THE TEXTILE ASSOCIATION (INDIA)
GMTA EXAMINATION – 2020
SECTION – D PAPER – D.3
ENGINEERING DESIGN AND YARN STRUCTURE

Date: 26.12.2020
Marks: 100
Time: 2.00 pm to 5.00 pm

Instructions:
1. Attempt any Six questions out of which Q.1 is Compulsory
2. Answer each next question on new page
3. Figures to the right indicate full marks
4. Illustrate your answers with neat sketches & flow charts wherever necessary
5. Use of non-programmable electronic pocket calculator is permissible
6. Mobile and any other communication devices are not allowed in the Examination hall.
7. Assume suitable, data wherever necessary

Q1 Match the following by choosing most appropriate option.

1 64 Ne yarn having 32 TPI
2 Twist factor increase from 2.5 to 4.5
3 Maximum Yarn Packing Factor
4 OE Spinning
5 Contraction in yarn length
6 Projection microscope
7 Single Yarn Twist
8 Hamburger Model
9 Helix angle
10 Yarn geometry

Q2 With a neat diagram, explain ideal yarn geometry. Describe the relationship between yarn count and twist.

Q3 Explain packing factor of yarn. How is it measured?

Q4 With a neat diagram, explain measurement of yarn diameter by shadow projection method.

Q5 What is twist contraction in yarn? Explain the influence of twist on yarn strength.

Q6 List the conditions for occurrence of fibre migration. Describe the effects of fibre migration on dyeing and surface properties of yarn.

Q7 Explain mechanics of blended yarns with the Hamburger’s model.

Q8 What is spinnability of textile fibres? Explain its relation with end breakage rate.

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