

22358

22232

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 :

10

- (a) Define metric count. Give an expression (formula) for the same.
- (b) Define crimp in the yarn.
- (c) A cotton fabric sample having weight 1.4 grams becomes 1.34 gm after 200 cycles on abrasion tester. Calculate percentage weight loss.
- (d) Compare waterproof and water repellent fabric.
- (e) Define tenacity.
- (f) Elaborate concept of elastic recovery.
- (g) Explain concept of T.I.V.



- 2. Attempt any THREE :** **12**
- (a) Describe the method of determination of yarn count using electronic balance.
 - (b) Describe procedure to measure dimensional stability of fabric.
 - (c) State various factors responsible for pilling.
 - (d) Describe abrasion resistance measurement using Martindale Abrasion tester.
- 3. Attempt any THREE :** **12**
- (a) Describe test procedure to measure single thread strength of a yarn.
 - (b) Describe test procedure to measure colour fastness to perspiration.
 - (c) Calculate drape coefficient of shirting fabric having following particulars :
 - (i) Draped pattern paper weight – 2.8 gm
 - (ii) Ammonia paper weight – 0.015 gm/cm²
 - (iii) Sample diameter – 10"
 - (iv) Supporting disc diameter – 5"
 - (d) Explain fabric sampling method with relevant sketch.
- 4. Attempt any THREE :** **12**
- (a) Describe procedure for measurement of yarn twist by twist contraction method.
 - (b) Calculate GSM of a Fabric from following data :
 - (i) Ends/inch – 72
 - (ii) Pick/inch – 64
 - (iii) Warp count – 2/20^S Ne
 - (iv) Weft count – 100 Den polyester
 - (v) Warp crimp % – 5%
 - (vi) Weft crimp % – 6%

- (c) Explain gray scale for colour change and degree of staining.
- (d) Describe sample preparation for colour fastness test. Elaborate method to measure fastness to washing.
- (e) Describe test procedure to measure pilling by ICI pill box tester.

5. Attempt any TWO :**12**

- (a) Explain the types of variations in yarn. Elaborate various expressions used for yarn unevenness.
- (b) Describe the method to measure tearing strength of fabric with the help of a neat diagram.
- (c) Explain the test method to measure air permeability of a fabric.

6. Attempt any TWO :**12**

- (a) 72,000 mt of yarn weighs 640 gm. Find out Denier, Tex and English count of following yarn :
 - (i) Length = 72,000 mtr
 - (ii) Weight = 640 gm
 - (b) Calculate the bending modulus cotton suiting fabric having following particulars :
 - (i) Fabric overhanging length – 4.00 cm
 - (ii) Fabric weight – 72 mg/cm².
 - (iii) Fabric thickness – 0.028 cm.
 - (c) Explain the method of determination of water repellency by spray test with the help of a neat diagram.
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