17346

21314

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 <u>TEN</u> of the following: **20**

a) Differentiate between direct and indirect method of yarn numbering (two points).

b) Write down any four objectives of yarn numbering.

c) Enlist the reasons for twisting during the formation of yarn.

d) Explain the effect of twist on the strength of yarn.

e) With neat diagram, explain the different directions of twist.

f) What is optimum twist ? Write down its characteristics.

g) Explain the term CV %.

Marks

h) Differentiate between random and periodic variation in yarn unevenness.

i) What are the causes of yarn hariness.

j) What is yarn hariness ? Explain.

k) How can one reduce the hariness of yarn.

l) What are the effects of yarn hariness.

m) What is tenacity ? Give its significance.

n) Explain the term 'work of Rapture'.

o) What is meant by the term 'elastic recovery'.

2. Attempt any <u>FOUR</u> of the following: **16**

a) If two yarns of 20 Ne's and 30 Ne's are twisted to give a resultant two ply yarn. Find out the resultant count of ply yarn. Also find the fineness of the same in terms of Denier and decitox.

b) What are the effects of yarn twist on fabric properties. Explain.

c) With a neat labelled diagram write the procedure of determining the twist of single yarn by straightened fibre method.

d) Write a note on the various dassimat faults for expressing the unevenness of yarn.

e) Give the procedure of determining the yarn hariness by microscopic method.

f) With a neat diagram, explain the principle and procedure of ballistic strength tester.

Marks

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

a) Write a note on the relation between yarn count and diameter of yarn.

b) Explain the effect of twist on the properties of the resultant fabric.

c) With a neat labelled diagram, explain the principle and procedure of determining the twist of double yarn.

d) Explain the terms 'index of irregularity' and 'limit irregularity'.

e) Explain the principle and procedure under lying the photo electric method of determining the yarn hariness.

f) Explain the pendulum lever principle of determining the tensile strength of textiles.

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

a) Define metric count, worsted count, woolen count and linen count.

b) Give the procedure of determining the twist in single yarn by twist to break method.

c) What are the causes of unevenness in yarns.

d) Define U % ? Explain the classification of variations in weight per unit length.

e) Explain the terms: Work factor, elongation, breaking strength and breaking length.

f) Write the principle and procedure of determining the strength of yarn by Lea strength tester.

Marks

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

a) Describe the relationship between new english count and denier. Also with a neat labelled diagram write the principle and procedure of determining the yarn count by wrap reel and weight measurement.

b) Explain the effects of yarn inequalities on the fabric quality. Write the principle and procedure of measuring yarn unevenness by BS-2085-1973 method.

c) With a neat labelled diagram, explain the features of a Inston tester. Why is it called as a universal tensile strength tester.

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

a) Derive the relationship between worsted count and denier. Write the principle and procedure of determining the yarn count of yarn from fabric.

b) Write the procedure of determining the unevenness of yarn by visual examination method and cutting and weighing method.

c) What are the factors affecting the tensile properties of textiles. Explain the principle and procedure of determining the tensile strength by CRT, CRE and CRL principles.

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