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BFW-036

B.Sc. FOOTWEAR TECHNOLOGY (BSCFWT)

Term-End Examination

December, 2015

BFW-036 : APPLIED SCIENCE

Time : 3 hours *Maximum Marks : 70*

Note : *Attempt total **seven** question in all. Minimum **two** questions from each part are to be done.*

PART A

1. (a) State the difference between force and torque.

(b) Explain the law of inertia by giving a suitable example. *2×5=10*

2. (a) Explain Ohm's law. Write down the series and parallel connections of resistance with their respective equations.

(b) What happens when a glass rod is rubbed with a silk cloth ? Explain it with respect to the law of conservation of charge. *2×5=10*

3. (a) Explain Gravity. What is acceleration due to gravity ?

(b) What is the acceleration due to gravity on (i) the Earth's surface, (ii) at space, and (iii) deep in the mine ? *2×5=10*

PART B

4. (a) Explain the formation of chemical bonds. Discuss with examples.

(b) What are electrovalent and covalent bonds ? Discuss in detail with examples. *2×5=10*

5. (a) Why are solids rigid and why do they have a definite shape and volume ?

(b) Classify amorphous (non-crystalline) and crystalline materials out of the following :

Cu, KNO_3, Ag, $AgNO_3$, Hg, AgCl. *2×5=10*

6. (a) Write down the main differences between Elements and Compounds.

(b) Explain Corrosion. What are the factors which affect corrosion ? *2×5=10*

PART C

7. (a) The circumference of a circle is 88 metres. Find the area of the circle in sq.cm.

   (b) Find the area of a parallelogram in decimeter, if its base is 7 cm and height is 5 cm. *2×5=10*

8. (a) Find the compound interest on ₹ 45,000 for 2 years at the rate of 6% per annum compounded quarterly.

   (b) Find the simple interest, if the principal is ₹ 2,000 for 2 years @ 8% per annum. *2×5=10*

9. Solve the given linear equations : *2×5=10*

   (a) $2x + 3y = 7$
   $5x + 4y = 9$

   (b) $7x + 4y = 6$
   $3x + 5y = 8$