Quant Workshop

1. A and B started business with Rs 600 and Rs 500 respectively. After 4 months, C replaces B with X% of B's capital. After 1 year C's share out of the total profit 24000 is 5600. Find the value of X.
(a) 60 (b) 70 (c) 75 (d) 66 (e) 65

2. A train is 216 m long. It crosses a platform in 19 seconds with speed 21 m/s. If some 21 m long boxes are added in train and it crosses same platform, then it takes 26 seconds to cross the platform at same speed. How many boxes were added to the train?
(a) 7 (b) 10 (c) 12 (d) 5 (e) 8

3. A can complete a work in 36 days. B is 33.33% more efficient than A. In how many days both complete the work if they work on alternate days starting with A?
(a) 26 (b) 30 (c) 28 (d) 31(e) None of these

4. Rakesh adds 12% of his salary in PPF. 3/8th of the remaining amount is spent on clothes and the difference between PPF and clothes expenses is Rs 10500. Remaining amount is spent on house rent and other expenses. If house rent expenses is Rs 1500 less than other expenses, then what is the house rent expenses?
(a) 12000 (b) 10000 (c) 13000(d) 11000 (e) None

Directions: In each of the following series, one number does not follow a specific pattern. Find that number.

5. 200, 196, 192, 180, 160, 130, 88
(a) 180 (b) 196 (c) 200 (d) 88 (e) 160

6. 9.2, 10.6, 7.6, 12.4, 6, 14, 4.4
(a) 10.6 (b) 14 (c) 4.4 (d) 7.6 (e) 12.4

7. 1, 730, 975, 1054, 1081, 1090, 1093
(a) 730 (b) 975 (c) 1090 (d) 1093 (e) 1054

8. Which of the following number term will be 23780 in the given series 3, 4, 9, 28, 113….
(a) 6th (b) 7th (c) 8th (d) 9th (e) 10th

9. Find the 7^{th} term in the series 4, 6, 12, 30, 60, 315…..
(a) 1250 (b) 5060 (c) 5670 (d) 4030 (e) 6075

10. In bag A there are 5 red balls, (X) green balls and 7 yellow balls. Probability of drawing one green ball from bag A is 2/5. In bag B there are (X-3) red balls, (X-4) green balls and 6 yellow balls. 2 balls are drawn from bag B. (Y) is the probability that both the balls are red colour. Find the values of X and Y?
(a) 8, 2/23 (b) 9, 2/21 (c) 8, 2/23 (d) 8, 2/21 (e) 7, 2/21

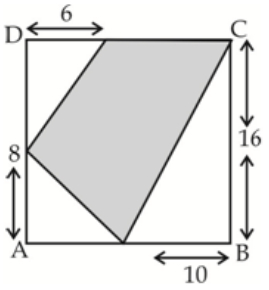
11. A tap can fill a tank in 16 minutes and another can empty it in 8 minutes. If the tank is already ½ full and both the taps are opened together, will the tank be filled or emptied? It will take _____ mins before the tank is completely _____ as the case may be?
(a) Emptied; 16 min (b) Filled; 8 min (c) Emptied; 8 min
(d) Filled; 12 min (e) None of these

12. Radius of a cylinder is equal to the side of an equilateral triangle having area $16\sqrt{3}$ cm² and height of the cylinder is equal to the perimeter of the triangle. Then which of the following can be found?
I. Volume of cylinder. in cm^3
II. Area of the base of the cylinder
III. Perimeter of the cylinder
(a) I and II (b) Only II (c) I and III (d) I or III and II (e) All of these

13. In one litre of mixture of alcohol and water, 30% is water. The amount of alcohol that must be added to the mixture, so that the part of water in the mixture becomes 15%, is (in ml):
(a) 1000 ml (b) 700 ml (c) 300 ml (d) 900 ml (e) None of these

14. The surface area of a spherical part of a hemispherical bowl with a flat circular detachable cover, the area of the cover is 616 sq cm. What is the volume of the bowl? (approx. cm^3)
(a) 9839 (b) 5750 (c) 11450 (d) 19150 (e) None of these

15. Find the area of the shaded region in the given figure of square ABCD:
(a) 112 (b) 128 (c) 140 (d) 156 (e) 106



In following questions three statements either A, B and C or I, II and III are given. Question will be solved using these

statements. Solve the questions and give answer according to use of statements.

16. Arun borrowed a sum which is compounded annually, what is the amount he returned in 2 years?
I. Rate of interest is 6% per annum
II. Simple interest incurred on the sum in one year is Rs. 600
III. The borrowed sum is 10 times the amount earned as simple interest in two years.
(a) I and III (b) Only III and I or II(c) Only III (d) Any Two (e) II and either I or III.

17. What is the area of circle ?
Statement I: The radius of circle is three fifth of the slant height of a cone.
Statement II : The volume of cone is 432 cm^3.
Statement III : the ratio between radius of cone and side of a square is 3 : 4.
(a) I only (b) Any two (c) Only II and III (d) all (e) None.

18. What is the cost price of scooter ?
Statement A : The marked price of scooter is equal to selling price of a bike.
Statement B : The profit earned on selling the scooter is 15%.
Statement C : The selling prices of scooter and bike are in the ratio 3 : 5.
(a) B and C only (b) A and B (c) A and C (d) all (e) None.

19. What will be the average of five odd numbers?
A. The largest no. is greater than the smallest by 12.
B. The sum of the largest and smallest nos. is equal to twice the middle one.
C. The difference of the first two numbers is 16.
(a) B and C only (b) A and B (c) A and C (d) all (e) None.

20. What is speed of boat in still water?
I. speed of stream is two-third of speed of boat in still water
II. The boat covers 20 km in 2 hours in downstream
III. The boat covers 10 km in 5 hours in upstream.
(a) I only (b) Any two (c) Only II and III (d) all (e) None.

In the following questions two equations numbered I and II are given. You have to solve both the equations and give answer:
> means #, ≥ means @, < means $, ≤ means & and % means x = y or the relationship cannot be established
(a) if x # y (b) if x @ y (c) if x $ y (d) if x & y (e) x % y

21.
X. An amount of Rs. 6200 fetches simple interest of Rs. 1736 in two years. What is the rate of interest per cent per annum
Y. An amount of Rs. 4500 fetches compound interest of Rs. 1348.2 in two years. What is the rate of interest per cent per annum
(a) if x # y (b) if x @ y (c) if x $ y (d) if x & y (e) x % y

22.
X. Nigam got 42 marks in English which were half the marks he got in Biology. How many marks did Nigam get in Biology
Y. Nigam's marks in Biology were 14% of the total marks 200 he got in all the subjects together. How many marks did Nigam get in Biology
(a) if x # y (b) if x @ y (c) if x $ y (d) if x & y (e) x % y

23.
X. The boat travels at the speed of 4 km/h upstream and the boat travels at the speed of 6 km/h downstream. What is the speed of the boat in still water.
Y. The boat travels at the speed of 6 km/h upstream and the boat travels at the speed of 8 km/h downstream. What is the speed of the boat in still water.
(a) if x # y (b) if x @ y (c) if x $ y (d) if x & y (e) x % y

24.
X. $2x^2 + 11x + 14 = 0$
Y. $4y^2 + 12y + 9 = 0$
(a) if x # y (b) if x @ y (c) if x $ y (d) if x & y (e) x % y

25.
X. $x^2 - 7x + 12 = 0$
Y. $y^2 + y - 12 = 0$
(a) if x # y (b) if x @ y (c) if x $ y (d) if x & y (e) x % y