

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) Cm^3 b) $\text{Gm} \cdot \text{Eq}^{-1}$ c) Gm/Cm^3 d) KJ/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 Zn^{+2}/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)