PAPER ID-310636

Subject Code: KCT501

Roll No: | | | | | | | | | | | | | |

# B. TECH.
## (SEM-V) THEORY EXAMINATION 2020-21
## TEXTILE TESTING

***Time: 3 Hours*** ***Total Marks: 100***

**Note: 1.** Attempt all Sections. If require any missing data; then choose suitably.

### SECTION A

**1. Attempt *all* questions in brief. 2 x 10 = 20**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | What are the standard environmental conditions of textile testing? | 2 | 3 |
| b. | Electrical resistance of cotton fibre decreases with the humidity, why? | 2 | 3 |
| c. | Define short term variation. | 2 | 5 |
| d. | The ratio of *strip strength per thread* to *single thread strength* is generally higher than unity. (True/ False) | 2 | 6 |
| e. | Define "Hairiness Index". | 2 | 5 |
| f. | With the help of a diagram, define crimp% of a yarn. | 2 | 6 |
| g. | A 200 denier viscose rayon yarn breaks at a load of 180 gram. Calculate the breaking length of the yarn. | 2 | 6 |
| h. | Define thermal insulation value of a fabric. | 2 | 8 |
| i. | A 2/2 matt structure exhibit poor resistance to tearing than 1/1 plain weave structure. (True/False) | 2 | 6 |
| j. | Define Wettability. | 2 | 8 |

### SECTION B

**2. Attempt any *three* of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | What precautions should be undertaken during sampling of fabric for testing purpose. | 10 | 2 |
| b. | Discuss the importance of fibre fineness measurement. | 10 | 4 |
| c. | Discuss the factors affecting Hairiness in yarn. | 10 | 5 |
| d. | Discuss the strain-gauge principle related to tensile testers. | 10 | 6 |
| e. | Discuss the various reasons of generation of pilling in a fabric. How tendency of pilling can be reduced. | 10 | 7 |

### SECTION C

**3. Attempt any *one* part of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Discuss the effects of regain on various properties of textile material. | 10 | 3 |
| b. | Discuss the various objectives of textile testing. | 10 | 1 |

**4. Attempt any *one* part of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Discuss the theory, which relates Air flow measurement with fibre fineness. | 10 | 4 |
| b. | Explain the term 'Span Length'. How the 'Uniformity Ratio' is calculated with the help of Span Length. | 10 | 4 |

**5. Attempt any *one* part of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | With the help of a neat, labeled diagram, discuss the principle of 'Uster evenness tester'. | 10 | 5 |
| b. | How the "Index of Irregularity" is calculated with the help of 'Limit Irregularity'. | 10 | 5 |

**6. Attempt any *one* part of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Discuss the type of fabrics, in which Bursting strength testing is preferred. Explain the working principle of any Bursting strength tester using a labeled diagram. | 10 | 6 |
| b. | Define the following:<br>i) Work of Rupture<br>ii) Breaking Length<br>iii) Elastic Recovery<br>iv) Mass stress | 10 | 6 |

**7. Attempt any *one* part of the following:**

| Q no. | Question | Marks | CO |
|---|---|---|---|
| a. | Define Air Permeability. Discuss the principle of Shirley Air Permeability tester with the help of a neat, labeled diagram. | 10 | 7 |
| b. | Define serviceability, wear and abrasion with respect to textiles. Discuss the methods of assessment of abrasion damage in the fabric? | 10 | 7 |