Assignment - 8

Distance & Time

1. If a 100 metres long train which is moving at 50 km. per hour, crosses another train which is 120 metre long and moving in opposite direction in 6 seconds, what is the speed of the second train?
(A) 40 km/hr (B) 82 km/hr
(C) 120 km/hr (D) 60 km/hr

2. A train running at the Rate of 40 km per hour passes a man riding parallel to the railway time in the same direction at 25 km per hour in 48 seconds. Find the length of the train in metres.
(A) 200 m (B) 50 m (C) 100 m
(D) 150 m

3. A train and a car start from the same point and at the same time. The speed of the car is 40 km per hour and that of the train is 50 km per hour. If the next station is at a distance of 100 km, then how earlier will the train reach the station than the car?
(A) 33 min. (B) 50 min. (C) 40 min.
(D) 30 min.

4. If the length of a train is 150 metres and it clears a pole in 12 seconds, what is the speed of the train in km per hour?
(A) 60 (B) 50 (C) 45
(D) 75

5. A train starts from Agra to Mathura at 60 km per hour and reaches there in 45 minutes. If at the time of returning its speed is reduced by 10%, how much time will it take from Mathura at Agra?
(A) 1 hour 10 min. (B) 55 min.
(C) 1 hour 20 min. (D) 50 minutes

6. Two horse riders are at two different places 30 km apart. They start towards one another. If their speeds are 15 km/hr and 12 km/hr respectively, After what time will they meet together?
(A) 2 hours 40 min. (B) 1 hour
(C) 45 minutes (D) 1 hour 6 min. 40 sec.

7. If a train running at the speed of 30 m/sec. crosses a 600 metres long platform in 30 seconds, what is the length of the train?
(A) 120 m (B) 200 m (C) 300 m (D) 150 m

8. A train 150 metres long is running at the rate of 30 m/sec. What time will it take to cross a man walking in the opposite direction at the speed of 5m/sec.?
(A) 3 secs. (B) $4\frac{2}{7}$ secs.
(C) 4 secs. (D) 6 secs.

9. If a wheel of train takes 4 rounds in a second. If the diameter of the wheel is 84 cm, what is its speed in kilometres per hour?
(A) 38.016 (B) 38.00
(C) 31.16 (D) 39

10. The distance between two stations P and Q is 220 km. A train starts from P to Q with the speed of 80 km/hr. After half an hour another train starts from Q to P with the speed of 100 km/hr. At what distance from P will both the trains meet?
(A) 110 km (B) 80 km
(C) 120 km (D) 100 km

11. In how many seconds a cyclist will pass a distance of 100 meters at the speed of 10 km per hours?
(A) 25 (B) 30
(C) 40 (D) 36

12. In what time will a train 150 m long cross another train 120 m long travelling in opposite direction at 60 km/hr?
(A) 90 secs (B) 18 secs
(C) cannot be determind (D) 72 secs.

13. A train crosses a platform 100 m long in 15 seconds and a man standing on a platform in 10 seconds. What is the speed of the train?
(A) 38 km/hr (B) 35 km/hr
(C) 75 km/hr (D) 72 km/hr

14. A train 1.2 km long is running over the bridge at the rate of 72 km./hr. If the length of the bridge is 1.2 km., in what time will it cross the bridge?
(A) 30 secs (B) 1 min.
(C) 1 min. 30 secs (D) 2 min.

15. If a train is running at the speed of 86.4 km/hr, how much distance will it cover in 10 minutes?
(A) 0.014 km (B) 144 km
(C) 14.4 km (D) 1.44 km

16. The distance between Delhi and Gaziabad is 110 km. Vijay starts from Delhi to Gaziabad at 10.00 a.m. with the speed of 20 km/hr. If Mahavir starts from Gaziabad to Delhi at 11.00 a.m. with the speed of 25 km/hr. at what time they meet?
(A) 11 a.m. (B) 1 p.m.
(C) 12 noon (D) 12.30 p.m.

17. A train is running at the speed of 36m/secs. If it passes a man walking in the opposite direction at the speed of 4m/sec in 10 seconds, what is the length of the train?
(A) 400 m (B) 500 m
(C) 320 m (D) 360 m

18. The distance between two stations is 330 km. If a train starts from one station to another at 30 km per hour and another train starts from the second station to the first at 25 km per hour at the same time at what distance from the first station will they meet?
(A) 250 km (B) 150 km
(C) 180 km (D) 240 km

19. A man walks a certain distance at 8 km/hr and returns at 6 km/hr. If the total time taken by him is $3\frac{1}{2}$ hours, the total distance walked is-
(A) 28 km (B) 24 km
(C) 14 km (D) 16 km

20. A policeman is running after a thief who has got a start of 200 metres. If the policeman runs $4\frac{1}{6}$ metres per sec. and the thief at $3\frac{1}{3}$ metres per sec., when will the thief be caught?
(A) 4 min. (B) 3 min.
(C) 2 min. (D) 5 min.

21. Walking at 4 km per a clerk reaches his office 5 minutes late. If he walkes at 5 km per hour, he reaches there $2\frac{1}{2}$ minutes earlier. What is the distance of the office from his house?
(A) 2 km (B) 3 km
(C) $2\frac{1}{2}$ km (D) 4 km

22. The time taken by a train 180 metres long, travelling at 42 km per hour, in passing a man, walking in the same direction at 6 km per hour, will be-
(A) 18 seconds (B) 21 seconds
(C) 24 seconds (D) 25 seconds

23. A monkey is climbing up a greased pole ascends 2 metres and slips 1 metre in alternate minutes. If the pole is 12 metres high, how long will it take him to reach the top?
(A) 22 min. (B) 24 min. (C) 25 min.
(D) 22.5 min.

24. The train A is 280 metres long while B is 350 metres long. The speeds of A and B are 38 km/hr and 25 km/hr respectively. If they are going in opposite directions, in how much times will A pass B completely?
(A) 33 Secs. (B) 34 Secs.
(C) 35 Secs. (D) 36 Secs.

25. I am walking on a platform at 8 km/hr. A train comes from behind and crosses me in 30 seconds If the length of the train be 300 m, its speed is:
(A) 40 km/hr (B) 44 km/hr
(C) 48 km/hr (D) 52 km/hr

26. A car completes a journey im 11 hours.it covers the first half of the journey at the rate of 50 km/hour and the second half at the rate of 60 km/hour. The distance of total journey (in km) is-
(A) 605 (B) 300
(C) 500 (D) 600

27. If a train 250 m long crosses a pole in 15 seconds, what is the speed of the train in km/hr?
(A) 25 (B) 50
(C) 60 (D) 80

Answers

1.(B) 2.(A) 3. (D) 4. (C) 5. (D) 6. (D) 7.(C) 8.(B) 9. (A) 10.(C) 11.(D) 12. (C) 13. (D) 14. (D) 15. (C) 16. (B) 17 .(A) 18. (C) 19. (B) 20. (A) 21. (C) 22. (A) 23. (D) 24. (D) 25. (B) 26. (D) 27. (C)

Assignment - 9
Boats & Streams

1. A boat is rowed down a river at 21 km/hr and up the river at 9 km/hr. What is the speed of the river?
(A) 4 km/hr (B) 5 km/hr
(C) 6 km/hr (D) 6.5 km/hr

2. A swimmer can swim downstream at 14 km/h r and upstream at 6 km/hr. What is the speed of the swimmer in still water?
(A) 10 km/hr (B) 9.5 km/hr
(C) 11 km/hr (D) 12 km/hr
(E) None of these

3. The speed of a boat in still water is 4 km/hr while its speed against the current is 2 km/hr. What is the speed of the current?
(A) 3 km/hr (B) 3.5 km/hr
(C) 2.5 km/hr (D) None of these

4. The speed of a boatman in the direction of current is 15 km/hr while the speed of the current is 1.5 km/hr. What is the speed of the boatman against the current?
(A) 11 km/hr (B) 12 km/hr
(C) 16.50 km/hr (D) 14.75 km/hr

5. If the speed of a boat in still water is 7 km/hr and its speed against the current is 2.5 km/hr, then what is its speed in the direction of the current?
(A) 14.5 km/hr (B) 13 km/hr
(C) 14 km/hr (D) 11.5 km/hr

6. The speed of a boat in still water is 9 km/hr and the speed of the stream is 2.5 km/hr. How much time will the boat take to go 9.1 km against the stream?
(A) 1 hr. 20 min. (B) 1 hr. 24 min.
(C) 1 hr. 30 min. (D) 2 hrs. 24 min.

