Q. 1-5. What will come in place of the question mark (?) in the following number series?

1. 3 19 115 691 ? 24883
(1) 6923 (2) 4147 (3) 2719
(4) 1463 (5) None of these

2. 5 10 20 ? 80 160
(1) 30 (2) 60 (3) 40
(4) 50 (5) None of these

3. 10 11 14 19 26 ?
(1) 40 (2) 25 (3) 39
(4) 27 (5) None of these

4. 1598 798 398 198 ? 48
(1) 56 (2) 74 (3) 68
(4) 98 (5) None of these

5. 5 10 15 20 25 ?
(1) 35 (2) 40 (3) 25
(4) 20 (5) None of these

Q. 6-25. What will come in place of the question mark(?) in the following questions?

6. $\sqrt{\sqrt{625 + \sqrt{576}}} = ?$
(1) 49 (2) 8 (3) 54
(4) 7 (5) None of these

7. $\frac{1}{5}$ of $\frac{1}{2}$ of $\frac{1}{3}$ of ? = 19
(1) 570 (2) 750 (3) 273
(4) 372 (5) None of these

8. 99.99 + 666.66 = ?
(1) 728.59 (2) 766 (3) 766.65
(4) 676.95 (5) None of these

9. 17% of 95 = ?
(1) 18.93 (2) 16.15 (3) 61
(4) 15.16 (5) None of these

10. 8 + 96 + 3 = ?
(1) 109 (2) 45 (3) 21
(4) 39 (5) None of these

11. $x^2 \times x^3 = ?$
(1) x^2 (2) x^3 (3) x^5
(4) x^4 (5) None of these

12. $\frac{1}{x} + x = ?$
(1) $\frac{1+x}{x}$ (2) $\frac{1+x^2}{x}$
(3) $x^2 + 1$ (4) $1 + x$
(5) None of these

13. ? % of 220 = 99
(1) 45 (2) 55 (3) 35
(4) 40 (5) None of these

14. $\frac{6.5}{0.13} = ?$
(1) 0.05 (2) 0.5 (3) 5
(4) 50 (5) None of these

15. 3.75 × 4.5 = ?
(1) 0.1687 (2) 1.6875 (3) 16.875
(4) 6.875 (5) None of these

16. 7.8745 - 4.9352 = ?
(1) 3.4156 (2) 3.1412 (3) 2.9393
(4) 2.3949 (5) None of these

17. 17 × 9 × 4 = ?
(1) 612 (2) 621 (3) 516
(4) 561 (5) None of these

18. (56 + 4) × 3 = ?
(1) 120 (2) 180 (3) 68
(4) 86 (5) None of these

19. 78 ÷ 13 ÷ 3 = ?
(1) 18.00 (2) 5 (3) 11.53
(4) 2 (5) None of these

20. 20% of 40 = ?
(1) 8 (2) 13 (3) 50
(4) 15 (5) None of these

21. 16 - 16 ÷ 2 = ?
(1) 8 (2) 0.5 (3) 1
(4) 3 (5) None of these

22. $(8)^2 + (9)^2 + (4)^2 = ?$
(1) 221 (2) 441 (3) 201
(4) 159 (5) None of these

23. ?% of 84 = 10.08
(1) 11 (2) 10 (3) 14
(4) 12 (5) None of these

24. 20% of 50 + 30% of 40 = ?
(1) 15 (2) 18 (3) 22
(4) 20 (5) None of these

25. $6x^2 + 4 = 868$; x = ?
(1) 34 (2) 12 (3) 56
(4) 14 (5) 79

26. One-third of three-fourth of a number is 30. What is the number?
(1) 90 (2) 80 (3) 150
(4) 60 (5) None of these

27. With a growth rate of 8% per annum, what will be the production of a company in 2002, if the production in 2000 is 17000?
(1) 19720 (2) 19828.8 (3) 18360
(4) Cannot be determined (5) None of these

28. A train running at speed of 90 km/hour crosses a platform double its length in 36 seconds. What is the length of the platform in metres?
(1) 450 (2) 200 (3) 300
(4) Cannot be determined (5) None of these

29. In the following number series, one number is **wrong**. Which is the **wrong** number?
11 13 19 26 35 46 59
(1) 19 (2) 46 (3) 13
(4) 35 (5) 26

30. A sum of money is to be divided among Z, X, Y in the respective proportion of 4 : 5 : 6 and another sum to be divided between A and B equally. If Z got Rs 2,000/- less than A, how much did X get?
(1) Rs 10,000 (2) Rs 5,000 (3) Rs 4,000
(4) Cannot be determined (5) None of these

31. If two-third of one-fourth of one-third of a number is 6, what is the number?
(1) 108 (2) 144 (3) 96
(4) 78 (5) None of these

32. A sum of money fetches Rs 240 as simple interest at the rate of 5 p.c.p.a. after 6 years. What is the principle amount?
(1) Rs 200 (2) Rs 400 (3) Rs 800
(4) Rs 1200 (5) None of these

33. An amount of money is to be distributed among P, Q and R in the ratio of 3 : 5 : 6. If R gets Rs 400 more than Q, what is the difference between P's and Q's share?
(1) Rs 1,200 (2) Rs 800 (3) Rs 1,600
(4) Data inadequate (5) None of these

34. If 20 per cent of a number is 12, what will be two-third of that number?
(1) 40 (2) 20 (3) 80
(4) 60 (5) None of these

