ROY'S INSTITUTE OF COMPETITIVE EXAMINATION

RRB NTPC GRADUATE & UNDER GRADUATE CBT-1

/ MATHEMATICS /

HANDOUT - 1

1. I bought two shirts for Rs. 1200. I sold the first one at a loss of 10% and the second at a gain of 15%. If, on the whole I made neither loss nor a gain, find the cost price (in Rs.) of the first shirt.

   a) 740 b) 744 c) 704 d) 720

2. If the interest earned during 2nd year on a certain sum is Rs. 2352 and the rate of interest is 5% per annum compounded annually, then the sum is –

   a) Rs. 44,055 b) Rs. 44,855 c) Rs. 44,800 d) Rs. 45,115

3. M and N start a business. M invests Rs. 46000 more than N for 3 months and N invests for 4 months. M's share is Rs. 453 more than that of N, out of a total profit of Rs. 1359. Find the capital contributed by M.

   a) Rs. 73,608 b) Rs. 73,516 c) Rs. 73,715 d) Rs. 73,600

4. The current population of a town is 14,680. It increases by 25% and 70% in two successive years but decreases by 20% in the 3rd year. What is the population of the town at the end of the third year?

   a) 24,956 b) 24,960 c) 24,953 d) 24,958

5. Find the greatest number that will divide 49, 97 and 189 so as to leave the same remainder in each case.

   a) 5 b) 4 c) 7 d) 3

6. ABCD is a trapezium in which BC || AD and AC = CD. If $\angle ABC = 113^o$ and $\angle BAC = 26^o$, then what is the measure of $\angle ACD$?

   a) 68^o b) 65^o c) 41^o d) 98^o

7. What is the median of the following data?

   74, 85, 67, 27, 47, 16, 41, 32, 98, 38, 88

   a) 46.5 b) 47 c) 47.5 d) 48

8. The weight (in kg) of 25 students is as follows:

   58, 55, 53, 50, 53, 51, 52, 54, 53, 52, 54, 53, 58, 53, 59, 55, 53, 52, 51, 54, 53, 59, 55, 53, 52

   What is the range of the given data?

   a) 9 b) 7 c) 6 d) 8

9. Given that $(103)^{0.2} = x$, $(103)^{0.43} = y$, $x^Z = y^6$, then the value of z is close to –

   a) 12.9 b) 11.74 c) 12.45 d) 14.16

10. In a flower bed, there are 21 rose plants in the first row, 19 in the second row, 17 in the third row and so an. If there are 5 plants in the last row, what is the number of rows?

a) 7 b) 8 c) 9 d) 10

11. A can do a certain piece of work in 22 days, A and B can together do the same work in 11 days. A, B and C together can do the same work together in 8 days. In how many days can A and C together do the same work?

a) $\frac{94}{9}$ b) $\frac{95}{8}$ c) $\frac{78}{7}$ d) $\frac{88}{7}$

12. The sum of the lengths of the edges of a cube is equal to the sum of the lengths of the edges of a cuboid whose length, breadth and height are in the ratio 4 : 3 : 1. Find the volume (in cm^2) of the cuboid if the volume of the cube is 512 cm^3.

a) 299 b) 340 c) 324 d) 315

13. Five solid cubes, each of volume 1,09,41,048 cm^3 are joined end to end to form a cuboid. What is the lateral surface area (in cm^2) of the cuboid?

a) 5,91,408 b) 5,91,310 c) 5,91,663 d) 5,91,312

14. On a circular path of 2742 m Riya and Trisha start walking from the same point but in opposite direction at 4.6 m/s and x m/s, respectively. They will meet for the first time after 457 seconds. Find the value of x.

a) 0.8 b) 2.2 c) 1.1 d) 1.4

15. The sides (in cm) of a right angle triangle are (x –18), (x – 25) and x, its area (in cm^2) is –

a) 1329 b) 1314 c) 1311 d) 1320

16. Two men on either side of a temple of 75 metres height observe its top at the angles of elevation 30^o and 60^o respectively. The distance (in metres) between the two men is –

a) $\frac{20}{\sqrt{3}}$ b) $\frac{100}{\sqrt{3}}$ c) $\frac{200}{\sqrt{3}}$ d) $100\sqrt{3}$