7. A swimmer rows a distance of 36 km in 6 hours down stream and a distance of 40 km upstream in 8 hours. What is his speed in still water?
(A) 5.5 km/hr (B) 6 km/hr
(C) 7 km/hr (D) 11 km/hr

8. A man rows a distance of 16 km upstream in 4 hours while a distance of 36 km downstream in 6 hours. What is the speed of the stream?
(A) 7.5 km/hr (B) 2.5 km/hr
(C) 1.5 km/hr (D) None of these

9. If a boat takes 4 hours to cover a distance of 8 km up stream while the speed of the stream is 1.5 km/hr. What is the speed of the boat in still water?
(A) 4 km/hr (B) 6.4 km/hr
(C) 3.5 km/hr (D) 2.5 km/hr

10. A boat travels upstream from Q to P and downstream from P to Q in 3 hours. If the dsistance between P to Q is 4 km and the speed of the current is 1 km/hr, then what is the speed of the boat in still water?
(A) 4.5 km/hr (B) 5.2 km/hr
(C) 2.5 km/hr (D) 3 km/hr

11. The speed of the current is 5 km/hr. A motorboat goes 10 km upstream and back again to the starting point in 50 minutes. What is the speed of the motorboat in still water?
(A) 20 km/hr (B) 25 km/hr
(C) 28 km/hr (D) 30 km/hr

12. A boat travels upstream from P to Q and downstream from Q to P in 3 hours. If the speed of the boat in still water is 9 km/hr and the speed of the current is 3 km/hr, then what is the distance from P to Q?
(A) 14 km (B) 8 km
(C) 12 km (D) 5 km

13. A man can row 5 km/hour in still water and the speed of the stream is 1.5 km/hr. He takes on hour when he travels upstream to a place and back again to the starting point. How far is the place from the starting point?
(A) 2.5 km (B) 6.5 km
(C) 3.5 km (D) 2.275 km

14. A boat goes 11 km in an hour along the stream and 5 km an hour against the stream. The speed of the boat : (in km/hr) in still water is-
(A) 5 (B) 6 (C) 8 (D) 9

15. A boat travels from P to Q along the current and from Q to P against the current in 3 hours. If the speed of the boat in still water is 4 km/hr, then what is the distance between P and Q?
(A) 8 km (B) 6 km
(C) 12 km (D) Data inadequate

16. In 3 hours Anshu can go 21 km along the current and 15 km against the current in the same time. What is the speed of the current?
(A) 1 km/hr (B) 2 km/hr
(C) 2.5 km/hr (D) 4 km/hr

17. A man can row $9\frac{1}{3}$ km/hr in still water and he finds that it takes him thrice as much time to row up stream as to row down stream same distance, The speed of current is-
(A) $3\frac{1}{3}$ km/hr (B) $3\frac{1}{9}$ km/hr
(C) $1\frac{1}{4}$ km/hr (D) $4\frac{2}{3}$ km/hr

18. A boatman can row a certain distance down the stream in 2 hours and up the stream the same distance in 3 hours. If the stream flows at the rate of 4 km/hr, what is the speed of the boat in still water?
(A) 20 km/hr (B) 8 km/hr
(C) 16 km/hr (D) 15 km/hr

19. A boat goes to 6km upstream and back again to the starting point in 2 hours. If the speed of the current is 4 km/hr, what is the speed of the boat in still water ?
(A) 6.5 km/hr (B) 7.5 km/hr
(C) 8 km/hr (D) 8.5 km/hr

20. A boat covers 12 km upstream and 18 km downstream in 3 hours while it covers 36 km upstream and 24 km downstream in 6.5 hours, what is the speed of the current?
(A) 1.5 km/hr (B) 1 km/hr
(C) 2 km/hr (D) 2.5 km/hr

Answers

1. (C) 2. (A) 3. (D) 4. (B) 5. (D) 6. (B) 7. (A) 8. (D) 9. (C) 10. (D) 11. (B) 12. (C) 13. (D) 14. (C) 15. (D) 16. (A) 17. (D) 18. (A) 19. (C) 20. (C)

Assignment - 10

Problems on Ages

1. The sum of the ages of Jayesh, Prakash and Sameer is 93 years, 10 years ago the ratio in their ages was 2 : 3 : 4. What is the present age of Sameer?
   (A) 32 years (B) 24 years
   (C) 34 years (D) None
2. After 6 years Pradhan's age will be $\frac{3}{7}$ times the age of his father. 10 year ago the ratio in the age of Pradhan and his father was 1 : 5. What is the present age of Pradhan's father?
   (A) 40 years (B) 50 years
   (C) 56 years (D) Data is inadequate
3. The sum of the ages of A, B and C is 90 years. 10 years ago the ratio in their ages was 1 : 2 : 3. What is the present age of B?
   (A) 40 years (B) 20 years
   (C) 30 years (D) Data is inadequate
4. If from the present age of Guljar 6 years is subtraceted and the remainder is divided by 18, the result is the present age of his grandson Anup. If Anup is 2 years younger to Mahesh and Mahesh at present is 5 years old, what is the present age of Guljar?
   (A) 96 years (B) 59 year
   (C) 84 year (D) None
5. The ratio in the present ages of Amar and Anjali is 2 : 3. Three years hence it will be 3 : 4. What is the present age of Amar?
   (A) 6 years (B) 9 years
   (C) 15 years (D) Cannot be decided
6. The ratio in the present of Ramesh and Jayesh is 3 : 2. Four years ago Ramesh's age was more than Jayesh's age by 6 years. What is the present age of Jayesh?
   (A) 18 years (B) 12 years
   (C) 6 years (D) Data inadequate
7. The age of Sushil 6 years ago was three times the age of Snehal. 6 years hence the age of Sushil would be 5/3 times that of Snehal. What is the present age of Snehal?
   (A) 18 years (B) 24 years
   (C) 12 years (D) Cannot be decided
8. The age of the father, 4 years ago, was 5 times the age of his son. If the sum of their present ages is 44 years, what is the present age of the son?
   (A) 6 years (B) 10 years
   (C) 4 years (D) Cannot be decided
9. The ratio in the present ages of Jaydeep and Akash is 4 : 5. If Akash is 6 years elder to Jaydeep. What was the ratio in their ages 4 years ago?
   (A) 10 : 13 (B) 8 : 9 (C) 14 : 17 (D) 1 :2
10. The present age of Piyush is twice the age of Mangesh 2 years ago. If the difference of their ages is 2 years, what is the age of Piyush?
    (A) 14 years (B) 12 years
    (C) 10 years (D) None
11. The ratio in the present ages of a father and his son is 6 : 1. Five years hence it will be 7 : 2. What is the present age of the son?
    (A) 10 yrs (B) 9 yrs (C) 6 yrs (D) 5 yrs
12. The ratio in the ages of A and B, 1 year ago, was 3 : 4 while it will be 5 : 6 after 1 year, What is the present age of B?
    (A) 3 years (B) 4 years
    (C) 6 years (D) None
13. The ratio in the ages of Tarun and Gopal, one year ago, was 4 : 5 and after 1 year it will be 5 : 6 what is the present age of Gopal?
    (A) 9 years (B) 10 years
    (C) 12 years (D) None
14. The ratio in the ages of Vimal and Aruna is 3 : 5 and the sum of their ages is 80 years. What will be the ratio in their ages after 10 years?
    (A) 3 : 2 (B) 3 : 5 (C) 2 : 3 (D) 1 : 2
15. The present age of Sunil is more than the present age of Vishnu by 6 years. If the square of the difference of their ages three years before be 36. What will be the age of Sunil after 3 years?
    (A) 22 years (B) 27 years
    (C) 32 years (D) Cannot be decided
16. If the ratio in the ages of A, B and C is 3 : 7 : 9 and the differences in the ages of B and C is 8 years. What is the sum of their ages?
    (A) 40 years (B) 48 years
    (C) 76 years (D) 64 years
17. At present the ratio of the ages of Prakash and his daughter is 3 : 1 After five years the respective ratio would be 7 : 3. What is the present age of Prakash's daughter?
    (A) 10 years (B) 15 years
    (C) 5 years (D) Cannot be determined
18. After 15 years the age of man will be 4 times the age which 15 years ago. What is his present age?
    (A) 20 years (B) 30 years
    (C) 25 years (D) 40 years
19. A man has two children. The man's age is 3 times the sum of the ages of the children. After 5 years the man's age will be 2 times the sum of the ages of the children. What is the present age of the man?
    (A) 42 yrs (B) 48 yrs (C) 45 yrs (D) 57 yrs
20. The ratio in the ages of Gopi and Sudha after 5 years will be 4 : 5. If the sum of their present ages is 17 years what is the present age of Gopi?
    (A) 7 years (B) 10 years
    (C) 12 years (D) None
21. The ratio in the present ages of Kubal and Ganesh is 3 : 5. If after 4 years Kubal is younger to Ganesh by 12 years. What is the present age of Kubal?
    (A) 18 years (B) 14 years
    (C) 22 years (D) None
22. The ratio in the ages of Geeta and Sita, 10 years ago was 3 : 5. If in the present ages it is 2 : 3. What will be the ratio in their ages after 20 years?
    (A) 1 : 2 (B) 4 : 5 (C) 3 : 2 (D) 3 : 4
23. The ratio in the present ages of Chandrika and Gomti is 4 : 5. If the sum of their ages after 4 years is 80 years. What will be the ratio in their ages at that time?
    (A) 8 : 9 (B) 9 : 11
    (C) Ratio wil not change
    (D) Data is inadequate
24. At the time of marriage a man was 6 years elder to his wife but 12 years after the marriage his age was 6/5 times the age of his wife. What were their ages at time of marriage?
    (A) 25, 19 (B) 26, 20
    (C) 23, 7 (D) 24, 18
25. The sum of the ages of a father and his son is 88 years. If the ratio between their ages is 7 : 4, then their ages are :
    (A) 52 years and 36 years
    (B) 56 years and 32 years
    (C) 49 years and 28 years
    (D) 53 years and 35 years
26. The age of a father 10 years ago, was 5 times the age of his son. 20 years hence, the father's age would be 2 times that of his son. What is the ratio in their present ages?
    (A) 3 : 1 (B) 4 : 1
    (C) 3.5 : 1 (D) 2.5 : 1

