

**Directions**—(Q. 1–5) What will come in place of the question-mark (?) in the following questions ?

- $4003 \times 77 - 21015 = ? \times 116$   
(A) 2477 (B) 2478  
(C) 2467 (D) 2476  
(E) None of these
- $[(5\sqrt{7} + \sqrt{7}) \times (4\sqrt{7} + 8\sqrt{7})] - (19)^2 = ?$   
(A) 143 (B)  $72\sqrt{7}$   
(C) 134 (D)  $70\sqrt{7}$   
(E) None of these
- $(4444 \div 40) + (645 \div 25) + (3991 \div 26) = ?$   
(A) 280.4 (B) 290.4  
(C) 295.4 (D) 285.4  
(E) None of these
- $\sqrt{33124} \times \sqrt{2601} - (83)^2 = (?)^2 + (37)^2$   
(A) 37 (B) 33  
(C) 34 (D) 28  
(E) None of these
- $5\frac{17}{37} \times 4\frac{51}{52} \times 11\frac{1}{7} + 2\frac{3}{4} = ?$   
(A) 303.75  
(B) 305.75  
(C)  $303\frac{3}{4}$   
(D)  $305\frac{1}{4}$   
(E) None of these

**Directions**—(Q. 6–10) What **approximate** value should come in place of the question-mark (?) in the following questions ? (Note—You are not expected to calculate the exact value.)

- $8787 \div 343 \times \sqrt{50} = ?$   
(A) 250 (B) 140  
(C) 180 (D) 100  
(E) 280
- $\sqrt[3]{54821} \times (303 \div 8) = (?)^2$   
(A) 48 (B) 38  
(C) 28 (D) 18  
(E) 58

- $\frac{5}{8}$  of 4011.33 +  $\frac{7}{10}$  of 3411.22 = ?  
(A) 4810 (B) 4980  
(C) 4890 (D) 4930  
(E) 4850
- 23% of 6783 + 57% of 8431 = ?  
(A) 6460 (B) 6420  
(C) 6320 (D) 6630  
(E) 6360
- $335.01 \times 244.99 \div 55 = ?$   
(A) 1490 (B) 1550  
(C) 1420 (D) 1590  
(E) 1400

**Directions**—(Q. 11–15) In each of these questions a number series is given. In each series **only one** number is wrong. Find out the **wrong** number.

- 5531 5506 ~~5425~~ 5304 5135 4910 4621  
(A) 5531 (B) 5425  
(C) 4621 (D) 5135  
(E) 5506
- 6 7 9 13 26 37 69  
(A) 7 (B) 26  
(C) 69 (D) 37  
(E) 9
- 1 3 10 36 152 760 4632  
(A) 3 (B) 36  
(C) 4632 (D) 760  
(E) 152
- 4 3 9 34 96 219 435  
(A) 4 (B) 9  
(C) 34 (D) 435  
(E) 219
- 157.5 45 15 6 3 2 1  
(A) 1 (B) 2  
(C) 6 (D) 157.5  
(E) 45

**Directions**—(Q. 16–20) Study the following graph and table carefully and answer the questions given below—

**Time Taken to Travel (in hours) By Six Vehicles on Two Different Days**



**Distance Covered (in km) by Six Vehicles on each Day**

Vehicle	Day 1	Day 2
A	832	864
B	516	774
C	693	810
D	552	765
E	935	546
F	703	636

- Which of the following vehicles travelled at the same speed on both the days ?  
(A) Vehicle A (B) Vehicle C  
(C) Vehicle F (D) Vehicle B  
(E) None of these
- What was the difference between the speed of vehicle A on day 1 and the speed of vehicle C on the same day ?  
(A) 7 km/hr  
(B) 12 km/hr  
(C) 11 km/hr  
(D) 8 km/hr  
(E) None of these
- What was the speed of vehicle C on day 2 in terms of **metres per second** ?  
(A) 15.3 (B) 12.8  
(C) 11.5 (D) 13.8  
(E) None of these
- The distance travelled by vehicle F on day 2 was **approximately** what per cent of the distance travelled by it on day 1 ?

- (A) 80 (B) 65  
(C) 85 (D) 95  
(E) 90

20. What is the respective ratio between the speeds of vehicle D and vehicle E on day 2 ?

- (A) 15 : 13 (B) 17 : 13  
(C) 13 : 11 (D) 17 : 14  
(E) None of these

21. An article was purchased for ₹ 78,350. Its price was marked up by 30%. It was sold at a discount of 20% on the marked up price. What was the profit per cent on the cost price ?

- (A) 4 (B) 7  
(C) 5 (D) 3  
(E) 6

22. When X is subtracted from the numbers 9, 15 and 27, the remainders are in continued proportion. What is the value of X ?

