

05-10-2013

Attempt all questions.

1. Discuss inertia effects in **pendulum lever tensile testing** machines. (2)
2. What is meant by the capacity of a machine in context of **pendulum lever based tensile testers**? (1)
3. Out of the following, the unit of the result will not be force in Bursting strength test, tear strength test, tensile strength test (1)
4. Tensile testing of a yarn gives strength as 10 gpd. The same yarn is tested on moon. What will be the strength? G at moon is $1/6^{\text{th}}$ in value compared to g at earth. (2)
5. What are the factors which influence the tear strength of woven fabrics? (2)
6. Differentiate between **air permeability** and **air porosity** and mention any relationship between the two. (1)
7. What is the difference in the methods used for determining the **thermal resistance** by **Togmeter** and **Guarded hotplate** method? (1)
8. How can moisture pass through continuous solid layers used in breathable fabrics? (2)
9. Differentiate between **Flexural Rigidity** and **Bending Modulus**. (2)
10. What is the basis of **hysteresis** in **Regain - humidity** relations of textiles? (2)
11. How is **Sweating Guarded Hotplate** Method closer to real situations than other test methods? (2)
12. How can you utilize the test results of say 20,000 sets of data produced by Uster Tensojet for analysis of yarn quality? (2)
13. Comment on the following statement with proper justification (brief answers) (3)
 - a) The strength in grab test is higher than strip test for same sample width.
 - b) During tensile testing of a staple fibre yarn, twist contributes towards two strengthening as well as weakening the yarn.
 - c) The principle used in the testing of bursting and hydrostatic head is same.
14. Fill in the blanks: (2)
 - a) The cut strip test is used for fabrics that _____
 - b) In bursting strength test, the fabric fails in the direction in which the _____ is lower.