Answers

1. (D) 2. (B) 3. (C) 4. (D) 5. (A) 6. (B) 7. (C) 8. (B) 9. (A) 10. (D) 11. (D) 12 (D) 13 (D) 14. (C) 15. (D) 16. (C) 17. (A) 18. (C) 19. (C) 20. (A) 21 (A) 22. (D) 23. (B) 24.(D) 25 (B) 26. (A)

Assignment - 11
Profit & Loss

1. A shopkeeper bought 60 dozen pens for Rs. 1400. He spent Rs. 40 on transport and Rs. 24 as coolie charges. If he paid 4 paise per pen as octroi, then in order to make a profit of 8%, what will be the S.P. of pens per dozen?
(A) Rs. 23 (B) Rs. 120
(C) Rs. 27 (D) None
2. A shopkeeper purchases a T.V. for Rs. 6000 and sells it at a loss of 15%, what is the selling price of it?
(A) Rs. 5100 (B) Rs. 5600
(C) Rs. 5900 (D) Rs. 5910
3. A shopkeeper buys some pens at the rate of Rs. 10 for 3 and twice these pens at the rate of Rs. 13 for 4. He sells all the pens at the rate of Rs. 59 per dozen. What is his profit per cent?
(A) 50% (B) 20% (C) 30% (D) 40%
4. An article is sold in loss for Rs. 120. If it is sold for Rs. 165, then the profit is half of the loss in the first case. What is the S.P. of the article if 30% profit is to be gained?
(A) Rs. 135 (B) Rs. 175
(C) Rs. 195 (D) Rs. 185
5. If the cost price of 6 mangoes is equal to the selling price of 5 mangoes. Find the profit per cent.
(A) 20% profit (B) $16\frac{2}{3}$% loss
(C) 20% loss (D) $16\frac{2}{3}$% profit
6. A fan whose C.P. is Rs. 650, is sold for Rs. 585; what is the loss per cent?
(A) 10.5% (B) 11% (C) 12% (D) 10%
7. The C.P. of an article is Rs. 200. It is sold at a loss of 20%. If its S.P. is decreased by Rs. 5, then what will be its new S.P.?
(A) Rs. 170 (B) Rs. 175
(C) Rs. 171 (D) Rs. 179
8. When an article is sold for Rs. 480 then profit is 20%. If the same article is sold for Rs. 580, then how many per cent will be the profit?
(A) 50 (B) 45 (C) 46 (D) 40
9. Dilip buys a radio at 3/4 of its value and sells it for 20% more than its value. What is his gain per cent?
(A) 60 (B) 45 (C) 20 (D) 75
10. A shopkeeper sells two radios for rs. 1540 each. On one of them he gains 12% and on the other he loses 12%. His total gain or loss is-
(A) Neither gain nor loss
(B) Gain of Rs. 165
(C) Loss of Rs. 45 (D) Gain of Rs. 45
11. A man purchased two horses for Rs. 500 each. He sold one horse at a gain of 15%. The other horse fell ill and it was sold at a loss. If total loss on the two horses is Rs. 45, what is the S.P. of the second horse?
(A) Rs. 455 (B) Rs. 470 (C) Rs. 200
(D) Rs. 380
12. A trader marks his goods at 40% above his cost price and allows a discount of 10% o the marked price. What profit per cent does he make?
(A) 30% (B) 36% (C) 40% (D) 26%
13. A bookseller sold two books for Rs. 240 each. On one of them he gains 20% and on the other he loses 20%. On the both his gain or loss is-
(A) Gain of Rs. 20 (B) Loss of Rs. 10
(C) Loss of Rs. 20 (D) Neither
14. A manufacturer sells a pair of glasses to a wholesale dealer at a profit of 18%. The wholesaler sells the same to a retailer at a profit of 20%. The retailer in turn sells them to a customer for Rs. 30.09 thereby earning a profit of 25%. The cost price for the manufacturer is-
(A) Rs. 15 (B) 16 (C) Rs. 17 (D) Rs. 18
15. A manufacturer sells an article to retailer at a profit of 5% and the retailer sells it to a customer at a profit of 8% for Rs. 283.50. the cost of production?
(A) Rs. 270 (B) Rs. 260 (C) Rs. 265 (D) 250
16. A dealer allows 16% discount to a retailer and the retailer allows 10% discount to a customer. These both discounts are given on the printed price of the book. If the customer pays Rs. 270 for a book and the dealer makes a profit of 5%, what is the C.P. of the book for the dealer?
(A) Rs. 252 (B) Rs. 243 (C) Rs. 240 (D) Rs. 250
17. The marked price of an article is Rs. 150. Two successive discounts are allowed on it. If the second discount is 12.5% and S.P. of the article is Rs. 105, what is the first discount?
(A) 15% (B) 20% (C) 10% (D) 25%
18. By selling an article Barun earned a profit equal to 1/4 th the price he bought it. If he sold it at Rs. 375, what was its cost price?
(A) Rs. 300 (B) Rs. 325
(C) Rs. 281.75 (D) Rs. 312.50
19. A man purchases a certain number of toffees at 25 per rupee and the same number of toffees at 20 per rupee. He mixes them together and sells at 45 for Rs. 2. What is his gain or loss percent?
(A) $1\frac{19}{81}$% gain (B) $2\frac{11}{81}$% loss
(C) $1\frac{19}{81}$% loss (D) None of these
20. Subhash purchased a taperecorder at 9/10 th of its value and sold it for 8% more than its value. What is his gain %?
(A) 18 (B) 12 (C) 10 (D) 20
21. A trader professes to sell an article at a loss of 6% but uses a falst weight of 900 gram for 1 kg. His gain per cent?
(A) $5\frac{1}{9}$ (B) 6 (C) $4\frac{4}{9}$ (D) 4
22. By selling an article for Rs. 270, the loss is equal to gain when it sold at a profit of 10%. The C.P. of the article?
(A) Rs. 90 (B) Rs. 110
(C) Rs. 300 (D) Rs. 363
23. A person who bought an article for Rs. 900 keeps his marked price such that his profit percentage and discount percentage both are equal to 10%. The marked price of the article in rupee's, is-
(A) 900 (B) 1000 (C) 1100 (D) 1150
24. An harmonium is sold for Rs. 16. If the percentage of loss is equal to the cost price, what is its cost price?
(A) Rs. 60 (B) Rs. 75
(C) Rs. 70 (D) Rs. 80
25. A shopkeeper allows a discount of 2.5% on cash payment and his profit is 17%. If he does not allow any discount, what will be his gain %?
(A) $14\frac{1}{2}$% (B) $19\frac{1}{2}$%
(C) 20% (D) 16%
26. A business man bought a plot of land for Rs. 60 lakh. He spent 30% of his investment on its development and made 50 plots from it. Now if he wants a profit of 35% on his total investment, what should be the selling price of each plot?
(A) Rs. 210600 (B) Rs. 273000
(C) Rs. 162000 (D) Rs. 18000
27. If a man buys 11 books for Rs. 10 and sells 10 books for Rs. 11. What is his gain per cent?
(A) 21 (B) 11 (C) 10 (D) 1
28. A trader sold a radio set at 5% loss. If it would have been sold for Rs. 55.25 more, there would have a profit of 8%. What was the cost price of the radio set?
(A) Rs. 534 (B) Rs. 345
(C) Rs. 425 (D) Rs. 354
29. I purchased I dozen pencils at 5 paise per pencil. For how much should I sell a pencil to make 20% profit?
(A) 9 paise (B) 10 paise (C) 7 paise
(D) 6 paise

30. If a cow is sold for Rs. 360, there is a loss of 20%. What should be the S.P. of the cow to earn a profit of 5% ?
(A) Rs. 400 (B) Rs. 410
(C) Rs. 425 (D) Rs. 420

31. The profit earned by selling an article for Rs. 752 is 1.2 times the loss incurred when the same article is sold for Rs. 400. What is the cost price of the article?
(A) Rs. 520 (B) Rs. 580
(C) Rs. 560 (D) Data inadequate

32. If the cost price of 50 articles is equal to the S.P. of 40 articles, then what is the loss% or profit per cent?
(A) 20% profit (B) 20% loss
(C) 25% loss (D) 25% profit

33. The marked price of a n umbrella is Rs. 80. If it is sold for Rs. 68, what is the rate of discount?
(A) $17\frac{11}{17}\%$ (B) 20%
(C) 12% (D) 15%

