Q.1 Answer the following (Any Ten)  

a) Match the items given in Part I with the items given in Part II:

<table>
<thead>
<tr>
<th>Part I</th>
<th>Degumming</th>
<th>Basic dyes</th>
<th>Winch</th>
<th>Tie-Dye</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part II</td>
<td>Fabric dyeing</td>
<td>Resist style</td>
<td>Silk</td>
<td>Brightness</td>
</tr>
</tbody>
</table>

b) Write the answers in one sentence-
   1) What is stentering?
   2) What is the object of singeing?

c) Write TRUE or FALSE for following statements-
   1) In souring process, acid is neutralized using alkali.
   2) The purpose of steaming is to fix the colour on the fabric.
   3) Suitable dyeing for knitted goods is winch dyeing.
   4) Schreiner is a dyeing machine.

d) Fill in the blanks-
   1) There are -------- types of vat dyes by application.
   2) Urea is used as ------- agent in printing paste.

e) Define the following 
   i) Bleaching
   ii) Transfer printing

f) Choose the correct option from given-
   1) The machine used to give anti shrinkage treatment is
      a. sanforising  b. back filling  c. resin finishing  d. kier boiling
   2) Universal bleaching agent is
      a. bleaching powder  b. hydrogen peroxide  c. sodium chlorite  d. sodium hypochlorite

g) Why is heat setting an important finish for synthetics?

h) Give the difference between dyeing and printing.

i) What is carbonization of wool?

j) What precautions are necessary in batching the fabric after desizing?

k) Write proper word in second pair-
   a) Reactive dyeing: Alkali :: Pigment: ---------
   b) Bleaching: Whiteness :: ---------: Crease recovery

l) Draw a simple diagram to show change in shape of cotton fibre after mercerization.
Q.2 Answer the following (Any Two)
   a) Explain the effect of pH, MLR and Temperature on dyeing of fabric.  
   b) Explain resin finishing? Give the names of some resins used.  
   c) What is enzyme? Explain the types of enzymes with concentration, pH & temperature.

Q.3 Answer the following (Any Two)
   a) Explain the test for i) Desizing efficiency ii) Absorbency iii) Stiffness of fabrics  
   b) Explain Dyeing of Aniline Black OR Azoic colours.  
   c) Explain Bleaching of cotton with sodium hypochlorite

Q.4 Write detail notes on following (Any Two)
   a) Fabric softening  
   b) HTHP dyeing of polyester  
   c) Machineries used for safe processing of knitted fabrics

Q.5 Answer the following (Any Four)
   a) Difference between Water-Repellent and Water-Proof finish  
   b) Difference between Flat-bed screen printing and Rotary screen printing  
   c) Difference between Cold brand and Hot brand reactive dyeing  
   d) Difference between Desizing and Degumming  
   e) Difference between Thickener and Stiffener

Q.6 Answer the following (Any Two)
   a) Explain meaning of mechanical finish?  
      Give the names and short description of various mechanical finishes used for fabrics.  
   b) Complete the following table on acid dyes.

<table>
<thead>
<tr>
<th>Type of acid dye</th>
<th>pH of dyeing</th>
<th>Acid used for pH</th>
<th>Wash fastness</th>
<th>Levelling</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

   c) Discuss Batik style of printing in detail.

Q.7 Answer the following (Any Two)
   a) Discuss bleaching of polyester / viscose blended fabrics.  
   b) Discuss steaming of printed fabrics.  
   c) With a suitable diagram describe 7 bowl calendaring process.

Q.8 Answer the following-
   a) What is zero-zero finishing? Why is it necessary?  
   b) Discuss pigment printing process.  
   c) What are different machines used for mercerization? Describe any one.