

B.Sc. FOOTWEAR TECHNOLOGY (BSCFWT)

Term-End Examination

December, 2012

BFW-036 : APPLIED SCIENCE

Time : 3 hours

Maximum Marks : 70

Note : The paper contains three groups. You have to attempt all groups.

GROUP - A

Mathematics

(Answer *any four*)

1. The diameter of a wheel of a bus is 140 cm. How many revolutions per minute must the wheel make to keep a speed of 10 kms per hours? **10**
2. 8 men and 12 boys can finish a piece of work in 10 days while 6 men and 8 boys can finish in 14 days. Find the time taken by one man alone and by one boy alone to finish the work. **10**

3. After the covering a distance of 30 km with uniform speed some defect occurs in rail engine and hence the speed is reduced to 80% of its original speed. Consequently, the train reached its destination late by 45 minutes. Had it happened after covering 18kms more, the train would have reached 9 minutes earlier. Find the speed of the train and the distance of journey. **10**

4. Solve the following equation : **5x2=10**

(a) $(x-2)/3+4 = (x+4)/3$

(b) $(y-3)/7 = (y+4)/2$

5. (a) Find the sum of first 1000 natural number.

(b) Prove that each angle of an equilateral triangle is 60 degrees. **5x2=10**

GROUP-B

Physics (Answer *any three*)

6. (a) Describe 7 Fundamental units. 5
- (b) Explain distance, displacement, speed, and velocity. 5
- (c) An object moves in a circular path of radius 7cm. It completes 7 rotations in 10 seconds. Find speed and total distance covered by the object. 5
- (d) Describe Newtons law of physics. 5

GROUP-C

Chemistry (Answer *any three*)

7. (a) Describe hydrogen bonding with suitable examples. 5
- (b) Define polymerisation monomer and polymer. 5
- (c) Describe lone pair of electron. 5
- (d) Write down the IUPAC name of acetic acid. 5
Also draw the structure of acetic acid.
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