34. A man sold his watch at a loss of 5%. If it would have been sold by Rs. 56.25 more, then he would have gain 10%. What is the C.P. of the watch?
(A) Rs. 295 (B) Rs. 335
(C) Rs. 375 (D) Rs. 400

35. A trader bought some locks at the rate of 8 locks for Rs. 34 and sold them at 12 locks for Rs. 57. How many lock must be sold by him to gain Rs. 900?
(A) 1400 (B) 1600 (C) 1800 (D) 2000

36. A man sells each of his two articles for Rs. 99. On one he loses 1% and on the other he gains 10%. In the entire transaction he gains-
(A) 9% (B) $4\frac{4}{19}\%$ (C) 4.5% (D) 5.5%

37. The cost price of 16 articles is equal to the selling price of 12 articles. The gain per cent is-
(A) $33\frac{1}{3}$ (B) $66\frac{2}{3}$ (C) 25 (D) 75

38. Successive discounts of 10% and 20% are equivalent to a single discount of-
(A) 30% (B) 15% (C) 72%
(D) 28%

Answers

1. (D)	2. (A)	3. (A)	4. (C)	5. (A)
6. (D)	7. (C)	8. (B)	9. (A)	10. (C)
11. (D)	12. (D)	13. (C)	14. (C)	15. (D)
16. (C)	17. (B)	18. (A)	19. (D)	20. (D)
21. (C)	22. (C)	23. (C)	24. (D)	25. (C)
26. (A)	27. (A)	28. (C)	29. (D)	30. (D)
31. (C)	32. (D)	33. (D)	34. (C)	35. (C)
36. (B)	37. (A)	38. (D)		

Assignment - 12
Simple Interest

1. A man deposits Rs. 5,600 in a bank at $3\frac{3}{4}\%$ annual interest. After 6 months he withdraws Rs. 3,200 together with interest and after 12 months he withdraws the remaining money. How much does he get as interest?
(A) Rs. 150 (B) Rs. 105 (c) Rs. 160
(D) Rs. 175

2. If a sum of money amounts to Rs. 840 at 5% per annum simple interest in 12 months, what is the sum?
(A) Rs. 840 (B) Rs. 800 (C) Rs. 820
(D) Rs. 760

3. Ashok borrowed Rs. 5000 from Sanjay at simple interest. If Sanjay got Rs. 400 more than his capital after 4 years, what is the rate of interest per annum?
(A) 5 (B) 2 (C) 20 (D) 8

4. A trader lends Rs. 10000 for 2 years. The rate of interest is 20% per annum. After 1 year he gets Rs. 6000. How much will he get next year?
(A) Rs. 6000 (B) Rs. 6800
(C) Rs. 7200 (D) Rs. 7000

5. A bank pays 10% per annum interest on the money deposited and charges 12% per annum from the borrowers. If at the end of a year the bank earns Rs. 2.4 crores at simple interest, what was the money deposited?
(A) Rs. 240 crores (B) Rs. 480 crores
(C) Rs. 300 crores (D) Rs. 120 crores

6. At rate per cent per annum will Rs. 1200 amount to Rs. 1440 in 4 years?
(A) 12% (B) 11% (C) 6% (D) 5%

7. Rakesh borrowed some money for 6 years at 5% per annum. If he paid Rs. 1230 as interest, what sum did he borrow?
(A) Rs. 5330 (B) Rs. 5000
(C) Rs. 4100 (D) Rs. 5920

8. A man got Rs. 1.53 lakh as provident fund after his retirement. He deposited this amount in fixed deposit at 20% per annum. What will be his monthly income from this?
(A) Rs. 2500 (B) Rs. 2550
(C) Rs. 2250 (D) Rs. 2600

9. At what rate of simple interest will Rs. 400 amount to Rs. 480 in 4 years?
(A) 5% (B) $5\frac{1}{2}\%$
(C) 10% (D) $12\frac{1}{2}\%$

10. At what rate per cent simple interest will a sum of money double itself in 8 years?
(A) $8\frac{2}{3}\%$ (B) 12%
(C) $12\frac{1}{2}\%$ (D) $12\frac{1}{4}\%$

11. In what time will Rs. 1200 produce as much simple interest at 6% per annum as Rs. 900 n 6 years?
(A) 3 years (B) 9 years (C) 18 years
(D) 20 years

12. What sum at 10% per annum will produce as much simple interest in $1\frac{1}{2}$ years as Rs. 500 at 5% in 6 years?
(A) Rs. 2000 (B) Rs. 1500
(C) Rs. 1600 (D) Rs. 1000

13. If Rs. 450 in 4 years amount to Rs. 540, what sum will amount to Rs. 637.50 in 5 years at the same rate of interest?
(A) Rs. 500 (B) Rs. 600 (C) Rs. 510
(D) Rs. 625

14. In what time will Rs. 1250 amount ot Rs. 1400 at 4% per annum?
(A) 2 yrs (B) 5 yrs (C) 4 yrs (D) 3 yrs

15. A man had Rs. 20000, part of which he lent at 5% and the rest at 4%. The whole annual interest received was Rs. 920. How much did he lend at 5%?
(A) Rs. 6000 (B) Rs. 8000
(C) Rs. 10000 (D) Rs. 12000

16. If A lends Rs. 3500 to B at 10% per annum and B lends the same sum to C at 11.5% per annum, then the gain of B (in rupees) in a period of 3 years is-
(A) 107.50 (B) 115.50
(C) 157.50 (D) 177.50

17. What sum will amount ot Rs. 15000 at 10% per annum in 5 years?
(A) Rs. 12500 (B) Rs. 10000
(C) Rs. 22500 (D) Rs. 12000

18. A sum of money at simple interest amounts to Rs. 744 in 2 years and Rs. 816 in 3 years. The principal is-
(A) Rs. 600 (B) Rs. 625
(C) Rs. 675 (D) Rs. 700

19. Rs. 600 amounts ot Rs. 720 at simple interest in 4 years. If the rate of interest is increased by 2%, what will be the amount?
(A) Rs. 648 (B) Rs. 672
(C) Rs. 768 (D) 792

20. What sum of money will amount ot Rs. 1460 in 4 years at $11\frac{1}{2}\%$ per annum simple interest?
(A) Rs. 564 (B) Rs. 1000
(C) Rs. 790 (D) Rs. 1200

21. If a certain sum of money at simple interest amounts to Rs. 2800 in 2 years and to Rs. 3250 in 5 years, what is the rate of interest per cent per annum?

(A) 5% (B) 3% (C) $4\frac{1}{2}$% (D) 6%

22. What is the simple interest on Rs. 540 at 3% per annum in $2\frac{1}{2}$ years?

(A) Rs. 32.50 (B) Rs. 59.50
(C) Rs. 40.50 (D) Rs. 27.50

23. In how many years Rs. 600 at 10% will earn the same simple interest as Rs. 800 at 12% in 5 years?

(A) 12 yrs (B) 6 yrs (C) 16 yrs (D) 8 yrs

24. Hire Lal invested Rs. 500 for 4 years and Rs. 600 for 3 years at simple interest. If the total interest on both in Rs. 190, what is the rate of interest per cent per annum.

(A) 10% (B) 2%
(C) 7% (D) 5%

25. If a sum of money doubles itself in 16 years, how many times will it be in 8 years?

(A) $1\frac{1}{4}$ (B) $1\frac{1}{2}$

(C) $1\frac{1}{3}$ (D) $1\frac{1}{6}$

26. A per4son lent a certain sum of money at 4% annum at simple interest and in 8 years the interest amounted to Rs. 340 less than the sum lent. what was the sum he lent?

(A) Rs. 40 (B) Rs. 450
(C) Rs. 550 (D) Rs. 500

27. some money out of Rs. 1550 was lent at 5% and the rest at 8% per annum at simple interest. If the total interest on the whole amount for 3 years is Rs. 300,, what is the ratio in parts of money?

(A) 5 : 8 (B) 31 : 6
(C) 8 : 5 (D) 16 : 15

28. In how many years will a sum of money treble itself at 10% per annum simple interest?

(A) 30 (B) 35 (C) 10 (D) 20

29. If the simple interest of a certain sum of money at $3\frac{3}{4}$% per annum for $2\frac{1}{3}$ years is Rs. 210, what is the sum?

(A) Rs. 1580 (B) Rs. 2802
(C) 2400 (D) Rs. 2600

30. A sum of money, Invested at simple interest for two years at 5% per anum amounted to Rs. 2,750. The rate at which the sum should have been invested to get Rs. 3,000 after two years would be-

(A) $7\frac{1}{2}$% (B) 8%

(C) 10% (D) $12\frac{1}{2}$%

31. A sum of money at simple interest becomes four times in 24 years. The rate per cent of interest per annum is-

(A) 12.5 (B) 12.0
(C) 12.2 (D) 11.0

32. the rate of interest for the first two years is 3% per annum, for next 3 years is 6% per annum and for the period beyond 5 years 9% per annum. What will be the simple interest of Rs. 4000 for 10 years?

