* R M - 6 4 2 3 / 2 0 0 *

RM-6423

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

May / June – 2010

Inorganic - Physical - Organic Chemistry : Paper - IV

Time : **3** Hours] [Total Marks : **100**

Instructions :

(1)

નીચે દર્શાવેલ ☛ નિશાનીવાળી વિગતો ઉત્તરવહી પર અવશ્ય લખવી.
Fillup strictly the details of ☛ signs on your answer book.

Name of the Examination :

☛ **B. E. - 2 (Sem. 4) (Chemical)**

Name of the Subject :

☛ **Inorganic - Physical - Organic Chemistry - 4**

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

Seat No. :

Student's Signature

(2) Figures to right indicate full marks.

(3) Use **separate** answer sheet for each **two** sections.

(4) Give reactions and neat diagram whenever necessary.

(5) Write clearly equation and subquestion number of answer which is attempted.

SECTION - I

1 (a) Attempt fill in the blanks : **10**

(i) To determine_____ of unknown solution, normally glass electrode is coupled with _____.

(ii) The solution of _____ elements have a high value of conductance even at low concentrations.

(iii) The Ilkovic equation t = _____

(iv) The unit of equivalent conductance is _____ and symbol is _____.

(v) The unit of cell constant is _____.

(vi) The conductance of solution of an electrolyte generally _____ with rise in temperature.

(vii) _____ is the example of weak and _____ is strong electrolyte.

(b) Match A and B :

(i)	Argentite	(a)	MnO_2
(ii)	Magnesite	(b)	Cu_2O
(iii)	Galena	(c)	$SrSO_4$
(iv)	Celesite	(d)	PbS
(v)	Cuprite	(e)	$MgCO_3$
(vi)	Pyrolusite	(f)	Ag_2S
(vii)	Metals	(g)	F
(viii)	Metal	(h)	Inert
(ix)	Platinum	(i)	Soft
(x)	Lanthanides	(i)	electro positive

2 Attempt any **three** : **15**

(a) Describe in detail about over voltage and decomposition potential.

(b) Derive equation of Kohlrausch's law and mention few applications.

(c) Discuss a note on D.C. Polarography.

(d) Write a note on Debye Onsager theory.

3 Attempt any **three** : **15**

(i) Give brief note on Thorium (Th) and Tungsten.

(ii) Write a note on transition elements and Beryllium.

(iii) Explain in brief about molybdenum.

(iv) Discuss lanthanide elements in detail.

SECTION - II

4 Attempt any **five** : **15**

(i) Write applications of cellulose.

(ii) Differentiate elastomers and plastomers.

(iii) What are alkaloids? Write brief note on conine.

(iv) Write a note on classification of proteins.

(v) Explain antimalarials

(vi) Write importance of formation of osazone in carbohydrate chemistry.

(vii) What is crosslinked rubber and give its significance.

5 Attempt any **three** : **15**

(i) Give different methods to synthesize amino acids.

(ii) Describe applications of starch and cellulose.

(iii) Describe about natural rubber and manmade rubber.

(iv) Write about isolation of proteins. Give qualitative tests of proteins.

6 (a) Fill in the blanks : **10**

(i) Hevea brasilians give_____

(ii) Carbohydrate $C_5H_{10}O_5$ is called as _____.

(iii) _____ is a linear polymer present in cell wall of plants.

(iv) Quinine and chinconine are obtained from _____.

(v) Spetic is the word derived from greek word_____ means to rot.

(vi) The parasite responsible for malaria is _____ vivax.

(vii) Insulin is an example of hormonal _____.

(viii) _____ has furanose ring structure.

(ix) The alkaloid obtained from black pepper is _____.

(x) The linkage present in protein is _____.

(b) Write the answers in short : **10**

(i) Give the structure of salol.

(ii) Name the carbohydrate found in

(iii) Write full form of HMDA.

(iv) Give the structure of repeating unit of teflon.

(v) Name the alkaloids obtained from tobacco leaf.

(vi) Give the names of two sulpha drugs.

(vii) Which alcohol is produced from molasses?

(viii) What is the common name for acetyl salicylic acid?

(ix) Who discovered penicillin?

(x) For what purpose Ziegler-Natta catalyst is used ?
