



KD-6423

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

December - 2012

Chemistry - IV

(Inorganic - Organic - Physical Chemistry)

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दृशविवेक निशानीवाणी विगतो उत्तरवडी पर अवश्य लखवी.
Fillup strictly the details of signs on your answer book.

Name of the Examination :
B. E. 2 (Sem. 4) (Chemical)

Name of the Subject :
Chemistry - 4

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

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 sub question number of answer which is attempted.

SECTION - I

- 1 (a) Fill in the blanks : 10
- (1) The power of electrolyte to conduct, electrical current is _____ .
 - (2) The solution of _____ electrolytes has a high value of conductance at low temperature.
 - (3) In ilkovic equation of D. C. polarography 'ID' is _____ unit is _____ and 'n' is _____ .
 - (4) To determine _____ of unknown solution concentration normally glass electrode is coupled with _____ electrode.
 - (5) _____ and _____ is an example of weak and strong electrolytes.
 - (6) The unit of Equivalent conductance is _____ .

(b) Match the following : 10

| <i>A</i> | <i>B</i> |
|------------------|---|
| (1) Pyrolusite | (a) $\text{CaMg}_3\text{Si}_4\text{O}_{12}$ |
| (2) Metals | (b) Ag_2S |
| (3) Asbestos | (c) $\text{MgCO}_3, \text{CaCO}_3$ |
| (4) Sodium Metal | (d) 238 |
| (5) Uranium | (e) Soft in Nature |
| (6) Argentite | (f) electro positive |
| (7) Dolomite | (g) Zn S |
| (8) Tungsten | (h) 8650 K |
| (9) Celestite | (i) SrSO_4 |
| (10) Zincblende | (j) MnO_2 |

2 Attempt any **three** : 15

- (1) Explain Kohlrasch's law in detail with few applications.
- (2) Write a note on Debye Onsagar theory in detail.
- (3) Explain all two types of electrodes in detail
- (4) Describe in detail of decomposition potential and voltametry.

3 Attempt any **three** : 15

- (1) Write a brief about refining, properties and uses of Berelium.
- (2) Explain chemistry of Lanthanide elements in detail.
- (3) Give brief note on separation and uses of Uranium.
- (4) Write a note on Molybdenum and its compositions.

SECTION - II

4 Attempt any **five** : 15

- (1) Describe about Nicotine as an Alkaloid.
- (2) Explain. What are antiseptics with illustration.
- (3) Give difference between thermosets and thermoplasts.
- (4) What are the industrial applications of cellulose.
- (5) Give the advantages of valcanised rubber.
- (6) Write conversion Keto hexose from aldohexose.
- (7) Mention about proteins, their properties and uses.

- 5** Attempt any **three** : **15**
- (1) Write a note on synthetic rubbers.
 - (2) Describe- Emulsion polymerisation.
 - (3) What are drugs ? Give synthesis of two antibiotics.
 - (4) How carbohydrates are classified explain giving examples.
- 6** (a) Fill in the blanks : **10**
- (1) Bakelite is an example of _____ plastic.
 - (2) Cinchona gives the alkaloid _____ .
 - (3) Iodoform has the formula _____ .
 - (4) In _____ polymers functional group - CONH is found.
 - (5) Molecular formula of sucrose is _____ .
 - (6) Milk is sweet due to _____ sugar.
 - (7) _____ discovered parasites of Malaria.
 - (8) Valine is _____ amino acid.
 - (9) The protein in egg is known as _____ .
 - (10) Polypropylene is an example of _____ polymerisation.
- (b) Write the answers in short : **10**
- (1) Give structural formula of Salol.
 - (2) Give full form of, PTFE.
 - (3) What is Dakin's solution ?
 - (4) Write structure of repeating unit of polystyrene.
 - (5) Name the reagent which is used for silver mirror test.
 - (6) Which alcohol can be obtained from Molasses ?
 - (7) What is the use of primaquine ?
 - (8) Who discovered Penicillin ?
 - (9) Write full form of HMDA.
 - (10) Who discovered process of vulcanization ?
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