

22364

23124

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following :

10

- (a) State the function of twist in yarn structure.
- (b) A cotton yarn lea weight is 3.5 gram and 80 pounds lea strength, then find out the CSP of yarn.
- (c) Find the warp crimp % from the following data :
 - (i) The warp of 20 cm length is cut from fabric.
 - (ii) Straight length of this yarn become 23 cm in crimp tester.
- (d) Explain the effect of yarn twist on fabric air permeability property.
- (e) Define elastic recovery with formula.
- (f) State the importance of fabric bursting property.
- (g) Define Wear of Fabric.



- 2. Attempt any THREE of the following : 12**
- (a) If 100 metre of cotton yarn is having weight of 2 gram, then calculate its English count and denier.
 - (b) Describe fabric thickness tester with diagram.
 - (c) Describe with neat diagram the working of Martindale's abrasion tester.
 - (d) (i) Define Air permeability of fabric.
(ii) Draw a well labelled diagram of Air permeability tester.
- 3. Attempt any THREE of the following : 12**
- (a) Explain the procedure to find the fabric tensile strength with diagram.
 - (b) State the advantages of Random sampling.
 - (c) Calculate the drape co-efficient of a pc blend fabric from the following data :
 - (i) Drape pattern paper weight = 3 grams
 - (ii) Ammonia paper weight = 0.012 gram per sq. cm.
 - (iii) Sample size = 10 inch diameter
 - (iv) Supporting disk = 5 inch diameter
 - (d) Describe with neat diagram ICI pill box tester.
- 4. Attempt any THREE of the following : 12**
- (a) Suggest the remedial action to avoid fabric pilling fault based on fibre quality selection and fabric structure.
 - (b) Explain the procedure to measure fabric water repellency by Hydrostatic water head tester.
 - (c) Explain the basic principle to measure yarn count for Direct Numbering Method.
 - (d) Compare the softness and strength property of 40^S Ne count cotton yarn spun from 3.5 TM and 4.2 TM.
 - (e) Explain Plain Abrasion and Edge Abrasion with suitable example.

5. Attempt any TWO of the following : 12

- (a) Calculate the total length in metre of yarn in a cone from following data :
- (i) Weight of yarn on the cone is = 2 kg
 - (ii) Count of yarn is = 40^S Ne.
- (b) Describe the construction and working of single yarn strength tester.
- (c) State the factors to be considered before abrasion resistance test.

6. Attempt any TWO of the following : 12

- (a) (i) Define cover factor of fabric.
- (ii) Calculate the fabric cover factor from following data :
- Warp count = 80^S Ne
- Weft count = 60^S Ne
- EPI = 90 PPI = 60
- (b) Find out the Bending Modulus of a industrial fabric if –
- Fabric overhanging length = 5 cms,
- Fabric weight = 85 mg per sq. cm
- Fabric thickness = 0.04 cm
- (c) Explain the importance of Load elongation curve for tensile strength of Textiles with suitable diagram.
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