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Form Number: OBE/TE/Spring-2026

Daffodil International University

Department of Textile Engineering
Faculty of Engineering
Final Examination; Spring-2026

Course Code: 0723-223 **Course Title:** Textile Testing & Quality Control – I
Level & Term: L2T3 **Section:** F1, F2, F3
Name & Designation of the Course Teacher: Dr. Md. Toufique Ahmed, Assoc. Prof. (DTA)
and Subrata Majudmer, Lecturer (SM2)

Time: 2 Hours **Total Marks: 40**

Answer all the questions:

1. Describe fiber fineness with its importance on yarn quality. Discuss the various systems of fiber fineness measurements. [CO1, PO1, C/L-1] 5

2. Explain the Air Flow principle used in measuring fiber fineness. [CO1, PO1, C/L-3] 5

Or,

Define UR%. Find out the resulted count when one end of the 20s; two ends of 30s; three ends of 40s are twisted together?

3. Derive the relation: $M = \frac{N-D}{200} + 0.7$ and explain its significance, where the variables bear the traditional values. [CO2, PO2, C/L-4] 5

Or,

Draw a comb sorter diagram to explain – how will you find out the following:

(a) Maximum Length,
(b) Mean Length,
(c) Short Fiber%
(d) 50%, 25% and 2.5% Span length.

4. Define yarn twist with it types. A yarn has 20 TPI over 100 m length. Calculate the total number of twists. [CO2, PO2, C/L-3] 5

5. Establish the relationship between twist angle and TPI, and explain its effect on yarn strength. [CO2, PO2, C/L-4] 5

6. Prove that $d = \frac{1}{28\sqrt{Ne}}\ inch$ where the variables bear the traditional values. [CO2, PO2, C/L-4] 5

7. Write short notes on Direct & Indirect system of yarn numbering. [CO1, PO1, C/L-1] 5

8. Answer the following:
(a) Calculate the denier of a bundle having 1000 m of filament yarn weighing 0.01kg.
(b) A lea of cotton yarn weighs 60 grams, calculate its English count.
[CO1, PO1, C/L-3] 5