

17471

21314

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.
 - (8) Use of Steam tables, logarithmic, Mollier's chart is permitted.

Marks

1. Attempt any **TEN** of the following: **20**
- a) Define metric count. Give an expression for the same.
 - b) A cone of 30^s cotton yarn weighs 1.5 kg. Find out the length of yarn it contains.
 - c) A filament yarn package of 150 Denier weighs 2 kg, find out the length of yarn it contains.
 - d) Draw diagrams of 'S' and 'Z' twisted yarn.
 - e) What are types of variations in yarn.

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- f) Give expressions for indicating yarn unevenness.
- g) Define cover factor. Give an expression for the same.
- h) What is crimp in yarn. Illustrate with diagram.
- i) Define serviceability.
- j) Define wear.
- k) List down various types of abrasions.
- l) Define Air-permeability.
- m) What is CSP? What is its importance?
- n) Define tenacity.
- o) Define work of rupture.

2. Attempt any TWO of the following: 16

- a) i) Explain the standard method of determination of yarn count using electronic balance.
- ii) Explain the effect of twist on yarn and fabric properties.
- b) Elaborate the method of determination of yarn twist by twist contraction principle.
- c) Describe the effect of yarn unevenness on yarn and fabric properties.

3. Attempt any TWO of the following: 16

- a) i) Describe fabric sampling method used for tensile testing of fabric.
- ii) Give an expression for GSM of fabric.
- b) Describe the methods used for measurement of fabric width and thickness.
- c) i) Define water proof fabric, water repellent fabric.
- ii) Explain the method of measurement of crimp in the yarn.

- 4. Attempt any TWO of the following:** **16**
- a) Explain the method of determining stiffness of fabric. Give expression for bending length, flexural rigidity and bending modulus.
 - b) What is drape? Explain the measurements of drape of fabric with help of suitable diagram.
 - c) i) Illustrate the method of determining crease recovery of fabric.
ii) List down various factors affecting air permeability of fabric.
- 5. Attempt any TWO of the following:** **16**
- a) Describe the working of Martingale Abrasion tester.
 - b) Describe spray test to determine water repellency with help of a neat diagram. How rating is given for this test?
 - c) i) List down various factors responsible for pilling of fabric.
ii) State the importance of measurement of bursting strength. Explain the method of measurement of the same.
- 6. Attempt any TWO of the following:** **16**
- a) Describe any method of determination of single thread strength of yarn.
 - b) Explain the method of determination of fabric tensile strength with the help of a diagram.
 - c) Explain CRL, CRE and CRT principles of tensile testing.
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