17346

11920

3 Hours / 100 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.

Marks

1. Attempt any TEN of the following: **20**

a) Define english cotton count.

b) If lea weighing 02 grams. Calculate english cotton count.

c) Calculate resultant count of folded yarn made from two 24^S english cotton count

d) Give formula of twist multiplier.

e) List any two types twist testing machines.

f) List classification of periodic variations.

g) Define limit irregularity.

h) Define capacitance principle.

i) List three irregularities in the yarn.

P.T.O.

Marks

j) Give any two causes of yarn hairiness

k) List any two yarn hairiness testing methods.

l) Define Tenacity

m) Draw typical stress strain curve of textile material and show yield point.

n) Average strength of 50^S Ne cotton yarn is 180 grams. Calculate tenacity

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

a) Compare direct system with indirect system of yarn numbering system.

b) Explain count measurement method of warp and weft yarn removed from fabric.

c) If the weight of 100 meters of yarn is 01.50 grams calculate tex count.
Convert 40^S Ne cotton count to tex system.

d) Give formula of yarn diameter. Calculate diameter in inches of 40 cotton count yarn.

e) Yarn available for testing is in cone form. Explain the method of determining yarn count.

f) Give standard moisture regain for cotton. Explain the method used for testing conditioned count

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

a) Explain the importance of T.M.

b) Explain the effect of twist on yarn properties

c) Calculate T.P.I. required for manufacturing 40^S voil yarn.

d) Explain twist measurement method used for determine twist in single yarn.

e) Explain the effect of T.M. on spun yarn strength with continuous filament yarn

f) Define U%. Give relation between U% and C.V.%

Marks

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

a) Describe periodic variations and give its classifications.

b) Explain addition of irregularities. If C.V.% of individual sliver fet is 5 and there are six doublings. Calculate C.V.% of doubled strand.

c) Describe the effect of irregularities on yarn strength.

d) Describe working principle and main features of evenness tester working on capacitance principle.

e) Describe limit irregularity.

f) Describe the effect of irregularities on fabric appearance

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

a) Describe the causes of yarn hairiness

b) Describe the principal and working of any one hairiness testing machine

c) Define elastic recovery. Explain how to measure.

d) Draw typical stress strain curve and show yield point, work of rupture, Give formula of initial youngs modulus.

e) Describe creep behavious of textile material.

f) Compare CRE with CRL.

6. Attempt any TWO of the following: **16**

a) Explain pendulum lever principle and describe working of fibre bundle tester.

b) Explain strain gauge principle and describe working of yarn strength testing machine.

c) Define work of rupture. Calculate work required to break the specimen from following data

(i) Weight of pendulum = 20 lbs

(ii) Initial height of pendulum = 24 Inches

(iii) Height of pendulum after = 10 Inches - break