



SF-6423

B. E. - II (Sem - IV) (Chemical) Examination

May / June - 2011

Inorganic - Physical - Organic Chemistry :

Paper - IV (Engg. Chemistry)

Time : Hours]

[Total Marks :

Instructions :

(1)

नीचे दर्शावेक निशानीवाणी विगतो उत्तरवही पर अवश्य कपवी.  
 Fillup strictly the details of signs on your answer book.

Name of the Examination :  
 B. E. - II (Sem - IV) (Chemical)

Name of the Subject :  
 Inorganic - Physical - Organic Chemistry - 4

Subject Code No. : 6 4 2 3 Section No. (1, 2,.....): NIL

Seat No. :

Student's Signature

- (2) Figures to the right indicate full marks.  
 (3) Give reactions and neat diagram whenever necessary.  
 (4) Write clearly question and subquestion no. of answer which is attempted.

- 1 (a) Fill in the blank : 10
- (1) The process of electrolysis carried out in \_\_\_\_\_ cell.
  - (2) The value of specific conductance increases with \_\_\_\_\_ and \_\_\_\_\_.
  - (3) In polarography \_\_\_\_\_ electrode acts as a cathode.
  - (4) Acetic acid is an example of \_\_\_\_\_ type of electrolyte.
  - (5) The effective concentration of a molecule or ion in a solution is called \_\_\_\_\_.
  - (6) In pH metry generally glass electrode is combined with \_\_\_\_\_ electrode which acts as a reference electrode.
  - (7) \_\_\_\_\_ type of cell converts chemical energy into electrical energy.
  - (8) The transport number of an ion can be determined by \_\_\_\_\_ and \_\_\_\_\_ method.

- (b) Fill in the blanks : 10
- (1) \_\_\_\_\_ is added as frother in forth flotation method.
  - (2) Bessemer convertor is used during the metallurgy of \_\_\_\_\_ and \_\_\_\_\_.
  - (3) Alkali metals are obtained from their ores by \_\_\_\_\_ method.
  - (4) Metal is extracted profitably from its \_\_\_\_\_.
  - (5) Wolframite is an ore of \_\_\_\_\_ metal.
  - (6) The chemical formula of pyrolusite ore is \_\_\_\_\_.
  - (7) \_\_\_\_\_ metal is used to prepare the electric filaments.
  - (8) Carnotite is an ore of \_\_\_\_\_ metal.
  - (9) The chemical formula of Dolomite is \_\_\_\_\_.
- 2 Attempt any **three** : 15
- (a) State and explain Ostwald's dilution law. Discuss the factors that explain the failure of it in case of strong electrolyte.
  - (b) Discuss the applications of Kohirausch's law.
  - (c) Describe in detail about over voltage decomposition voltage.
  - (d) Write a note on Debye Onsager theory.
- 3 Attempt any **three** : 15
- (a) Give brief account of chemistry of Lithium.
  - (b) Explain chemistry of Platinum and Molybdrenum in detail.
  - (c) Explain lanthanide contraction, separation of lanthanide elements and their uses.
  - (d) Give a brief note on chemistry of Uranium.
- 4 Attempt any **five** : 15
- (1) Differentiate addition and condensation polymers.
  - (2) Explain alkaloids. Write in brief about piperene.
  - (3) Write a note on - Proteins, properties and uses.
  - (4) What are bacteriostatics and bactericidals.
  - (5) Application of starch and cellulose in industry.
  - (6) Give conversion. Ketohexose from aldohexose.
  - (7) Write properties and uses of natural rubber.

- 5 Attempt any **three** : 15
- (a) Write a note on step polymerisation.
  - (b) Define drugs. Write synthesis of two antibiotics.
  - (c) Write different methods for synthesis of amino acids.
  - (d) Write note on synthetic rubber.
- 6 (a) Fill in the blanks : 10
- (1) Sucrose is made up of \_\_\_\_\_ and \_\_\_\_\_.
  - (2) Nitration of cotton gives \_\_\_\_\_.
  - (3) Albumin is called as \_\_\_\_\_.
  - (4) \_\_\_\_\_ is chemically called as tetra iodo pyrrole.
  - (5) \_\_\_\_\_ is the molecular formula of fructose.
  - (6) Prima quine is an example of \_\_\_\_\_ drug.
  - (7) \_\_\_\_\_ is an alkaloid obtained from tobacco.
  - (8) Nylons have \_\_\_\_\_ functional group.
  - (9) \_\_\_\_\_ is obtained from Hevea brasiliensis.
  - (10) Silver mirror test can be performed by \_\_\_\_\_ reagent to test sugars.
- (b) Write the answers in short : 10
- (1) Which sugar can be converted to lactic acid.
  - (2) Name the scientist who discovered malarial parasites.
  - (3) Name two thermoplasts.
  - (4) Write structural formula of salol.
  - (5) Name the alcohol obtained from molasses.
  - (6) Write repeating unit in teflon.
  - (7) Give full form of PMMA.
  - (8) Name the antimalarials obtained from cinchona bark.
  - (9) What is the use of Ziegler-Natta catalyst.
  - (10) What is the use of Dakin's solution.
-