17347

21314

3 Hours/100 Marks

Seat No. | | | | | | | | |

Instructions : *(1)* ***All*** *questions are* ***compulsory****.*
(2) Answer ***each next*** *main question on a new page.*
(3) Illustrate your answers with ***neat*** *sketches* ***wherever*** *necessary.*
(4) Figures to the ***right*** *indicate* ***full*** *marks.*
(5) Abbreviation used convey usual meaning.

MARKS

1. Answer **any five** : **(5×4=20)**
   a) Describe the terms :
      i) Yarn
      ii) Fibre.
   b) Explain classification of textile fibres.
   c) Differentiate between LDPE and HDPE on the basis of their properties.
   d) Describe various objectives of sizing.
   e) What is 'geltanisation' of starches ? Give geltanisation temperature of maize starch ?
   f) State objects of desizing. Explain classification of desizing processes.
   g) Describe objects of shearing and singeing processes.

2. Answer **any four** : **(4×4=16)**
   a) Draw a labelled diagrams, showing morphological structure of cotton fibre.
   b) Explain any two chemical properties of jute.
   c) Give two physical properties and two chemical properties of acetate rayon.
   d) Describe raw material synthesis of nylon-6 fibre.
   e) Write chemical reaction and reaction condition involved in manufacture of polyester. Explain method of biproduct removal.
   f) Draw the process flow chart for viscose rayon manufacture. Enlist the chemicals used for the same.

MARKS

3. Answer **any four** : **(4×4=16)**
   a) With a neat sketch explain morphology of wool fibre.
   b) Compare properties of wool and silk-fibers.
   c) Explain melt spinning of polyester, with a neat sketch.
   d) Explain synthesis of polyethylene. Write chemical reactions involved.
   e) Explain the role of softener in sizing. Enlist the softeners used.
   f) Explain congealing of starches. Enlist slow congealing starches.

4. Answer **any four** : **(4×4=16)**
   a) Explain with reactions, chemistry involved in manufacture of nylon-66 fibre.
   b) Write two physical properties and two end uses of polyacrylonitrile fibre.
   c) Describe the role of :
      i) Antiseptics,
      ii) Antistatic agents in sizing.
   d) Explain the method of viscosity determination of starch.
   e) Describe the keeping properties of starch.
   f) Explain the mechanism of scouring process.

5. Answer **any four** : **(4×4=16)**
   a) Define saponification value of oils. Outline the method of its determination.
   b) Give the size recipe for sizing of medium count cotton warp.
   c) Explain chemistry of sizing ingredients.
   d) Explain continuous bleaching by hydrogen peroxide with an outline diagram.
   e) With a neat sketch, explain gas singeing process.
   f) Explain sodium hypochlorite bleaching of cotton.

6. Answer **any four** : **(4×4=16)**
   a) Describe a method of testing an adhesive.
   b) Why is enzyme desizing called as the safest method of desizing ? Explain.
   c) State advantages of hydrogen peroxide bleaching.
   d) Describe the method for bleaching of polyester/cotton blended fabric.
   e) State advantages and limitations of plate singeing method.
   f) Describe desizing of grey cotton fabrics.
