# 22358

# 11920 3 Hours / 70 Marks

Seat No.				

# *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.

### 1. Attempt any FIVE of the following :

- (a) Define Tex and Denier yarn number give expression for it.
- (b) Define pills and list factors responsible for pilling.
- (c) Calculate percentage thickness loss of suitting fabric of 0.4 mm thickness become 0.35 mm after 400 cycles on abrasion tester.
- (d) Calculate bending length of sateen fabric having 4.6 cm overhanging length when tested on stiffness tester.
- (e) Calculate tenacity of cotton yarn of 60 Ne having breaking strength of 200 gm and when tested on yarn strength tester.
- (f) Explain Grey scale for colour change.
- (g) Define Air-permeability and air-resistance.

**P.T.O.** 

# 2. Attempt any THREE of the following :

- (a) Describe procedure for measurement of fabric water resistance by spray test with neat labelled diagram.
- (b) Describe procedure for measurement of twist in single yarn on twist contraction principle based instrument with neat labelled diagram.
- (c) List the methods of fabric length measurement and explain any one.
- (d) Describe measurement procedure of fabric colour fastness to washing.

# **3.** Attempt any THREE of the following :

- (a) Explain fabric sampling method with suitable sketch.
- (b) Calculate metric count of yarn having 6.72 km weighing 66.8 grams.
- (c) Explain any four factors affecting air permeability of fabric.
- (d) Define serviceability, wear and abrasion.
- (e) Describe the method of measurement of pilling by ICI pill box tester.

### 4. Attempt any THREE of the following :

- (a) Explain CRE and CRL principle with suitable diagram.
- (b) Calculate Drape coefficient of plain shirting fabric with following data obtained when tested on drape meter.

Ammonia paper weight = 0.15 gm./sq. cm.

Draped pattern paper weight = 3.5 grams

Sample size 10" diameter and 5" diameter of supporting disk.

- (c) Explain end points for measurement of abrasion resistance of fabric.
- (d) Describe measurement procedure for crimp % of yarn in fabric on crimp tester with neat labelled diagram.
- (e) Define variations in yarn and its types.

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# 5. Attempt any TWO of the following :

(a) Calculate fabric weight in grams per square meter with following particulars :

Warp count = 30 Ne, Weft count = 32 Ne, EPI = 64, PPI = 50, Warp and Weft crimp = 6%

- (b) Calculate bending modulus of cotton blended fabric with following particulars : Bending length of fabric = 3.4 cm
  Fabric weight = 68 mg/sq. cm
  Fabric thickness = 0.024 cm
- (c) Describe procedure for tearing strength measurement of fabric on tearing strength tester with neat labelled diagram.

# 6. Attempt any TWO of the following :

- (a) Describe measurement of colour fastness to light.
- (b) Convert 80 English count into Tex, Denier and Metric count.
- (c) Describe measurement of Air-permeability of fabric with air permeability tester.