17346

14115

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** : **20**

a) Define with example Yorkshire Woollen count.

b) A yarn of length 800 mts. weighs 20 gms. Find out the New English Count of yarn.

c) Enlist any four objectives of twisting yarn.

d) With graph, explain the effect of yarn twist on its strength.

e) Give any four methods of yarn numbering in indirect method.

f) Explain the direct method of yarn numbering with two examples.

g) With a neat diagram explain in brief, the different types of twist of yarn.

h) Enlist any four reasons for yarn hairiness.

MARKS

i) Explain the term 'Tenacity' and 'give its significance'.

j) Define work factor.

k) Enlist any four reasons for yarn unevenness.

l) Explain the term 'CV%'.

m) Give the significance of the term 'Breaking Extension' while determining the tensile strength.

n) Enlist the units used for expressing the strength of textile materials.

o) How will you determine the linear density of piled yarn ?

2. Attempt **any four** : **16**

a) Explain in detail the relationship between the yarn count and yarn diameter.

b) Explain the term 'twist multiplier' and 'twist factor'.

c) Write a note on the classification of variation in yarn evenness and explain each type.

d) What is 'yarn hairiness' ? Explain the effect of yarn hairiness on fabric properties.

e) With graph, explain the load elongation curve and stress strain curve.

f) Write down the principle and procedure of determining the strength by using pendulum lever method.

3. Attempt **any four** : **16**

a) Give the procedure of determining the count of yarn drawn from fabric.

b) Derive the relation between (i) Denier and New English Count (NiS) (ii) Worsted Count and tex.

MARKS

c) Explain in detail, the effect of twist on fabric properties.

d) Explain the term 'Index of irregularity' and U% with its significance.

e) Give the procedure of checking the yarn hairiness by microscopic method.

f) Write the principle and procedure of determining the fibre strength by using stelometer.

4. Attempt **any four** : **16**

a) A yarn of 1895 yards weighs 40 gms. Find out the New English Count and denier of the given yarn.

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

c) What are the effects of yarn irregularities on fabric properties ?

d) Explain the terms (i) 'Addition of irregularity' (ii) 'Reduction in irregularity'.

e) Give the principle and procedure of determining the yarn hairiness by using photoelectric method.

f) What are the factors affecting the tensile properties of textiles ?

5. Attempt **any two** : **16**

a) Give the significance of determining the fineness of yarn. Also give the procedure of determining the yarn count of yarn in package form. (wrap reel and weight measurement).

b) Classify the uster yarn unevenness. Also determine the method of measuring the yarn unevenness by capacitance principle using electronic capacitance tester.

c) Give the procedure of determining the strength of yarn using single yarn tester and lea strength tester.

MARKS

6. Attempt **any two** : **16**

a) Write the procedure of determining the twist in yarn by straightened fibre method and twist contraction method.

b) Explain the method of measuring the unevenness by cutting and weighing method and visual examination method.

c) Explain the principle and give the procedure of determining the tensile strength by CRL, CRE and CRT method.