

## Instructions

- Each Question (01 to 20) contains 4 options out of which only one is correct.
- Each question carries +4 marks for correct answer and -1 mark for wrong answer.
- Time allotted: 30 Mins

1. If  $4^x \times 16^{2/5} = 32^{1/25}$ , then x is equal to:

**A.**  $2/10$

**B.**  $-2/10$

**C.**  $7/10$

**D.**  $-7/10$

2. On return from a business trip. Anand was to be picked up from Airport by his coachman. However, his meeting finished before schedule so he left for his destination earlier by catching an earlier flight as a result of which he reached 2 hours early. Immediately on arrival he called up home to convey the coach that he had reached and was told that he had just left in order to reach on time by which Anand was scheduled to come. To save time he started walking home at 4 miles/hour on the way he meets the coachman and reached 1 hour earlier. How far is Anand's home from Airport.

**A.** 20 miles

**B.** 24 miles

**C.** 30 miles

**D.** 42 miles

3. While buying a gift for his friend, Arun forgot to take his credit card along with him and was shocked to find that he had only 60% of the total bill amount. Luckily the shop had a FLAT 50% sale on the total bill. If at the end he was left with Rs.125, how much cash did he initially have?

**A.** Rs 1250

**B.** Rs 750

**C.** Rs 1000

**D.** Rs 1150

4. Two boats, boat X and boat Y, leave opposite shores of Alaknanda river A and C respectively and move towards each other. Both boats meet at a point B for the first time after meeting they do not stop and continue their journeys towards the opposite shores. Boat X takes 16 hrs more to reach the point C and Boat Y takes 9 hrs more to reach the point A. Find the ratio of the speeds of boat Y to that of X.

**A.** 2:3

**B.** 4:3

**C.** 7:9

**D.** 4:9

5. Set A consists of all the natural numbers from 1 to 55. What is the highest power of 3 that can exactly divide the product of all the elements of set A?

**A.** 50

**B.** 55

**C.** 25

**D.** 26

6. Four horses named Russel, Domino, Brandy and Lacey are participating in a race. Russel is twice as likely as Domino to win and Domino is thrice as likely as Brandy to win and Brandy is half likely as Lacey to win. What is the probability that Domino will win, if only one of the 4 horses can win the race?

**A.** 0.5

**B.** 0.34

**C.** 0.25

**D.** 0.17

7. An airplane is travelling in a straight line at 100m from the ground. the angle of elevation of the plane from the base of a tree  $60^\circ$ . After some time, the angle of elevation changes to  $30^\circ$ . Find the distance covered by the plane during that time.

**A.** 120.5 m

**B.** 110.5 m

**C.** 115.5 m

**D.** 125.5 m



8. If the simple interest on a sum of money for 2 years at 5% per annum is Rs. 50, what is the compound interest on the same at the same rate and for the same time?

**A.** Rs. 52

**B.** Rs. 54.25

**C.** Rs 50

**D.** Rs. 51.25

9. The number of students in three divisions of a particular batch of IIT Bombay are in ratio of  $5 : 6 : 7$ . The average marks scored in each of these three divisions is in the ratio  $2 : 3 : 4$  respectively. By what percent is the class average more or less than average marks of third division?

**A.** 20% less

**B.** 22.2 % less

**C.** 20 % more

**D.** 22.2% more

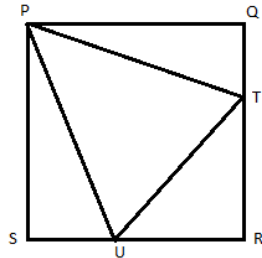
10. A square PQRS has an equilateral triangle PTU inscribed as shown. What is the ratio of area of  $\triangle PQT$  to area of  $\triangle TRU$ ?

A.  $2 \text{ cm}^2$

B.  $\sqrt{3} \text{ cm}^2$

C.  $\sqrt{2} \text{ cm}^2$

D.  $1\sqrt{2} \text{ cm}^2$



11. Raman is interested to know that a number  $x$ , when reduced by 8, is perfectly divisible by 13, 14, 16 & 17. However, he is not able to guess the number. Also, he knows the sum of digits of the number is equal to the age of his youngest brother. Find his brother's age?

**A.** 20

**B.** 19

**C.** 13

**D.** 15

12. Shoaib made a loss of  $y\%$  by selling 17 burfis for Rs. 17. Just the next day he sells another 17 burfis for Rs 21.25 and made a profit of  $y\%$ , Find the value of  $y$ ?

**A.** 9.09%

**B.** 10%

**C.** 11.11%

**D.** 11%

13. A semi-circle is drawn with PR as its diameter. From S, a point on PR, a line perpendicular to PR is drawn meeting the circumference of the semi-circle at Q. Given that PS = 2cm and QS = 6cm, the area of the semi-circle (in sq.cm) will be:

**A.**  $32\pi$

**B.**  $50\pi$

**C.**  $46\pi$

**D.**  $64\pi$

14. The sum of the first eight terms of a geometric series is 10,001 times the sum of its four terms. Find the common ratio of these series.

**B.**  $\sqrt{1000}$

**B.**  $\sqrt{10}$

**C.** 10

**D.** 100

15. To complete certain work Sourabh takes 8 days and Aditya takes 10 days to complete the same. Aditya works continuously for 5 days and then he calls Sourabh to Join him and complete the work faster, Sourabh joins Aditya on the 6th day of work till the completion. Find the percentage of work done by Sourabh

**A.** 27.7 %

**B.** 22.2 %

**C.** 24 %

**D.** 31.8 %



16. G is the brother of A, D is the daughter of A, the sister of G is K and the brother of C is L. Then who is the aunt of L?

**A. G**

**B. L**

**C. K**

**D. D**

17. Amar alone can do  $\frac{1}{5}^{\text{th}}$  of the work in 3 days. Akbar alone can do  $\frac{2}{3}^{\text{rd}}$  of the work in 4 days. If all the three work together, they can complete the entire work in 2 days. So what part of the entire work can Anthony complete in 3 days.

**A.**  $\frac{4}{5}$

**B.**  $\frac{3}{5}$

**C.**  $\frac{2}{5}$

**D.**  $\frac{1}{5}$

18. If in a birthday party, all the 10 children shake hand with each other, total of how many handshakes happened.

**A.** 100

**B.** 90

**C.** 45

**D.** 10

19. Rohan owns a big rectangular field near a society, it was left entirely open from one side only and society people used to throw garbage in his field, so in order to prevent this he decided to build a wire fence along the open side of his field. For this, he planned to place several fence-posts at eight metre intervals, with posts fixed at both ends of the side. After he bought the posts and wire, he found that the number of posts he had bought was four less than required. However, he discovered that the number of posts he had bought would be just sufficient if he spaced them ten metres apart. What is the length of the side of his property and how many posts did he buy?

**A.** 160 m, 21

**B.** 160 m, 17

**C.** 120 m, 16

**D.** 160 m, 16

20. One evening, two friends Mru and Shailja were talking to each other, facing each other. If Mru's shadow was exactly to the left of her, then which direction was Shailja facing?

**A.** North

**B.** South

**C.** North-East

**D.** East