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SB-3488

M. Sc. (Sem. II) (Self Finance) Examination

March / April – 2011

Chemistry : Paper - III

(Physical Chemistry)

Time : **3** Hours] [Total Marks : **70**

Instructions :

(1)

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

Name of the Examination :
☛ **M. Sc. (Sem. II) (Self Finance)**

Name of the Subject :
☛ **Chemistry : Paper - III**

☛ Subject Code No. : **3 4 8 8** ☛ Section No. (1, 2,.....) : **Nil**

Seat No. :

Student's Signature

(2) Attempt all **four** questions.

(3) Figures to the **right** indicate **full** marks.

1 Answer any **three** of the following : **18**

(a) Write a short note on breeder reactor.

(b) Describe principle and working of Gas ionization detector.

(c) Explain the various components of nuclear reactor.

(d) Explain neutron activation analysis.

2 Answer any **three** of the following : **18**

(a) Write note on catalysis giving the type and characteristics.

(b) Define the terms : micelles, krafft point, cloud point and HLB.

(c) Write a note on nano technology and its applications.

(d) Write a note on cmulsions and microemulsions.

3 Answer any **three** of the following : **18**

(a) Explain the method of determination of activity coefficient by solubility measurements.

(b) Define corrosion and corrosion inhibitors ? How to prevent corrosion ?

(c) Show relation between thermodynamic dissociation constant and dissociation function for an electrolyte.

(d) Explain the determination of activity coefficient from cell EMF.

4 Answer any **three** of the following : **16**

(a) Give classification of surfactants giving examples. Explain micelle formation.

(b) Explain reverse micelles and solubilization.

(c) Write a note on G.M. counter.

(d) Discuss Debye-Huckel limiting law for activity coefficient of electrolyte.
