

Total Pages – 2

II – Sem / COMMON / 2019(S)(New)

ENGINEERING CHEMISTRY

(Theory : 2(b))

Full Marks : 80

Time : 3 hours

Answer any five questions including Q. Nos. 1 & 2

Figures in the right-hand margin indicate marks

1. Answer all questions :

2 × 10

- (a) What are ore and mineral ?
- (b) Define galvanisation and electrorefining ?
- (c) Calculate the normality of  $H_2SO_4$  solution containing 14.7 grams of solute in 3 litres of solution ?
- (d) What are insecticides ? Give two examples ?
- (e) Define isotopes and isotones.
- (f) What are primary fuels ? Give examples two gaseous primary fuels ?
- (g) What are saturated hydrocarbons ? Give examples.
- (h) What are acid radicals ? Give examples of two divalent monoatomic acid radicals ?
- (i) How  $Na_2CO_3$  removes permanent hardness ?
- (j) Calculate equivalent weight of  $MgCO_3$  and  $H_3PO_4$  ?

2. Answer any six questions :

5 × 6

- (a) Write the failure of Rutherford's Atomic Model ?
- (b) Explain the formation of  $H_2O$  molecule ?
- (c) What is concentration of ore ? Write the magnetic separation process ?
- (d) Give comparison between various liquid fuels ? <http://www.sctevtonline.com>
- (e) Write the composition and use of polyvinyl chloride ?
- (f) Write the IUPAC names and structures of following compounds :
  - (i)  $CH_3C(Br_2)CHCHCH(C_2H_5)CH_3$
  - (ii)  $CH_2CHCH_2CCH$
  - (iii) Isoprene
  - (iv) BHC
  - (v) 2-bromo-5-chloro-3, 4-diethyl hexane.
- (g) 40 gms of caustic soda is dissolved in water to prepare 5 litres of its solution, having density 1.02 gm/cc. Calculate the normality, molarity and molality of the solution ?

(Turn Over)

- (h) What are bio-fertilizers ? Write uses of various such fertilizers ?
- (i) If 6.9 gms of  $K_2CO_3$  is present in 0.5 litres of its solution, then calculate the normality and pH of the solution ?
3. Explain Bohr's Atomic Model ? How this model rectified the defect of Rutherford's Atomic Model ? 6 + 4
4. (a) Make a comparison between Arrhenius Theory and Lowry-Bronsted theory ? 5  
(b) Explain the atmospheric corrosion ? 5
5. (a) What is electrolysis ? Explain the process of electroplating ? 1 + 5  
(b) Write the limitations of Lewis theory for acid and base ? 4
6. (a) Write the composition and uses of brass, alnico and duralumin ? 6  
(b) Write the uses of naphthalene and benzoic acid ? 2 + 2
7. (a) 21.2 gms of sodium carbonate is dissolved in water to prepare 2 litres of its solution, having density 1.01 gm/cc. Calculate the normality, molality of the solution ? 4  
(b) Explain ion-exchange process of water softening ? 6
- 

http://www.sctevtonline.com

Whatsapp @ 9300930012

Your old paper & get 10/-

पुराने पेपर्स भेजे और 10 रुपये पायें,

Paytm or Google Pay से