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

a. Write down various methods of Singeing of fabrics.

b. Complete the following table for bleaching-

<table>
<thead>
<tr>
<th>Bleaching agent</th>
<th>Bleaching Temperature</th>
<th>pH of bath</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hypochlorite</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sodium chlorite</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

c. Explain the meaning of Pick-Up.

d. Write down proper relation as per first one-
   i) Jigger: Batch process; J-Box:  
   ii) Winch: Cloth in rope form; Padding mangle:

e. What is the advantage of continuous Singeing-Desizing process?

f. Match the pairs from group B with group A-

<table>
<thead>
<tr>
<th>Group A</th>
<th>Group B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct dyes</td>
<td>Alkali</td>
</tr>
<tr>
<td>Disperse dyes</td>
<td>Reducing agent</td>
</tr>
<tr>
<td>Reactive dyes</td>
<td>Glauber’s salt</td>
</tr>
<tr>
<td>Vat dyes</td>
<td>Acetic acid</td>
</tr>
</tbody>
</table>

g. For dyeing 180 Kg of fabric 4.5 Kg of dye is used. What is % shade of dyeing?

h. Define: i) Exhausting agent ii) MLR

i. Select correct option from bracket-
   Statement: 1:2 Metal-Complex dye contain;  
   (Options: 1 molecule of dye – 2 atoms of metal; 1 atom of metal – 2 molecules of dye)

j. What is the function of Nozzle in Jet machine?

k. Mention following statements True or False-
   i) In shearing protruding fibres are burnt.
   ii) ME brand reactive dyes are dyed at 60°C.
iii) Desizing is done to impart absorbency to fabric.
iv) Light fastness has rating from 1 to 8.

Q. 2 Answer the following:
   a. Discuss the process of Continuous Bleaching Range (CBR).
   b. Explain in detail the dyeing of cotton with vat dyes.

Q. 3 Answer the following:
   a. Give detailed classification of dyes based on application.
   b. Explain the process sequence for Polyester/Viscose blended fabrics.
   c. Give the test for checking removal of starch in desizing.

Q. 4 Answer the following:
   a. Which chemicals are used to dye mineral khaki on cotton?
      How greener khaki and redder khaki shades are produced?
   b. Draw a neat diagram of Jigger machine with labels to each part of machine.
   c. Explain any one method of Degumming of silk.

Q. 5 Answer the following:
   b. Calculate amount of liquor, dyes, acid and chemicals in disperse dyeing in jet-
      Weight of fabric – 125 Kg, MLR – 1.7
      Recipe: Disperse Blue – 2.4 %
      Dispersing agent – 0.5 g/l
      Leveling agent – 2 g/l
      Acetic acid – 1 g/l
      (Actual calculation is necessary. Do not write just answer.)
   c. What is use of stabilizer and alkali in peroxide bleaching?

Q. 6 Give reasons:
   a. Enzymatic desizing is safe process than acid desizing.
   b. Sulphur dyes produce Bronzeness.
   c. Azoic colours are called Ice colours and Ingrain colours.
   d. OBA treated fabric looks more white than normal white.

Q. 7 Answer the following:
   b. What is OBA?
   c. Explain method of calculating % Expression in padding method of dyeing.
What is the effect of mangle pressure on % expression?

Q. 8 Answer the following:
   a. Discuss Plate singeing process.  
   b. Explain Reductive bleaching of wool. 
   c. Discuss Cold-Pad-Batch process of dyeing.  

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