

Use separate answer  
script for each group

**Bachelor in Design (B. Des.) Examination 2017**  
**Specialization in Textile & Clothing**  
**Semester – VI**  
**Paper: TC – VI/04**  
**Textile Technology – II**

**Time : 3 Hours**

**Full Marks : 40**

Questions are of value as indicated in the margin.

**Group – A**

**Weaving Mechanism, Fabric Structure & Calculation – II**

Answer any two (2) questions:

1.
  - (a) How many driving shafts are present in a plain powerloom?
  - (b) What are the appropriate driving sources of the three primary motions of a powerloom? Explain briefly with proper justification.
  - (c) Classify take-up mechanisms. Which type of cloth winding arrangement is suitable for weaving silk and other delicate continuous filament yarns?
  - (d) What is the equivalent reed count in Metric (i) system of a 48<sup>s</sup> Stockport reed?
  - (e) Write down two auxiliary motions that are generally used in powerloom?

1+3+(2+1) +2+1 = 10
2.
  - (a) What are the different methods of producing crepe effect in a fabric?
  - (b) Compare between Ordinary Honeycomb and Brighton Honeycomb weaves.
  - (c) Show on the graph paper weaving plan of a typical 'Sponge' weave.
  - (c) Calculate loom production in metre per shift of 7.5 hr if the loom is running at 160 r.p.m. with 96% efficiency and producing a fabric having 60 EPI, 70 PPI and 44 inch in width in loom state.

1+2+3+4 = 10
3.
  - (a) Show on the graph paper weaving plan of any two of the following weaves:
    - (i) A typical Weft Distorted Thread effect
    - (ii) A suitable Brighton Honeycomb
    - (iii) A suitable Crepe weave by rotation method.
  - (b) What do you mean by 'Sley Eccentricity Ratio' of a loom? What are the merits and demerits of high sley eccentricity ratio?
  - (c) Write down names of two combined weaves that possess good moisture pick-up property.

6+(1+2) +1 = 10

**Group B**

Question number 1 is compulsory and answer any three from the rest

1.
  - (i) Why soaping is required after dyeing of cotton fabric with naphthol colour? 1x5= 5
  - (ii) What is chromophore and auxochrome?
  - (iii) What are the differences between direct dye and acid dye?

(iv) 'All dyes are coloured compounds but all coloured compounds are not dye' – explain?

(v) Disperse dye in pure form is

a) anionic, b) cationic, c) Zon-ionic, d) zwitter ionic

2. (i) What are the advantages and drawbacks of reactive dyes? 3

(ii) Match the elements of Group I and Group II. 2

| Group I         | group II                |
|-----------------|-------------------------|
| P. Acid dye     | a) Van der Waals forces |
| Q. Mordant dye  | b) Covalent bond        |
| R. Reactive dye | c ) Electrovalent bonds |
| S. Direct dye   | d ) Co-ordinate bonds   |

3. Discuss in brief the dyeing process of 50 kg cotton yarn with sulphur dye (8% shade) along with recipe and function of ingredients used in the recipe. 5

4. (i) What is Fast Colour Salt? State the advantages and drawbacks of Fast Colour Salt. 1+2

(ii) What is tendering of sulphur dyed goods and how it can be prevented? 2

5. (i) What is the function of sodium nitrite and glycerine in solubilised vat colour dyeing ? 2

(ii) Discuss in brief about the classification of acid dyes. 3

6. (i) Explain the mechanism of dyeing cellulosic textile with vat dyes. 3

(ii) What are the advantages and drawbacks of natural dyes? 2

7. (i) Why jute absorbs basic dye? What are the advantages of basic dyes? 1+2

(ii) Why basic dyes possess better light fastness on acrylic fibre as compared to silk? 2

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