

SB-3488

M. Sc. (Sem. II) (Self Finance) Examination March/April - 2011

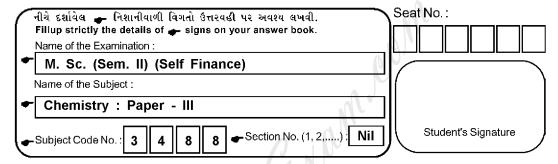
Chemistry: Paper - III

(Physical Chemistry)

Time: 3 Hours] [Total Marks: 70

Instructions:

(1)



- (2) Attempt all **four** questions.
- (3) Figures to the right indicate full marks.
- 1 Answer any three of the following:

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- (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.

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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.

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