[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
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B. Tech 5th Semester Examination

Textile Testing-I (O.S.)

TE-5003

Time : 3 Hours **Max. Marks : 100**

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note : Candidates are required to attempt five questions in all selecting one question from each section A, B, C & D of the question paper and all the subparts of the questions in section E. Use of non-programmable calculators is allowed.

SECTION - A

1. What is the aim and scope of testing? Discuss different sampling techniques use for yarn and fabric. **(6+14=20)**

2. Differentiate between sample and population. What are the criteria of selecting a sampling procedure? **(6+14=20)**

SECTION - B

3. Differentiate between absolute humidity and relative humidity. What do you understand by standards atmospheric condition for textile testing? Discuss any one suitable methods of measuring RH% of testing laboratory. **(6+4+10=20)**

4. Define moisture content and moisture regain. Derive the relation between moisture content and moisture regain. With the help of suitable diagram explain working mechanism of Shirley Moisture meter. **(6+4+10=20)**

SECTION - C

5. What do you understand by maturity? How can you measure maturity of cotton of fiber? What are the effects of immature cotton on fabric appearance? Discuss the method of measuring fineness of cotton fiber in details. **(4+3+3+10=20)**

6. Explain the method of measuring trash content with suitable diagrams. What are HVI and AFIS? State the various parameters measurable in AFIS and HVI? Briefly explain the testing principles of both alongwith their application. **(10+10=20)**

SECTION - D

7. What do you understand by s twist and z twist? Explain any one method of measuring single yarn twist. Discuss about the different factors affecting tensile properties during testing. **(4+6+10=20)**

8. What do you understand by yarn faults? Classify yarn fault according to uster classimat classification. What is objectionable fault? What is hairiness? discuss the principle and method of measuring yarn hairiness. **(2+6+2+2+8=20)**

SECTION - E

9. (i) What do you understand by population?
   (ii) Define moisture regain.
   (iii) What is the function of a hygrometer?
   (iv) Why viscose fiber have more moisture regain than cotton?
   (v) What is the importance of measuring fiber friction?
   (vi) Why Tensile testing result for ‘zero’ mm gauge length and ‘three’ mm gauge length are differed?
   (vii) What do you understand by contaminations?
   (viii) Convert 9 deniers in to Tex system.
   (ix) What do you understand by U%?
   (x) Define index of irregularity. **(10×2=20)**