\_\_\_\_ solution.
7. Water softners are working on the principle of \_\_\_\_\_.
8. As the oxygen content \_\_\_\_\_, its moisture holding capacity \_\_\_\_\_ in coal.
9. Electrolytic cells convert \_\_\_\_\_ energy into \_\_\_\_\_ energy.
10. When we give IUPAC name to molecules then \_\_\_\_\_ is put between Number and Letter.
11. Furan exist in which classification of organic compounds.
12. Which physical parameter of water affects the dissolved oxygen of water.
13. Write examples of noble metals.
14. Give common uses of Abrasives.
15. Write only name of two methods of corrosion protection of hot dipping.

**Q.2 Answer the following questions. (Attempt any three) (15)**

- A) The EMF value of the half cell electrode of  $\text{Zn}^{+2}/\text{Zn}$  is 0.793 in 0.1M. Determine the standard electrode potential of cell.(Zn undergoes oxidation reaction.).
- B) Write a note on 1) metal cladding 2) electroplating.
- C) Write any 4 physical properties of water with brief explanation.
- D) Write any five principle of green chemistry.

**Q.3 A) Write Defination, Properties, and Uses of Insulators. (07)**

- B) Give a brief introduction of 1) LPG 2) CNG 3) Biogas. (08)

**OR**

- B) Explain "Proximate analysis" of coal analysis. (08)

**Q.4 A) Write a note on 1) laws of electrolysis. 2) EMF series. (07)**

**OR**

- A) Give difference between 1) primary and secondary cells 2) Galvanic and electrolytic cells. (07)

- B) Write a note on "Caustic embrittlement". (08)