- (A) 8 (B) 6  
(C) 4 (D) 5  
(E) None of these

23. What is the difference between the simple and compound interest on ₹ 7,300 at the rate of 6 p.c.p.a. in 2 years ?

- (A) ₹ 29.37  
(B) ₹ 26.28  
(C) ₹ 31.41  
(D) ₹ 23.22  
(E) ₹ 21.34

24. Sum of three consecutive numbers is 2262. What is 41% of the highest number ?

- (A) 301.51  
(B) 303.14  
(C) 308.73  
(D) 306.35  
(E) 309.55

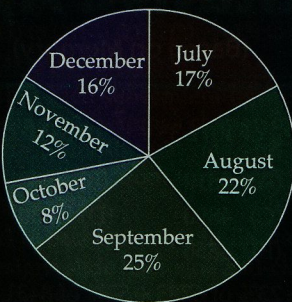
25. In how many different ways can the letters of the word 'THERAPY' be arranged so that the vowels never come together ?

- (A) 720 (B) 1440  
(C) 5040 (D) 3600  
(E) 4800

**Directions**—(Q. 26 to 30) Study the following pie-chart and table carefully and answer the questions given below—

**Percentage-wise Distribution of the Number of Mobile Phones Sold by A Shopkeeper During Six Months**

Total number of mobile phones sold = 45,000



**The respective ratio between the number of mobile phones sold of company A and company B during six months**

Month	Ratio
July	8 : 7
August	4 : 5
September	3 : 2
October	7 : 5
November	7 : 8
December	7 : 9

26. What is the respective ratio between the number of mobile phones sold of company B during July and those sold during December of the same company ?

- (A) 119 : 145 (B) 116 : 135  
(C) 119 : 135 (D) 119 : 130  
(E) None of these

27. If 35% of the mobile phones sold by company A during November were sold a discount, how many mobile phones of company A during that month were sold without a discount ?

- (A) 882 (B) 1635  
(C) 1638 (D) 885  
(E) None of these

28. If the shopkeeper earned a profit of ₹ 433 on each mobile phone sold of company B during October, what was his total profit earned on the mobile phones of that company during the same month ?

- (A) ₹ 6,49,900  
(B) ₹ 6,45,900  
(C) ₹ 6,49,400  
(D) ₹ 6,49,500  
(E) None of these

29. The number of mobile phones sold of company A during July is approximately what per cent of the number of mobile phones sold of company A during December ?

- (A) 110 (B) 140  
(C) 150 (D) 105  
(E) 130

30. What is the total number of mobile phones sold of company B during August and September together ?

- (A) 10,000 (B) 15,000  
(C) 10,500 (D) 9,500  
(E) None of these

**Directions**—(Q. 31 to 35) Study the following information and answer the questions that follow—

The premises of a bank are to be renovated. The renovation is in terms of flooring. Certain areas are to be floored either with marble or wood. All rooms/halls and pantry are rectangular. The area to be renovated comprises of a hall for customer transaction measuring 23m by 29m, branch manager's room measuring 13m by 17m, a pantry measuring 14m by 13m, a record keeping cum server room measuring 21m by 13m and locker area measuring 29m by 21m. The total area of the bank is 2000 square metres. The cost of wooden flooring is ₹ 170 per square metre and the cost of marble flooring is ₹ 190 per square metre. The locker area, record keeping cum server room and pantry are to be floored with marble. The branch manager's room and the hall for customer transaction are to be floored with wood. No other area is to be renovated in terms of flooring.

31. What is the respective ratio of the total cost of wooden flooring to the total cost of marble flooring ?

- (A) 1879 : 2527  
(B) 1887 : 2386  
(C) 1887 : 2527  
(D) 1829 : 2527  
(E) 1887 : 2351

32. If the four walls and ceiling of the branch managers room (The height of the room is 12 metres) are to be painted at the cost of ₹ 190 per square metre, how much will be the total cost of renovation of the branch

- manager's room including the cost of flooring ?
- (A) ₹ 1,36,800  
 (B) ₹ 2,16,660  
 (C) ₹ 1,78,790  
 (D) ₹ 2,11,940  
 (E) None of these
33. If the remaining area of the bank is to be carpeted at the rate of ₹ 110 per square metre, how much will be the increment in the total cost of renovation of bank premises ?
- (A) ₹ 5,820 (B) ₹ 4,848  
 (C) ₹ 3,689 (D) ₹ 6,890  
 (E) None of these
34. What is the percentage area of the bank that is **not** to be renovated ?
- (A) 2.2 (B) 2.4  
 (C) 4.2 (D) 4.4  
 (E) None of these
35. What is the total cost of renovation of the hall for customer transaction and the locker area ?
- (A) ₹ 2,29,100  
 (B) ₹ 2,30,206  
 (C) ₹ 2,16,920  
 (D) ₹ 2,42,440  
 (E) None of these
36. A certain amount was to be distributed among A, B and C in the ratio 2 : 3 : 4 respectively, but was erroneously distributed in the ratio 7 : 2 : 5 respectively. As a result of this, B got ₹ 40 less. What is the amount ?
- (A) ₹ 210 (B) ₹ 270  
 (C) ₹ 230 (D) ₹ 280  
 (E) None of these
37. Rachita enters a shop to buy ice-creams, cookies and pastries. She has to buy atleast 9 units of each. She buys more cookies than ice-creams and more pastries than cookies. She picks up a total of 32 items. How many cookies does she buy ?
- (A) Either 12 or 13  
 (B) Either 11 or 12  
 (C) Either 10 or 11  
 (D) Either 9 or 11  
 (E) Either 9 or 10
38. The fare of a bus is ₹ X for the first five kilometres and ₹ 13 per kilometre thereafter. If a pas-

sengre pays ₹ 2402 for a journey of 187 kilometres, what is the value of X ?