(A) Rs. 1296 (B) Rs. 7200
(C) 1320 (D) Rs. 2760

33. A sum of money doubles itslef in 8 years. In how many years will it treble?

(A) 12 (B) 16
(C) 18 (D) 24

34. A certain sum of money at simple interest becomes Rs. 1062 in 2 years and Rs. 1183.50 in ... years. What is rate of interest per annum?

(A) 7% (B) 6%
(C) 9% (D) 5%

35. In 5 years the simple interest on certain sum amounts to one-fourth of the sum. The rate f interest per annum is-

(A) 4% (B) 5%
(C) 6% (D) 10%

36. If Rs. 5000 amounts to Rs. 7500 in 5 years at simple interest, what is the rate of interest per annum?

(A) 5% (B) 7.5%
(C) 10% (D) 15%

37. In how many years a sum will be double at 5% simple interest?

(A) 5 (B) 10
(C) 15 (D) 20

38. A certai sum at certain rate % per annum simple interest becomes Rs. 2100 in 2 years and Rs. 2250 in 5 years. The Principal and rate of interest are-

(A) Rs. 1800; 3% (B) Rs. 1800; 5%

(C) Rs. 2000; 3% (D) Rs. 2000; $2\frac{1}{2}$%

Answers

1. (A)	2. (B)	3. (B)	4. (C)	5. (D)
6. (D)	7. (C)	8. (B)	9. (A)	10. (C)
11. (B)	12. (D)	13. (C)	14. (D)	15. (D)
16. (C)	17. (B)	18. (A)	19. (C)	20. (B)
21. (D)	22. (C)	23. (D)	24. (D)	25. (B)
26. (D)	27. (D)	28. (D)	29. (C)	30. (C)
31. (A)	32. (D)	33. (B)	34. (C)	35. (B)
36. (C)	37. (D)	38. (D)		

Assignment - 13
Compound Interest

1. What will be the compound interest on Rs. 240 for 2 years at 4% per annum?

(A) Rs. 19.20 (B) Rs. 9.60
(C) Rs. 19.18 (D) 19.58

2. On what sum of money will be the difference between simple interest and compound interest for 2 years at 4% per annum be equal to Rs. 50?

(A) Rs. 31250 (B) Rs. 20400
(C) Rs. 100000 (D) Rs. 25000

3. If a certain sum of money invested at compoind interest becomes double in 4 years, in how many years will it become 8 times of it?

(A) 16 years (B) 12 years
(C) 8 years (D) 10 years

4. If the simple interest on certain sum of money be Rs. 303.60 for 3 years at 4% per annum, what will be the compound interest on the same sum of money and same time and rate?

(A) Rs. 310.80 (B) Rs. 421.70
(C) Rs. 315.90 (D) Rs. 350.70

5. The difference between simple interest and compoind interest on a sum of money for 2 years at 10% per annum is Rs. 15. The sum of the money is-

(A) Rs. 1500 (B) Rs. 1200
(C) Rs. 1800 (D) Rs. 15000

6. Find the compoind interest on Rs. 15000 at 8% per annum payable half yearly for 1 year.

(A) Rs. 1500 (B) Rs. 1432
(C) Rs. 1200 (D) Rs. 1224

7. Find the ompound interest on Rs. 3000 at 10% per annum for 3 years.

(A) Rs. 900 (B) Rs. 933
(C) Rs. 993 (D) Rs. 963

8. If the simple interest on a certain sum for 3 years at 8% per annum is half of the compoind interest n Rs. 400 for 2 years at 10% per annum, what is the sum?

(A) Rs. 125 (B) Rs. 175
(C) Rs. 200 (D) Rs. 150

9. The difference between compound interest compoinded annually and simple interest on Rs. 500 in a year at 10% per annum is-

(A) Rs. 10 (B) Rs. 5
(C) Re. 1 (D) Nil

10. If a certain sum of money invested at compound interest amounts to Rs. 1452 in 2 years and Rs. 1597.20 n 3 years, what is the rate of interest?
(A) 11% (B) 12%
(C) 10% (D) 9%

11. If Rs. 500 amounts to Rs. 583.20 in 2 years compoinded annually, the rate of interest per annum is-
(A) 6% (B) $6\frac{1}{2}\%$
(C) 7% (D) 8%

12. Ram and Shyam together lent Rs. 17261 at 5% interest compounded annually. If the amount of Ram for 2 years is the same as the amount of Shyam for 5 years, then Ram's investment is more than Shyam's investment by-
(A) Rs. 8000 (B) Rs. 9261
(C) 4000 (D) Rs. 1261

13. If Rs. 1000 is lent at the rate of 10% per annum at compound interest then what will be its amount after 3 years?
(A) Rs. 1111 (B) Rs. 1221
(C) Rs. 1470 (D) Rs. 1331

14. If the simple interest on a certain sum of money at 5% per annum for 2 years is Rs. 160, what will be the compound interest on the same sum for the same time and the same rate of interest?
(A) Rs. 146 (B) Rs. 168
(C) Rs. 165 (D) Rs. 164

15. If a certain sum of money invested at compoind interest amounts to Rs. 8820 for 3 years and Rs. 9261 for 4 years, what is the rate of interest per annum?
(A) 4% (B) 3% (C) 5% (D) 6%

16. In how many years will Rs. 500 amount to Rs. 605 at 10% per anum compoind interest?
(A) 3 years (B) 2 years
(C) 4 years (D) 2.5 years

17. If a certain sum of money amounts to Rs. 800 for 2 years and Rs. 880 for 3 years then how much will it amount in 4 years?
(A) Rs. 920 (B) Rs. 968
(C) Rs. 898 (D) Rs. 1000

18. If the difference between the simple interest and the compound interest on a certain sum of money for 3 years at 5% per annum is Rs. 30.50, what is the sum?
(A) Rs. 2700 (B) Rs. 2500
(C) Rs. 4000 (D) Rs. 3300

19. If a certain sum of money at compound interest amounts ot Rs. 11025 for 2 years and Rs. 11576.25 for 3 years, what is rate of interest per cent per annum?
(A) 3% (B) 3.5% (C) 4% (D) 5%

20. A sum of money was lent at 5% per annum compound interest. If the amount for 3 years is more than amount for 2 years by Rs. 441, what is the sum?
(A) Rs. 9000 (B) Rs. 5000
(C) Rs. 7000 (D) Rs. 8000

21. A certain sum of money was lent at 4% per annum compound interest. If the interest for the second year was more than its interest for first year by Rs. 0.88, what is the sum?
(A) Rs. 750 (B) Rs. 450
(C) Rs. 550 (D) Rs. 650

22. The populatin of a town increases by 5% each year. If its persent populatin is 37044, how many years before was its population equal to 32000?
(A) 2 (B) 5 (C) 4 (D) 3

23. The populatin of a town increases each years by 10%. If its total population is 10648, what was its population 3 years before?
(A) 10000 (B) 9000
(C) 11000 (D) 8000

24. The present population of a town is 50000. If it decrease at 20 per thousand each year, what will be its populatin after 2 years?
(A) 46000 (B) 48020
(C) 46200 (D) 48320

25. Ram kumar saves Rs. 200 at the end of each year and lends this saving at 5% compound interest. How much will it worth at the end of 3 years?
(A) Rs. 662.03 (B) Rs. 640.00
(C) Rs. 664.80 (D) 650.70

26. A factory has a machine of Rs. 27400. Because of being used its value depriciates each year by 5% of its value. What will be its value after 3 years?
(A) Rs. 22492.08 (B) 24507.72
(C) Rs. 23492.08 (D) Rs. 23408.12

27. A man borrowed equal amount of money in each year at compound interest. If he repaid Rs. 3641 in 3 years at 10% per annum, what amount did he borrow each year?
(A) Rs. 781 (B) Rs. 827
(C) Rs. 978 (D) Rs. 1000

28. A sum lent at compound interest amounts n 2 years to Rs. 578.40 and in 3 years to Rs. 614.55. The rate of interest per annum is-
(A) $5\frac{1}{4}\%$ (B) $6\frac{2}{3}\%$
(C) $6\frac{1}{3}\%$ (D) $6\frac{1}{5}\%$

29. A money lender lends Rs. 2000 for 6 months at 20% per annum, wheres the interest is compounded quarterly. After the given period he will get the amount of-
(A) Rs. 2205 (B) Rs. 2200
(C) 2160 (D) Rs. 2040

30. If a sum is doubled in 3 years at a rate of compound interest, in how many years will it be 16 times at the same rate of interest?
(A) 6 (B) 8
(C) 12 (D) 24

31. If a sum of money put out at compound interest amounts to Rs. 1460 in 2 years and Rs. 1606 in 3 years, what is the rate of interest?
(A) 9% (B) 10%
(C) 11% (D) 12%

32. The population of a village decreases at the rate of 20% per annum. If its populatin 2 years ago was 10,000, what is its present population?
(A) 6000 (B) $\frac{10000}{144}$
(C) 6400 (D) 7600

33. The compound interest on a certain sum at 5% for 2 years is Rs. 328. The simple interest for that sum at the same rate and for the same period will be :
(A) Rs. 320 (B) 322
(C) 325 (D) Rs. 326

34. At what per cent per annum compound interest will a sum of money be 8 times of itself in 3 years?
(A) 100% (B) 8%
(C) 1% (D) Data insufficient

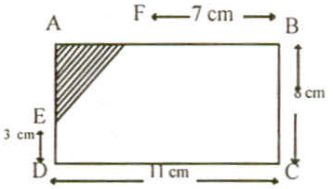
35. The difference between the compound interest and simple interest on a sum of Rs. 4,000 for 3 years at 5% per annum is-
(A) Rs. 30.00 (B) Rs. 26.90
(C) Rs. 30.50 (D) Rs. 30.78

Answers

1. (D)	2. (A)	3. (B)	4. (C)	5. (A)
6. (D)	7. (C)	8. (B)	9. (D)	10. (C)
11. (D)	12. (D)	13. (D)	14. (D)	15. (C)
16. (B)	17. (B)	18. (C)	19. (D)	20. (D)
21. (C)	22. (D)	23. (D)	24. (B)	25. (A)
26. (C)	27. (E)	28. (D)	29. (A)	30. (C)
31. (B)	32. (C)	33. (A)	34. (A)	35. (C).

