

**Total number of printed pages – 4**      **B. Tech**  
**PETX 8407**

**Eighth Semester Examination – 2008**

**ADVANCED CHEMICAL PROCESSING**

**Full Marks – 70**

**Time : 3 Hours**

*Answer Question No. 1 which is compulsory  
and any **five** from the rest.*

*The figures in the right-hand margin  
indicate marks.*

1. Answer in brief all the questions :      2 × 10
- (a) Name at least two enzymes used in enzymatic desizing.
  - (b) Why grey cotton material is hydrophobic ?
  - (c) Why it is necessary to scour man made fibres ?

- (d) What is the significance of peroxide killer?
- (e) Name the toxic and harmful substances used in the following textile processes :  
(i) Scouring, (ii) Bleaching.
- (f) What do you understand by the term BOD ?
- (g) What is the function of aeration tank in effluent treatment ?
- (h) Explain the function of softener in resin finishing.
- (i) Why heat setting is necessary for synthetic textiles ?
- (j) It is necessary to carry out singeing of polyester blended fabrics after dyeing of polyester component. True/False – Justify.

2. (a) What are the objectives of singeing ? Explain with a diagram the process of singeing a fabric by means of a gas singeing machine.      2+6

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**Contd.**

- (b) What are the advantages of gas singeing machine ? 2
3. (a) What are the objectives of wool scouring ? Discuss the merits and demerits of different methods of wool scouring. 2+6
- (b) What is the significance of urea-bisulphite test with respect to wool scouring ? 2
4. (a) Explain the effect of pH on sodium hypochlorite bleaching. 6
- (b) What is scouring treatment ? Name the chemical commonly used for scouring. 4
5. (a) Discuss the mechanism of reaction of N-methylol resins with cellulose and explain how it imparts crease resistant finish ? 6
- (b) On what factors soiling of textile depend ? 4

6. Discuss in brief :
- (i) Crabbing of wool 5
- (ii) Principle of antishrink treatment of cotton fabric. 5
7. (a) Explain the advantages and limitations of J-box bleaching system over kier bleaching system. 3
- (b) What are the advantages of foam finishing over conventional finishing process ? 2
- (c) Explain the working of a continuous bleaching range with line diagram. 5
8. (a) List the impurities that may be found in a typical dye house effluent. 4
- (b) Explain the operations involved for the treatments of the effluent from a dye house. 6