- (A) ₹ 29 (B) ₹ 39  
 (C) ₹ 36 (D) ₹ 31  
 (E) None of these
39. The product of three consecutive even numbers is 4032. The product of the first and the third number is 252. What is five times the second number ?
- (A) 80 (B) 100  
 (C) 60 (D) 70  
 (E) 90
40. The sum of the ages of 4 members of a family 5 years ago was 94 years. Today, when the daughter has been married off and replaced by a daughter-in-law, the sum of their ages is 92. Assuming that there has been no other change in the family structure and all the people are alive, what is the difference in the age of the daughter and the daughter-in-law ?
- (A) 22 years (B) 11 years  
 (C) 25 years (D) 19 years  
 (E) 15 years
41. A bag contains 13 white and 7 black balls. Two balls are drawn at random. What is the probability that they are of the same colour ?
- (A)  $\frac{41}{190}$  (B)  $\frac{21}{190}$   
 (C)  $\frac{59}{190}$  (D)  $\frac{99}{190}$   
 (E)  $\frac{77}{190}$
42. Akash scored 73 marks in subject A. He scored 56% marks in subject B and X marks in subject C. Maximum marks in each subject were 150. The overall percentage marks obtained by Akash in all the three subjects together were 54%. How many marks did he score in subject C ?
- (A) 84 (B) 86  
 (C) 79 (D) 73  
 (E) None of these
43. The area of a square is 1444 square metres. The breadth of a rectangle is  $\frac{1}{4}$ th the side of the square and the length of the rectangle is thrice the breadth.

What is the difference between the area of the square and the area of the rectangle ?

- (A) 1152.38 sq metre  
 (B) 1169.33 sq metre  
 (C) 1181.21 sq metre  
 (D) 1173.25 sq metre  
 (E) None of these
44. ₹ 73,689 are divided between A and B in the ratio 4 : 7. What is the difference between thrice the share of A and twice the share of B ?
- (A) ₹ 36,699 (B) ₹ 46,893  
 (C) ₹ 20,097 (D) ₹ 26,796  
 (E) ₹ 13,398
45. A and B together can complete a task in 20 days. B and C together can complete the same task in 30 days. A and C together can complete the same task in 40 days. What is the respective ratio of the number of days taken by A when completing the same task alone to the number of days taken by C when completing the same task alone ?
- (A) 2 : 5 (B) 2 : 7  
 (C) 3 : 7 (D) 1 : 5  
 (E) 3 : 5

**Directions**—(Q. 46 to 50) Study the following information and answer the questions that follows :

**The Graph given below Represents the Production (in tonnes) and Sales (in tonnes) of Company A From 2006-2011.**



The table given below represents the respective ratio of the production (in tonnes) of Company A to the production (in tonnes) of Company B, and the respective ratio of the sales (in tonnes) of Company A to the sales (in tonnes) of Company B.

Year	Production	Sales
2006	5 : 4	2 : 3
2007	8 : 7	11 : 12
2008	3 : 4	9 : 14
2009	11 : 12	4 : 5
2010	14 : 13	10 : 9
2011	13 : 14	1 : 1

46. What is the **approximate** percentage increase in the production of Company A (in tonnes) from the year 2009 to the production of Company A (in tonnes) in the year 2010 ?
- (A) 18            (B) 38  
 (C) 23            (D) 27  
 (E) 32
47. The sales of Company A in the year 2009 was **approximately** what per cent of the production of Company A in the same year ?
- (A) 65            (B) 73  
 (C) 79            (D) 83  
 (E) 69
48. What is the average production of Company B (in tonnes) from the year 2006 to the year 2011 ?
- (A) 574            (B) 649  
 (C) 675            (D) 593  
 (E) 618
49. What is the respective ratio of the total production (in tonnes) of Company A to the total sales (in tonnes) of Company A ?
- (A) 81 : 64        (B) 64 : 55  
 (C) 71 : 81        (D) 71 : 55  
 (E) 81 : 55
50. What is the respective ratio of production of Company B (in tonnes) in the year 2006 to production of Company B (in tonnes) in the year 2008 ?
- (A) 2 : 5            (B) 4 : 5  
 (C) 3 : 4            (D) 3 : 5  
 (E) 1 : 4