Assignment - 14
Area

1. If the length of a rectangle is 8 cm and its diagonal is 10 cm long, what will be its area?
(A) 24 cm² (B) 80 cm²
(C) 40 cm² (D) 48 cm²
2. The area of a rhombus whose diagonals are 2.5 cm. and 3.17 cm is-
(A) 3.75 cm² (B) 2.96 cm²
(C) 3.96 cm² (D) 4.96 cm²
3. A room is 5m long and 3m wide. If on all its four walls a 40cm broad paper is pasted upto the height of 1 metre, what will be the legth of the paper?
(A) 20 m (B) 40 m
(C0 50 m (D) 60 m
4. A fired is 40m long and 30m wide. It is surrounded by path uniform width of 2m. If on this path stones are laid at the rate of 50 paise per sq. metre, what will be the total expenditure?
(A) Rs. 144 (B) Rs. 74.
(C) Rs. 148 (D) Rs. 296
5. Area of a rectangle is 7200 cm2. If the legth of the rectangle is double the width, what is the width?
(A) 120 cm (B) 80 cm
(C) 40 cm (D) 60 cm
6. A garde is 70m long and 30m wide. It is suddounded by a footpath 5m wide outside. What is the area of the path?
(A) 2200 m² (B) 1100 m²
(C) 550 m² (D) 625 m²
7. The area of a rectangular field is 15 times the sum of its length and breadth. If the legth of that field is 40 metres, what is the breadth of that field?
(A) 25 metres (B) 20 metres
(C) 24 metres (D) Data inadequate
9. A paper is in a square form whose on side 20 cm. Two semicircles are drawn on its opposite sides as diameters. If these semicircles are cut down. Waht is the area of the remaining paper?
(A) $(400 - 100\pi)$ cm² (B) $(400 - 2\pi)$ cm²
(C) $(400 - 200\pi)$ cm² (D) 200π cm²
10. What is the perimeter of the square whose area is equal to the area of the circle whose circumference is 2π?
(A) 2π (B) $\sqrt{\pi}$ (C) π (D) $4\sqrt{\pi}$
11. The area of an isosceles triangle whose base is 3 cm and perimeter 8 cm is-
(A) 2.5 cm² (B) 3.0 cm²
(C) 3.5cm² (D) 3.25 cm²
12. In the figure given below, what is area of the shaded region when a square is drawn inside the circle?
(A) $(16\pi - 16)$ cm² (B) $(16\pi 64)$ cm²
(C) $(16\pi - 8)$ cm² (D) $(16\pi - 32)$ cm²
13. If the radii of two concentric circles are 5 cm and 4 cm, what is the area between the two circles?
(A) $\frac{550}{7}$ cm² (B) $\frac{352}{7}$ cm²
(C) $\frac{198}{7}$ cm² (D) $\frac{176}{7}$ cm²
14. If the circumference of a circle is equal to the perimeter of a square then what is the ratio of the area of the circle to the area of the square?
(A) 22 : 7 (B) 14 : 11
(C) 11 : 7 (D) 4 : 1
15. The width of a room is 5m. What is the length of the room when Rs. 135 is spent on covering the floor by bricks at Rs. 3.50 per sq. metre?
(A) 6 m (B) 5 m (C) 10 m (D) 8 m
16. A lawn is 25 m long and 16 m wide. How many tiles will be required to cover the loan, ,of size 20cm × 10 cm?
(A) 18000 (B) 17000
(C) 20000 (D) 25000
17. In the figure given below, what is the area of the pentagon BCDEF?



(A) 88 cm² (B) 78 cm²
(C) 98 cm² (D) 68 cm²
18. The length of a rectangular hall is $\frac{4}{3}$ of its width. If the area of the hall is 300 m², what is the difference between the length and breadth?
(A) 15 m (B) 20 m (C) 3 m (D) 5 m
19. If te each side of a square is increased by 50%, then by how much per cent will its area be increased?
(A) 50 (B) 100 (C) 125 (D) 150
20. Length and breadth of a rectangular field is 120 m and 80 m respectively. Inside it a road of uniform width 12 m is left on all the sides. I the remaining part a park is made. What is te area of the road?
(A) 3224 m² (B) 7344 m²
(C) 2256 m² (D) 4224 m²
21. The area of an equilateral triangle,, whose one side is 7 cm, is-
(A) 21.64 cm² (B) 21.32 cm²
(c) 21.22 cm² (D) 21.25 cm²
22. If the length of a rectangle is increased by 30% and its width is decreased by 30%, how much per cent will its area change?
(A) 6 (B) 9 (C) 18 (D) 24
23. If the length of a plot is double its width. If a square piece of land of area 150 m² occupies $\frac{1}{3}$ area of the plot, then what is the length of the plot?
(A) 15 m (B) 7.5 m
(C) 30 m (D) 10 m
24. the area of a circle is the sum of the areas of two triangles whose sides in cm are respectively 35, 53, 66 and 33, 56, 65. the radius of the circle will be-
(A) 25.249 cm (B) 24.249 cm
(C) 20.25 cm (D) 14.249
25. If the length of a rectangle is increased by 60%, by what per cent the width be decreased to maintain the same area?
(A) 120 (B) 60 (C) 37.5 (D) 75
26. If the length of a rectangle is 5 cm more than its width and its area 24 cm², what is the perimeter of the rectangle?
(A) 6 cm (B) 11 cm
(C) 30 cm (D) None
27. If the length of a rectangular piece of land is doubled, then what will be the ratio of the area of the new land to the area of the old land?
(A) 4 : 1 (B) data inadequate
(C) 1 : 4 (D) 2 : 1
28. When a fence is put aroud a rectangular garden at a rate of Rs. 5 per metre it costs Rs. 2500. If the length of the garden $1\frac{1}{2}$ of its width, what is its width?
(A) 200 m (B) 300 m
(C) 100 m (D) 150 m
29. If the side of an equilateral triangle is $4\sqrt{3}$ cm, ites area is-
(A) $\frac{12}{\sqrt{3}}$ cm² (B) $\frac{24}{\sqrt{3}}$ cm²
(C) $12\sqrt{3}$ cm² (D) $24\sqrt{3}$ cm²
30. The area of the four walls of a room is 128 sq. m. The length is equal to the width and the height is 4 metres. The area of te floor of the room is-
(A) 32 sq. m. (B) 49 sq. m.
(C) 64. sq. m. (D) 81. sq. m.
31. The perimeter of a suare is 50 cm. The length of the rectangle, which is 10 cm. wide and has area equal to that of the suare, is-
(A) 16 cm (B) $15\frac{5}{8}$ cm
(C) $12\frac{2}{5}$ cm (D) $18\frac{3}{4}$

32. A square field with side 30 metres is surrounded by a path of uniform width. If the area of the path is 256 m^2, the width of the path is-
(A) 14 m (B) 16 m
(C) 4 m (D) 2 m

33. If a hall 20m × 20 m is such that the sum of the areas of the floor and roof is equal to that of four walls, then height is-
(A) 3 m (B) 8 m
(C) 10 m (D) 12 m

34. The area of a triangle, whose sides are 5 cm, 13 cm and 12 cm is-
(A) $30\sqrt{3}$ cm^2 (B) 40 cm^2
(C) 20 cm^2 (D) 30 cm^2

35. A wire, bent in the form a square, encloses an area of 484 cm^2. If the same wire is bent so as to form a circle, then the area enclosed will be : $\left(\text{use } \pi = \frac{22}{7}\right)$
(A) 484 cm^2 (B) 538 $\frac{2}{7}$ cm^2
(C) 616 cm^2 (D) 644 cm^2

36. A room is 6m × 5m × 4m. There is a door which is 2.5m × 1.2m and a window 1m × 1m. to cover the walls of the room, how much paper in sq. metres will be required?
(A) 84 (B) 100 (C) 120 (D) 85

37. If a square tile of 14 ft is used the cost is Rs. 10780, then what rate of tile per sq. ft?
(A) Rs. 770 (B) Rs. 55
(C) Rs. 385 (D) rs. 193

