Roll no_____ **ID: 220014**

1st Semester

Branch: Common

Subject Name: Applied Chemistry

Time Allowed : 3 Hrs. **MM: 60**

Section –A

Note: Multiple Choice questions. All questions are compulsory. 6x1=6

Q.1 A p orbital can accommodate
(a) 2 electron with opposite spin (b) 2 electron with same spin
(c) 4 electron (d) 8 electron

Q.2 The metals which are found in nature in free state are called
(a) metalloids (b) noble gases
(c) minerals (d) native metals

Q.3 Which of the following is expressed in mol/kg
(a) normality (b) molality
(c) molarity (d) none of the above

Q.4 What is the main source of lubricating oils?
(a) coal (b) coal gas
(c) water (d) petroleum

Q.5 The monomer unit of polythene is
(a) CF2=CF2 (b) CH2=CH2
(c) CH2=CHCl (d) CH2=CHCN

Q.6 Corrosion is an example of
(a) oxidation (b) reduction
(c) electrolysis (d) combustion

Section-B

Note: Objective/Completion type questions. All questions are compulsory.6x1=6

Q.7 Define modern periodic law.
Q.8 The earthy impurities present in the ore are known as----------.
Q.9 Define normality.
Q.10 The full form of LPG is ----------
Q.11 SI unit of viscosity is ----------.
Q.12 Define carbon based nano materials.

Section –C

Note: Short answer type Questions. Attempt any eight questions out of ten questions. 8x4= 32

Q.13 Write a short note on metallic bond.
Q.14 Define alloys. What are the purpose of making alloys?
Q.15 Define pH. What are industrial applications of pH?
Q.16 Define scale & sludge. Write 2 disadvantages of scale & sludge.
Q.17 What are the characteristics of an ideal fuel?(4 only)
Q.18 Briefly explain the properties and uses of CNG.
Q.19 Write a short note on cementation.
Q.20 Write 4 applications of nano materials.
Q.21 State 4 points of difference between orbit and orbital.
Q.22 Define the following terms---- Ductility, Elasticity

Section-D

Note: Long answer questions. Attempt any two questions out of three questions. 2x8=16

Q.23 Define permanent hardness of water. Discuss the ion exchange method used for the removal of permanent hardness of water.
Q.24 Define the following terms--- oiliness, viscosity, viscosity index, flash point
Q.25 Define polymer. State difference between addition and condensation polymers. (6 points)