S.B. Roll No...

APPLIED CHEMISTRY-I
1st Exam/2555/0451/5404/Common/Nov'17

Duration: 3Hrs.   **M.Marks:75**

SECTION-A

Q1. Fill in the blanks.   8x1=8

  i.   The combing capacity of an element is called its _____
  ii. Horizontal rows in periodic table are called _____
  iii. Negatively charged ions are called _____
  iv. Volume of 1 mole of a substance is called_____
  v.   M shell has _____ sub-shells.
  vi. Hard water is not used in boilers for raising steam because is forms _____and _____.
  vii. Any substance which has a tendency o donate a proton is called_____.

Q2. Choose the correct answer.   7x1=7

  i) Isotopes of the same elements have
         (a) Same no. of neutrons   (b) same atomic mass
         (c) Different chemical properties   (d) same no. of protons
  ii) Carbon in ethylene involves the hybridization
         (a) Sp3   (b) sp2   (c) sp   (d) dsp2
  iii) Oxidation no. of Mn in kMno4 is
         (a) +1   (b) +7   (c) +5   (d) +3
  iv) The general formula of aldehyde is
         (a) RCOOR`          (b) ROR`   (c) RCHO   (d) RCOOH)
  v) On diluting of buffer solution, its pH
         (a) Increasing   (b) decreasing   (c) remain same
         (d) may increase or decreasing depending on the type of buffer
  vi) An oxidizing agents is a substance which can
         (a) Lose electrons   (b) gain electrons   (c) undergo increasing in oxidation number
         (d) Take part in the reaction as non-metal elements.
  vii) The tetravalency of carbon is shown by the electronic configuration-
         (a) 1s2, 2s2, 2p2,   (b) is2, 2s2, 2px1, 2py1   (c) 1s2, 2s2, 2px2, 2py0
         (d)1s2,2s2,2px2,2y0   (e) 1s2,2s1,2px1,2py1,2pz1

SECTION-B

Q3. Attempt any ten questions.   10x3=30

  a. Write the dimensional formula of velocity, pressure and work.
  b. Define the terms wavelength, wave number and frequency.
  c. What are magic numbers?
  d. Give the comparison of covalent and metallic bond.
  e. Why hardness is expressed in term of calcium carbonate equivalent?
  f. Write in brief about potable water.
  g. Explain isothermal and adiabatic process.
  h. State the first law of thermodynamics.
  i. How will you define indicator, titration, and endpoint?
  j. Explain electrolytes and non- electrolytes.
  k. Give the difference between direct and in-direct redox reactions.
  l. Explain (i) Position isomerism (ii) functional isomerism, giving one example of each.