38. The length of a rectangular plot is 75% of its breadth. If the perimeter of the plot be 1050 m, what is its area?
(A) 120000 m^2 (B) 17500 m^2
(C) 67500 m^2 (D) 270000 m^2

39. If the diagonal of a square be 6 inches, what in square inches will be the area of that square?
(A) 9 (B) 12 (C) 18 (D) 36

40. If the radii of two concentric circles are 15 cm and 13 cm respectively, the area of the annular ring in cm^2 is-
(A) 176 (B) $12\frac{4}{7}$
(C) 88 (D) $6\frac{2}{7}$

41. One side of a rectangular field is 4 metres and its length along diagonal is 5 metres. What is the area of the field?
(A) 12 m^2 (B) 20 m^2
(C) $4\sqrt{15}$ m^2 (D) 15 m^2

Answers

1. (D)	2. (C)	3. (B)	4. (C)	5. (D)
6. (B)	7. (C)	9. (A)	10. (D)	11. (B)
12. (B)	13. (D)	14. (C)	15. (B)	16. (A)
17. (C)	18. (B)	19. (D)	20. (C)	21. (D)
22. (C)	23. (B)	24. (C)	25. (B)	26. (C)
27. (D)	28. (D)	29. (C)	30. (C)	31. (C)
32. (B)	33. (D)	34. (C)	35. (D)	36. (C)
37. (A)	38. (B)	39. (C)	40. (A)	41. (A)

Assignment - 15
Cuboid & Cube

1. If an edge of a cube is 5 cm, the volume of the cube will be :
(A) 15 cm^3 (B) 1000 cm^3
(C) 25 cm^3 (D) 125 cm^3

2. The length, breadth and height of a cuboid are 6m, 5m and 4m respectively. How many cuboids measuring 25 cm × 12 cm × 10 cm each can be placed in this big cuboid?
(A) 4000 (B) 40000 (C) 400 (D) 40

3. If the length, breadth and height of a cuboid are 12 cm, 4 cm, and 3 cm respectively, what is its volume?
(A) 144 cm3 (B) 48 cm
(C) 72 cm (D) 108 cm

4. The volume of a cuboid is 210 cm^3. If its base area is 42 cm^2, what is its height?
(A) 4 cm (B) 3 cm
(C) 5 cm (D) 8 cm

5. A rectangular field is 30 m long and 20 m broad. How much deep it should be dug so that from the earth taken out, a platform can be formed which is 8 m long 5.5 m broad and 1.5 m high where as the earth taken out is increased by 10%?
(A) 12 cm (B) 8 cm
(C) 18 cm (D) 10 cm

6. A tank is 4 m long, 3 m wide and 1.5 m deep. In it water is filled upto a height of 0.6 m. How many rectangular pieces of stones each measuring 15 cm × 10 cm × 8 cm must be put in the tank so that water may come upto the top?
(A) 500 (B) 800 (C) 700 (D) 900

7. A card board is in the shape of a square whose each side is 10 cm. From its each corner a small quare of 3 cm is cut down and the corner is then folded such that an open box is made. The volume of this open box is :
(A) 36 cm^3 (B) 54 cm^3
(C) 48 cm^3 (D) 60 cm^3

8. Each edge of a cube is 55 cm. If each edge of it is increased by 20%, how many per cent the volume of the resulting cube will be increased from the volume of the original cube?
(A) 73.8% (B) 72.8%
(C) 36.4% (D) 50.3%

9. If the total surface area of a cube 726 m^2, what will be its volume?
(A) 1331 m^3 (B) 1300 m^3
(C) 1452 m^3 (D) 1542 m^3

10. A tank is 25 m long and 16 m wide. If water is poured into it upto the height of $\frac{1}{2}$ m from the bottom, what will be the volume of water in cu. metre?
(A) 400 (B) 100 (C) 200 (D) 220

11. If in a box of dimensions 6m × 5 m × 4 m, small boxes of dimensions 60 cm × 50 cm × 40 cm are kept in it, then what will be the maximum number of the small boxes that can be kept in it?
(A) 500 (B) 1000 (C) 900 (D) 600

12. A metallic hollow cube is made up of a sheet of metal 0.1 cm thick. If the outer edge of the cube is 4 cm in length, what will be the volume of the metal needed to make the cube?
(A) 9 cm^3 (B) 8 cm^3
(C) 7 cm^3 (D) 9.128 cm^3

13. Height of a wall is 5 times of its width and its length is 8 times of its height. If the volume of the wall is 18825 m^3, what is the width of the wall?
(A) 4 m (B) 5 m (C) 4.5 m (d) 6 m

14. Length, breadth and height of a box are 80 cm, 60 cm and 70 cm respectively. What will be the maximum length of the rod that can be placed in it?
(A) 100 cm App. (B) 140 cm App.
(C) 130 cm App. (D) 122 cm App.

15. A canal is 10 m deep and 200 m wide. Its water flows from it to a sea at the speed of 4.5 km. per hour. How many cubic metres of water is flowing per sec?
(A) 1500 (B) 15000
(C) 2.5 (D) 2500

16. There are three metallic solid cubes of volumes 125 cm^3, 64 cm^3 and 27 cm^3. These cubes are recasted into one big solid cube. What will be the edge of the cube so formed in cm?
(A) 7 (B) 8 (C) 6 (D) 2.3

17. A brick measures 25 cm × 15 × 8 cm. How many brick will be required for a wall 32 m long, 3 m high and 40 cm thick?
(A) 12000 (B) 12800
(C) 16000 (D) 20000

18. 50 students sit in a room. Each student requires 9m^2 on the floor and 108 m^3 in space. If the length of the room is 25 m, what is its height?
(A) 12 m (B) 18 m
(C) 16 m (D) 15 m

19. Three cubes of iron of edges 9 cm, 12 cm and 15 cm respectively are melted to form a large single cube. The edge

of the new cube is-
(A) 10 cm (B) 14 cm
(C) 18 cm (D) 16 cm

20. If the sides of two cubes are in the ratio 3 : 1, the ratio of their total surface areas is-
(A) 3 : 1 (B) 8 : 1
(C) 9 : 1 (D) 12 : 1

21. The inner dimensions of a closed box are 115, cm, 75 cm and 35 cm and the thickness of the wood of which the box is made is 2.5 cm. The volume of the wood is-
(A) 80,000 cm^3 (B) 82,125 cm^3
(C) 84,000 cm^3 (D) 85,000 cm^3

22. the edges of three metallic cubes are in the ratio of 3 : 4 : 5. These cubes are recasted into a single cube whose diagonal is 12 $\sqrt{3}$ cm. The edges of the three cubes are-
(A) 6, 8, 10 cm (B) 6, 12, 16 cm
(C) 8, 12, 16, cm (D) 8, 16, 24 cm

23. The length, breadth and height of a cuboid are in the ratio 7 : 4 : 3. If the whole surface of the cuboid is 1098 square cm, then its dimensions are-
(A) 21, 12, 9 cm (B) 12, 18, 6 cm
(C) 21, 18, 6 cm (D) 14, 8, 6 cm

24. Two cubes each 12 cm edge are joined end to end. The surface area of the resulting cuboid is :
(A) 1660 cm^2 (B) 1440 cm^2
(C) 1640 cm^2 (D) 1460 cm^2

25. A rectangular vessel (A) whose dimensions are 100 cm × 75 cm × 25 cm, is filled with water. Some of its water is used to fill another vessel whose dimensions are 50 cm × 50 cm × 25 cm. What will be the volume in litres of the remaining water in vessel (A) ?
(A) 25 (B) 50 (C) 125 (D) 150

Answers

1. (D)	2. (B)	3. (A)	4. (C)	5. (D)
6. (D)	7. (C)	8. (B)	9. (A)	10. (C)
11. (B)	12. (D)	13. (C)	14. (D)	15. (D)
16. (C)	17. (B)	18. (A)	19. (C)	20. (C)
21. (B)	22. (A)	23. (A)	24. (B)	25. (C)

Assignment - 16
Cylinder & Cone

1. The heights of two right circular cones are in the ratio 1 : 2 and their perimeters of their bases are in the ratio 3 : 4. The ratio in their volume is :
(A) 3 : 8 (B) 9 : 16
(C) 9 : 32 (D) 9 : 64

2. A right circular cone and right circular cylinder have equal base and equal height. If the radius of the base and the height are in the ratio 5 : 2, then the ratio of the total surface area of the cylinder to that of the cone is :
(A) 13 : 9 (B) 17 : 9
(C) 3 : 1 (D) 34 : 9

3. If each of the height and diameter of the base f a cone is increased by 100% then the volume of the cone will be :
(A) 2 times (B) 3 times
(C) 6 times (D) 8 times

4. Two cylinderical pots contain the same amount of water. If their diameters are in the ratio 2 :3, the ratio of their heights is :
(A) 2 :3 (B) 9 : 2
(C) 9 : 3 (D) 9 : 4

5. If diameter of base of a right circular cone is 6 cm and height is 4cm then its curved surface will be :
(A) 15π cm^2 (B) 20π cm^2
(C) 36π cm^2 (D) 45π cm^2

