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

a. Write down various methods of Desizing of fabrics.

b. Complete the table for dyeing:

<table>
<thead>
<tr>
<th>Dyes</th>
<th>Dyeing Temperature</th>
<th>pH of bath</th>
</tr>
</thead>
<tbody>
<tr>
<td>H-Reactive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Disperse</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

c. Explain the meaning of % OWF. Give example.

d. Write down proper relation as per other -

1) Jet machine:_________ : :CDR: Continuous process
2) Winch: Relax state of fabric: :Jigger:________________

e. What is the difference between Singeing and Shearing?

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

<table>
<thead>
<tr>
<th>Group A- Dyes</th>
<th>Acid dyes</th>
<th>Direct dyes</th>
<th>Azoic colours</th>
<th>Sulphur dyes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group B- Chemical</td>
<td>Alkali</td>
<td>Reducing agent</td>
<td>Glauber’s salt</td>
<td>Acid</td>
</tr>
</tbody>
</table>

g. Find % shade of dyeing; if for 250 Kg of fabric, 3.75 Kg of dye is used?

h. Define: i) Wetting agent ii) Perspiration fastness

i. Select correct option from bracket for given statement-

1) Chrome dyes involve-(I. Pre-mordanting, II. Post-mordentig, III. Any one of I and II)
2) Bleaching by Sodium chlorite is done at pH- (Neutral, Acidic, Alkaline)

j. Which impurities in wool are removed in scouring?

k. Mention if following statements are True or False-

For False statement write corrected sentence. For True statement give explanation.

1) In carbonizing of wool sulphuric acid is used.
2) Thermostol dyeing is done at 100°C.

l. Explain meaning of: 80 % Pick-up.
Q. 2 Answer the following (Any Two)

A) Give the difference between Exhaust dyeing and Pad-Batch dyeing.  
B) Write the test for checking Rubbing fastness of Dyed material.  
C) Explain methods to improve wash fastness of direct dyes.  

Q. 3 Answer the following: (Any Two)

A) Complete the following table-

<table>
<thead>
<tr>
<th>Soluble dyes</th>
<th>Applied on fibre</th>
<th>Insoluble dyes</th>
<th>Applied on fibre</th>
<th>Ingrain dyes</th>
<th>Applied on fibre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

B) In Continuous Bleaching Range (CBR) give the function of each step of machine-  
C) Explain Yarn Package dyeing process.  

Q. 4

A) 1) Give the names of chemicals used for dyeing mineral khaki.  
2) How khaki colour is formed?  
3) What is green khaki and redder khaki?  

B) Calculate amount of liquor, dyes, salt and alkali in reactive dyeing -  
   Weight of fabric – 320 Kg, MLR – 1:7  
   Recipe: Reactive Dye -- 1.8 %  
   Salt -------------- 60 g/l  
   Alkali 12 g/l  

(Actual calculation is necessary. Do not write just answer.)  

Q. 5

A) In dyeing of cotton with vat dyes give the following information-  
   i. Oil used for pasting the dye  
   ii. Alkali used  
   iii. Reducing agent used  
   iv. Name of reduced vat dye  
   v. Oxidizing agent used  
   vi. bond by which dye is fixed with fibre  
   vii. fibres on which vat dyes are applied  
   viii. Rating of wash fastness of vat dyes  

B) Describe desizing process. Give a test to check the removal of size.  

Q. 6 Write short notes on following (Any Four)-
   a. Dyeing process of P/C blended fabric  
   b. Grey scales  
   c. Barium Activity Number  
   d. Types of padding mangles  
   e. Reductive Bleaching of wool
Q. 7 Answer the following: (Any Two)
   a. Explain the wicking test with a diagram. What does it indicate? 8
   b. Discuss working of J box. 8
   c. Explain Dyeing of wool with metal complex dyes. 8

Q. 8 Give reasons: (Any Four) 16
   a. Acid desizing is not safe process for cellulosics.
   b. OBA treated fabric looks more white than normal white.
   c. Viscose fabrics are wet processed at low temperature with mild chemicals.
   e. Singeing of polyester fabrics is done after dyeing.

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