



UH-6289

**B. E. II (Sem. III) (Textile Processing & Textile
Technology) Examination**
May/June – 2012
Polymer Chemistry

Time : 3 Hours]

[Total Marks : 100

Instructions :

(1)

नीचे दर्शायेख निशानीवाणी विगतो उत्तरवडी पर अवश्य लपवी. Fillup strictly the details of signs on your answer book.	Seat No. :
Name of the Examination :	<input type="text"/>
<input type="text" value="B. E. II (Sem. III) (Textile Processing & Textile Technology)"/>	<input type="text"/>
Name of the Subject :	<input type="text"/>
<input type="text" value="Polymer Chemistry"/>	<input type="text"/>
Subject Code No. : <input type="text" value="6"/> <input type="text" value="2"/> <input type="text" value="8"/> <input type="text" value="9"/>	<input type="text"/>
Section No. (1, 2,.....) : <input type="text" value="1,2"/>	<input type="text"/>
	Student's Signature

- (2) Answers to the two sections must be written in same answer book.
- (3) Figures to the extreme right indicate full marks.

Section - I

- 1 (a) Answer the following objective questions. 10
- (1) Cellulose is thermoplastic polymer. True or False.
 - (2) _____ is the repeat unit of starch.
 - (3) Name various grades of P.E.
 - (4) Thermocol is nothing but _____.
 - (5) Give the chemical structure of polyvinyl acetate.
 - (6) What is difference between silicon and silicone ?
 - (7) The epoxy resins are prepared from _____.
 - (8) Butyl rubber is produced by _____ polymerization of isobutylene.
 - (9) What is meant by vulcanization ?
 - (10) Name the raw material of polyvinyl alcohol.

- (b) Give a critical review on chemistry, properties and applications of polyesters. **10**
- 2** (a) Describe briefly the technical aspects of plastics, elastomers and fibres. **10**
- (b) Describe the preparation, properties and applications of polymethyl methacrylate. **5**

OR

Enlist different types of polyolefins. Describe manufacturing, properties and applications of L.D.P.E. **15**

- 3** Write short notes on any three of the following. **15**
- (1) Sulphur vulcanization.
- (2) Blow moulding.
- (3) Recycling and incineration.
- (4) Melamine formaldehyde.

Section - II

- 4** (a) Answer the following objective questions. **10**
- (1) With _____ polymer can be carried out a substitution reaction.
- (2) Polyvinyl chloride finds extensive use in certain formulations called _____ and _____.
- (3) The _____ groups present in a polymer may be converted to _____ groups by reduction.
- (4) _____ is an example of thermoplastic and _____ is thermosetting.
- (5) The free radical attack on the monomer initiating polymerization is _____ process.
- (6) The monomer should have _____ reactive functional groups for polymerization to proceed.
- (7) Expand DMEU to its full form.
- (b) Enlist different derivatives of cellulose. Discuss various techno-chemical aspects of any two derivatives. **10**
- 5** (a) Explain DTA and DSC techniques in detail. **10**
- (b) What is glass transition temperature ? **5**

OR

- (a) Explain addition and substitution reactions in detail. 5
- (b) What is visometry ? Derive Mark-Houwink's equation in detail. 10
- 6 Write short notes on any three of the following. 15
- (1) Cure reaction.
 - (2) Solution and emulsion polymerization.
 - (3) Photostabilizers.
 - (4) Ionic polymerization.
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