Q. 1 Answer the following questions in brief (Any ten) 20

a. Write the impurities present in grey cotton fabric. What is their effect on fabric?

b. What do you mean by desizing process? Why is it necessary?

c. State if following statements are True or False. If false write correct statement.
   i) Disperse dye is soluble in water
   ii) Hydrogen peroxide is universal bleaching agent.

d. Match the following:

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>i) Disperse dye</td>
<td>a) Low wash fastness</td>
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<tr>
<td>ii) Basic dye</td>
<td>b) Covalent bonding</td>
</tr>
<tr>
<td>iii) Direct dye</td>
<td>c) Brilliant colours</td>
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<tr>
<td>iv) Reactive dye</td>
<td>d) Mechanical bonding</td>
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</tbody>
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e. Choose the correct answer from given options:
   1. During bleaching of cotton with H₂O₂ stabilizer used is ________
      i) sodium hydroxide ii) sodium silicate iii) detergent iv) sodium carbonate
   2. Suitable machine for dyeing knitted goods is ________
      i) jigger dyeing ii) winch dyeing iii) beam dyeing iv) padding mangle

f. Fill in the blanks:
   1. Azoic colour made from ________ and ________.
   2. In degumming of silk ________ is removed from fibre.

g. What are disadvantages of plate singeing?

h. Define: i) Exhaustion of dye; ii) % Expression of dye

i. Explain meaning of optical whitening agent.

j. Give the names of different reductive bleaching agents for wool.

k. Solve the following example-
   If 4 gm dye is used to dye 200 gm of fabric, find % shade of dyeing.

l. What is two-bowl and three-bowl padding mangle?

Q. 2 Answer following:

a. What are different methods of desizing? Explain any one. 6

b. What are ‘Blueing materials’? Explain their use. 6

c. Write a short note on ‘Mineral colours’. 4
Q. 3 Answer following:
   a. Describe scouring of cotton in kier with diagram.  
   b. Explain the meaning of following-
      1) M:L = 1:20  2) 4 % shade  3) 70 % expression  4) 5 % OWF 
   c. What are chrome dyes? Which fibres are dyed with chrome dyes? 

Q. 4 Answer following:
   a. Describe process of bleaching of polyester with sodium chlorite. 
   c. Explain in short pigment dyeing. 

Q. 5 Answer following:
   a. Give the importance of grey fabric inspection. Give the faults seen in grey fabric. 
   b. Give reason: OBA treated fabric looks more white. 
   c. With a neat diagram explain working of jigger machine. 

Q. 6 Answer following:
   a. What is meaning of Perspiration fastness and Light fastness. 
   b. Describe a process of Carrier dyeing of polyester with disperse dyes. 
   c. With following data calculate amount of liquor, dyes, salt, in direct dyeing. 
      Weight of fabric – 140 Kg, MLR – 1:8, 
      Dye shade – 1.4 %, 
      Salt – 50 gpl 
      (Actual calculation is necessary. Do not write just answer.) 

Q. 7 Answer following:
   b. What are dangers in gas singeing method? Discuss about care to avoid the danger. 
   c. Explain process of dyeing hot brand reactive dye on cotton. 

Q. 8 Answer following:
   a. Complete the following table- 

<table>
<thead>
<tr>
<th>Process</th>
<th>Temperature</th>
<th>pH</th>
<th>Chemical used for pH</th>
<th>Treatment after process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite bleaching</td>
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<tr>
<td>Vat dyeing of cotton</td>
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<tr>
<td>Alkali Degumming of silk</td>
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   b. Give reasons- 
      1) Reactive dyes have good fastness. 
      2) In pad-batch dyeing pad roll is covered with plastic sheet. 
      3) Reduction clearing is necessary after disperse dyeing. 
   c. Explain some new advance methods of dyeing- 
      i) To save water 
      ii) To save energy 

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