

17471

16172

3 Hours / 100 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:

20

- a) Define the terms:  
(i) English count  
(ii) Metric count  
(iii) French count  
(iv) Worsted count
- b) What is classification of periodic variation?
- c) Describe the fabric sampling method.
- d) Define the terms:  
(i) Warp crimp  
(ii) Weft crimp  
(iii) Warp cover factor  
(iv) Weft cover factor

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- e) Define the terms:
  - (i) Serviceability
  - (ii) Wear
  - (iii) Pilling
  - (iv) Abrasion
- f) Define the terms:
  - (i) Load
  - (ii) Elongation
  - (iii) Mass stress
  - (iv) Tenacity
- g) State the principle of tearing strength tester and Bursting strength tester.

**2. Attempt any FOUR of the following: 16**

- a) Describe with neat sketch the working of Shirley Crease Recovery tester.
- b) Explain the method to find the count of warp and weft yarn directly from the fabric.
- c) With neat sketch explain Elmendorf tearing tester.
- d) Explain work of rupture and work factor with figure.
- e) Compare waterproof fabrics with shower proof fabrics.
- f) State the factors responsible for pilling of fabric.

**3. Attempt any FOUR of the following: 16**

- a) Describe method to measure the count of yarn by wrap reel method.
- b) State the cantilever principle to measure the stiffness of fabric.
- c) Discuss the different methods use to measure length of fabric. Also define fabric length.
- d) What are effects of twist on fabric properties?
- e) Describe with neat sketch the working of Martindales Abrasion tester.
- f) Define air permeability and draw a well labelled diagram of air permeability tester.

- 4. Attempt any FOUR of the following:** **16**
- a) What are the effect of yarn evenness on fabric properties?
  - b) List the methods to measure the threads/unit length and explain any one method.
  - c) Describe random variation with figure.
  - d) Describe the ICI pill box tester with neat sketch.
  - e) Explain with neat diagram the spray rating test for water repellent fabric.
  - f) Define drape. Explain the test method to measure drape % in a fabric.
- 5. Attempt any FOUR of the following:** **16**
- a) Give the relationship between twist and yarn strength.
  - b) How to improve drapeability of fabric?
  - c) State the need of crease recovery testing and how crease resistance of fabric can be improved.
  - d) Draw neat sketch of single yarn twist tester by twist contraction principle.
  - e) Compare single yarn strength tester with lea strength tester.
  - f) Explain the construction and working of any one fabric tensile strength tester.
- 6. Attempt any FOUR of the following:** **16**
- a) Compare direct yarn numbering system with indirect yarn numbering system.
  - b) Explain with neat sketch fabric thickness tester.
  - c) State the factors affecting air permeability of fabric.
  - d) State the principle of contact angle with respect to wetting.
  - e) Draw neat sketch of sample size for teasing strength and also state principle of fabric tensile strength tester.
  - f) Explain the test to measure the bursting strength of fabric.
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