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RN-8231

B. E. II (Sem. IV) (T.P.) Examination

May / June – 2010

Manufacturing & Applications of Polymeric Materials (New Course)

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) (T.P.)**

Name of the Subject :

☛ **Manuf. & Appli. of Polymeric Materials (New)**

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

Seat No. :

Student's Signature

(2) Answers to the **two** sections must be written in **separate** answer books.

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

(4) Tie **two** sections separately.

SECTION - I

1 (a) Answer the following objective questions : **10**

(i) What are aminoplast ?

(ii) UF resin releases more free formaldehyde than DMDHEU. True or False.

(iii) Methyloation of ethylene urea gives _____.

(iv) Expand DMU to its full form.

(v) Give one specific application of DMDHEU.

(vi) Expand DMPS to its full form.

(vii) Silicones useful for textile applications are generally in the form of _____.

(viii) Condensation reaction between glyoxal and urea gives _____.

(ix) Which type of synthetic sizes can be easily removed during desizing ?

(x) Give the full form of SAP.

(b) Describe the production of U.F. precondensate. **10**

2 (a) Describe elaborately the gelling and non-gelling type water repellants. **10**

(b) Describe the general chemistry of silicones. **5**

OR

2 Describe the process for preparation of acrylate emulsions by emulsion polymerization with it's mechanism. 15

3 Write short notes on any **three** of the following : 15
(a) Silicone fluids
(b) Drawbacks of U.F. resin
(c) Synthetic polymer thickener
(d) Photo emulsions.

SECTION – II

4 (a) Answer the following objective questions : 10
(i) Name the two emulsifiers used in emulsion polymerization of acrylates.
(ii) Polyacrylates are used in baby diapers, true or false ?
(iii) Give the two textile applications of PVC.
(iv) Which technique is the most used one for the manufacturing of PVC ?
(v) Name one application of polyacrylates in textile printing.
(vi) Name two polymers widely used in warp sizing.
(vii) What is the use of polyethylene emulsions in textile finishing ?
(viii) Soil release finishes are based on _____ polymers.
(ix) Polyvinyl alcohol is made by polymerization of vinyl alcohol, true or false ? Correct if fasle.
(x) What is the use of PVA in textile printing ?

(b) Discuss about the SAP, its preparation and applications. 10

5 (a) Describe the method for preparation of polyvinyl alcohol with it's chemistry and properties. 10

(b) Discuss about the use of acrylates in sizing. 5

OR

5 Describe the process for manufacturing of PVC giving a flow sheet diagram and properties. 15

6 Write short notes on any **three** of the following : 15
(a) PE softeners
(b) Pigment binders
(c) Polyethoxylates
(d) Polyethylene glycols.