6. If the radius of the base of a drum whose both ends are closed, is $\frac{7}{2}$ m and its height is 5m then total surface area of the drum is :
(A) 110 m^2 (B) 150 m^2
(C) 175 m^2 (D) 187 m^2

7. If each of the radius and height of a cylinder is increased by 10% then the volume will increase how many per cent?
(A) 30 (B) 33.1 (C) 40 (D) 42

8. The curved surface of a cone is 352 m^2 and the diameter of its base is 7m. What is its slant height?
(A) 27 m (B) 26 m
(C) 32 m (D) 51 m

9. The amount of concrete required to build a concrete cylindrical pillar whose base has a perimeter of 8.8 m and whose curved surface area is 17.6 m^2 is $\left[\text{use } \pi = \frac{22}{7}\right]$
(A) 8.325 m^3 (B) 9.725 m^3
(C) 10.500 m^3 (D) 12.32 m^2

10. The radius and the height of a right circular cone are in the ratio 5 : 12. If its volume is 314 m3. its slant height (in metres is (use $\pi = 3.14$)
(A) 5 (B) 12 (C) 13 (d) 14.2

11. Two cylindrical jars have their diameters n the ratio 3 : 1 but their heights are as 1 : 3. Their volumes are in the ratio :
(A) 3 : 1 (B) 3 :4 (C) 2 : 3 (D) 1 : 2

12. If the diameter of the base of a right circular cylinder is 42 cm and its height is 10 cm, its volume will be:
(A) 13860 cm^3 (B) 1320 cm^3
(C) 1380 cm^3 (D) 12800 cm^3

13. A hollow cylinder of height 3 cm, is recasted into a solid cylinder after 9cm. If the external and internal radii of the hollow cylinder are 4.3 cm and 1.1 cm. respectively. What will be the radius of the solid cylinder?
(A) 2.8 cm (B) 2.4 cm
(C) 3.2 cm (D) 4.8 cm

14. The radius of the base of a solid cylinder is r cm and its height is 3 cm. If it is recasted into a cone of same radius,, the height of the cone will be :
(A) 3 cm (B) 6 cm
(C) 9 cm (D) 27 cm

15. A rod of copper of diameter 1 cm and 8 cm long is recasted into a wirre of uniform diameter and 18m. long. What will be the diameter of thw wire (in cm)?
(A) $\frac{1}{15}$ (B) $\frac{1}{30}$ (C) $\frac{2}{15}$ (D) 15

16. The radius of the base and height of a cone are 3 cm and 5 cm resectively whereas the radius of the base and height of a cylinder are 2 cm and 4 cm respectively. The ratio of the volume of the cone to that of the cylinder is-

(A) 15 : 8 (B) 45 : 16
(C) 15 : 16 (D) 1 : 3

17. The radius and height of a cone are each increased by 20%. The volume of the cone is increased by-
(A) 25.4% (B) 48%
(C) 68% (D) 72.8%

18. A well with 8 metres inside diameter is dug 14 metres deep. Earth taken out of it has been spread all round it to a width 3 etres to form an embankment. The height of the embankment is-
(A) 0.68 m (B) 6.8 m
(C) 68 m (D) 6.08 m

19. The circumference of the base of a cone is 44 cm and the slant height is 25 cm. The volume of the cone is $\left(\pi = \frac{22}{7}\right)$ -
(A) 3850 cm^3 (B) 3696 cm^3
(C) 1232 cm^3 (D) $\frac{3850}{3}$ cm^3

20. The radii of a cylinder and a cone are equal. If the height of the cylinder is equal to the slant height of the cone, then the ratio of the curved surfaces of the cylinder and the cone is-
(A) 1 : 1 (B) 2 : 1 (C) 3 : 1 (D) 4 : 1

21. The curved surface area of one of the two cones is double of the other while the slant height of second is double that of the first. What is the ratio of the radius of the second cone to that of the first cone?
(A) 1 : 2 (B) 4 : 1
(C) 1 : 4 (D) 2 : 1

Answers

1.(C)	2.(B)	3.(D)	4.(D)	5.(A)
6.(D)	7.(B)	8.(C)	9.(D)	10.(C)
11.(A)	12.(A)	13.(B)	14.(C)	15.(A)
16.(C)	17.(D)	18.(B)	19.(C)	20.(B)
21.(C)				

Assignment - 17
Sphere

1. The surface area of a sphere is 144cm^2. What is its volume?
(A) 144 π cm^3 (B) 72 π cm^3
(C) 288 π cm^3 (D) 576 π cm^3

2. If the surface areas of a sphere and a cube are equal, what is the ratio between their volumes?
(A) $\sqrt{\pi} : \sqrt{6}$ (B) $\sqrt{2} : \sqrt{\pi}$
(C) $\sqrt{\pi} : \sqrt{3}$ (D) $\sqrt{6} : \sqrt{\pi}$

3. A cylinder of diameter 60 cm is filled with some water. A sphere of diameter 30 cm is completely submerged into this water. How much water level n cm is increased?
(A) 2 (B) 3 (C) 4 (D) 5

4. A Cylinder and a hemisphere stand on the same base and their heights are equal. If V_1 and V_2 be the volumes of the cylinder and hemisphere respectively, then
(A) $V_1 = V_2$ (B) $V_2 = 2V_1$
(C) $2V_1 = 3V_2$ (D) $3V_1 = 2V_2$

5. If the ratio between the surface areas of two sphers be 4 : 25, then what will be the ratio between their volumes?
(A) 4 : 25 (B) 25 : 4
(C) 125 : 8 (D) 8 : 125

6. If a sphere just fits in a right circular cylinder, then the ratio of the volume of the sphere to the volume of the cylinder is :
(A) 2 : 3 (B) 2 : 4 (C) 2 : 6 (D) 2 : 8

7. A cylinder of diameter 24 cm and height 10 cm is melted and spheres of diameter 12 cm each, are made from it. What will be the number of sphere?
(A) 20 (B) 5 (C) 10 (D) 15

8. The volume of a sphere of radius r is obtained by multiplying its surface by :
(A) r/3 (B) 3r (C) $\frac{4r}{3}$ (D) $\frac{4}{3}$

9. Three metallic spheres of radii 6 cm, 8 cm and 10 cm, respectively are melted into a solid sphere. What will be the radius of the resulting sphere?
(A) 16 cm (B) 12 cm
(C) 10 cm (D) 24 cm

10. Let S_1 and S_2 be the whole surface of a sphere and the curved surface of the circumscribed cylinder. Then S_1 is equal to-
(A) $2S_2$ (B) S_2 (C) $\frac{1}{2}S_2$ (D) $\frac{2}{3}S_2$

11. A copper sphere of radius 3 cm is converted into a wire of diameter 0.2 cm by hammering it. What will be the length of the wire?
(A) 9 m (B) 12 m (C) 18 m (D) 36 m

12. If the radius of a sphere is increased by 50% then by what per cent will its surface area increased?
(A) 100% (B) 125% (C) 150% (D) 200%

13. If the volume of a sphere is divided by its surface area, the result is 27 cm, what is the radius of the sphere?
(A) 9 cm (B) 27 cm
(C) 81 cm (D) 243 cm

14. If the radius of base and height of a cylinder and cone are each equal to r and the radius of a hemisphere is also equal to r, then the volumes of cone, cylinder and hemisphere are in the ratio-
(A) 1 : 2 : 3 (B) 1 : 3 : 2
(C) 2 : 1 : 3 (D) 3 : 2 : 1

15. Three spherical metal balls of radii 6 cm, 8 cm and R cm are melted into a solid sphere of radius 12 cm. The value of R is-
(A) 8 cm. (B) 10 cm.
(C) 14 cm. (D) 18 cm.

16. A cone and a sphere have equal radii and equal volumes. The ratio of the diameter of the sphere to the height of the cone is-
(A) 3 : 1 (B) 1 : 3 (C) 6 : 1 (D) 2 : 1

17. The ratio of the volume of a cube to that of a sphere which will fit inside the cube is-
(A) 4 : 3 (B) 4 : π (C) 4 : 3π (D) 6 : π

18. A hemispherical bowl of radius r is filled full with a liquid. This liquid is poured into a conical vessels whose height and radius of the base each is equal to r. How many such vessels will be required?
(A) 1 (B) 2 (C) 3 (D) 4

19. A cone is cut from a solid hemisphere whose radius is r. What will be the maximum volume of the cone?
(A) πr^3 (B) $\frac{1}{3}\pi r^3$ (C) $\frac{2}{3}\pi r^3$ (D) $\frac{4}{3}\pi r^3$

20. The ratio between radii of two spheres is 1 : 4. The ratio between their surface areas is-
(A) 1 : 4 (B) 1 : 8 (C) 1 : 12 (D) 1 : 16

Answers

1.(C)	2.(D)	3.(D)	4.(C)	5.(D)
6.(A)	7.(B)	8.(A)	9.(B)	10.(B)
11.(D)	12.(B)	13.(C)	14.(B)	15.(B)
16.(D)	17.(D)	18.(B)	19.(B)	20.(D)