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BFW-036(S)

B.Sc. FOOTWEAR TECHNOLOGY (BSCFWT)

Term-End Examination

June, 2017

00278

BFW-036(S) : APPLIED SCIENCE

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt* ***all*** *questions. Use of calculator is permitted.*

1. Write ***true*** or ***false*** for the following statements : *5×1=5*

   (a) Velocity of wave motion depends upon the nature of medium.

   (b) Energy of a body is the capacity for doing work.

   (c) Heat energy is the sum of kinetic energy possessed by the molecules of the body.

   (d) One calorie is equal to 4·2 Joules.

   (e) Energy is neither created nor destroyed.

2. A producer of tea blends 2 varieties of tea from 2 tea gardens in the ratio 5 : 3, one costing ₹ 18 per kg and another ₹ 20 per kg. If he/she sells the blended variety at ₹ 21 per kg, what is his/her gain percentage ? 5

3. A car travels from town A to town B at a uniform speed of 40 km/hr and returns from town B to town A at a uniform speed of 60 km/hr. Calculate the average speed of the car. 5

4. The incomes of A and B are in the ratio of 8 : 7 and their expenditures are in the ratio of 19 : 16. If each saves ₹ 1,250, find their incomes. 5

5. A bus travels some distance at a speed of 120 km per hour and returns at 90 km per hour and takes 2 hours and 20 minutes. Find the distance travelled by the bus. 5

6. Write the electronic configuration of calcium. 5

7. Write the IUPAC names of the following : 5

   (a) Acetic acid

   (b) Formaldehyde

8. Write short notes on the following : $4 \times 2\frac{1}{2} = 10$

(a) Ionic Bond

(b) Polymerization

(c) Use of Polymer in Footwear Industries

(d) Classification of Polymers

9. A ball is thrown vertically upwards. It reaches maximum height in 10 seconds. Find the initial velocity of the ball. Take g = 10 m/sec^2. 5

10. Explain the characteristics and elements of ergonomics. 10

11. For a normal distribution, prove that Mean = Mode = Median. 10