35. Prabir is four years older to Jayesh at present. After four years the ratio of their ages will be 3 : 2. What is Jayesh's age at present?
(1) 8 years (2) 4 years (3) 6 years
(4) Data inadequate (5) None of these

36. The area of a rectangle is 20 times its breadth. The perimeter of the rectangle is 76 cms. What is the length of the rectangle?
(1) 40 cms (2) 36 cms (3) 18 cms
(4) Data inadequate (5) None of these

37. Sixteen men can complete a work in twelve days. In how many days will twenty-four men complete the same work?
(1) 4 (2) 8 (3) 6
(4) 3 (5) None of these

38. Amit purchased a book with a 10% discount on the labelled price. How much did he pay if the labelled price was Rs 600?
(1) Rs 480 (2) Rs 360 (3) Rs 540
(4) Rs 340 (5) None of these

39. The price of two tables and three chairs is Rs 5,600. What will be the price of six tables and nine chairs?
(1) Rs 16,800 (2) Rs 11,200 (3) Rs 22,400
(4) Data inadequate (5) None of these

40. The average age of 24 boys in a class is 11. When the teacher's age is included, the average increases by one. What is the age of the teacher?
(1) 34 years (2) 42 years (3) 36 years
(4) 48 years (5) None of these

41. A shopkeeper sold some articles @ Rs 35 per article and earned a profit of 40%. At what price each article should have been sold so that 60% profit was earned?
(1) Rs 45 (2) Rs 42 (3) Rs 39
(4) Rs 40 (5) None of these

42. The present ages of Sunil and Anil are in the ratio of 7 : 8 respectively. If four years ago, the ratio of their ages was 5 : 6 respectively, what is Anil's present age in years?
(1) 16 (2) 14 (3) 10
(4) 12 (5) None of these

43. If the length and breadth of a rectangular field are increased, the area increases by 50%. If the increase in length was 20%, by what percentage was the breadth increased?
(1) 30% (2) 25% (3) 20%
(4) Data inadequate (5) None of these

44. Surjeet Singh's salary is 80% of Ranjeet's salary and 120% of Latika's salary. What is Surjeet Singh's salary if Ranjeet's salary is Rs 15000?
(1) Rs 10,000 (2) Rs 18,000
(3) Rs 12,500 (4) Rs 10,500
(5) None of these

45. If a number is reduced by 40% it becomes two-third of another number. What is the ratio of the first number to the second number?
(1) 10 : 9 (2) 8 : 9 (3) 9 : 8
(4) 9 : 10 (5) None of these

46. What is the **approximate** value of .
$$\frac{399.99}{798.87} \times 199.87 \ ?$$
(1) 90 (2) 70 (3) 100
(4) 80 (5) 110

47. By selling a book for Rs 270, 20% profit was earned. What is the cost price of the book?
(1) Rs 216 (2) Rs 226 (3) Rs 254
(4) Rs 225 (5) None of these

48. If the price of silver is Rs 3,810 per 100 gms, what will be the **approximate** value of 15.7 gm?
(1) Rs 900 (2) Rs 65 (3) Rs 6,000
(4) Rs 600 (5) Rs 750

49. The area of a rectangular field is 2100 sq metres. If the field is 60 metres long, what is its

perimeter?

(1) 180 metres (2) 200 metres
(3) 240 metres (4) Cannot be determined
(5) None of these

50. The mean of five consecutive numbers is 7. Which is the highest number?

(1) 8 (2) 10
(3) 7 (4) Cannot be determined
(5) None of these

ANSWERS AND EXPLANATIONS

1. (2) Multiplying each term by 6 and then adding 1, we get the next term
$\therefore$ Reqd. no. $= 691 \times 6 + 1 = 4147$

2. (3) Each term is twice the preceding term
$\therefore$ Reqd. no. $= 40$

3. (5) Adding 1, 3, 5, 7, 9 ...to get the next term
$\therefore$ Reqd. no. $= 26 + 9 = 35$

4. (4) Subtract 2 from the term and then divide the diff. by 2 to get the next term
$\frac{1598-2}{2} = 798$
$\frac{798-2}{2} = 398$
$\frac{398-2}{2} = 198$
$\frac{198-2}{2} = 98$

5. (5) All are multiples of 5. Reqd. no. $= 30$
$5 \times 1, 5 \times 2, 5 \times 3, 5 \times 4, 5 \times 5, 5 \times 6 = 30$

6. (4) $\sqrt{25+24} = \sqrt{49} = 7$

7. (1) $\frac{1}{5}$ of $\frac{1}{2}$ of $\frac{1}{3}$ of $x = 19$
$\Rightarrow x = 19 \times 5 \times 2 \times 3 = 570$

8. (3)
12. (2)
16. (3)
20. (1)
24. (3)

25. (2) $x^2 = \frac{868-4}{6} = 144 \Rightarrow x = 12$

26. (5) $\frac{1}{3}$ of $\frac{3}{4}$ of $x = 30 \Rightarrow x = 30 \times \frac{3}{1} \times \frac{4}{3} = 120$

27. (2) Reqd. production $= 17000\,(1 + \frac{8}{100})^2$
$= 19828.8$

28. (5) $x + 2x = \left(90 \times \frac{5}{18}\right) \times 36$ $\quad D = S \times T$
$\Rightarrow x = 300$
Length of platform $= 2x = 600$ m

29. (3) Adding 3, 5, 7, 9, 11, 13, we get the next no.
$11 + 3 = 14$. 13 is wrong, it should be 14

30. (4)

31. (1) No. $= 6 \times \frac{3}{2} \times \frac{4}{1} \times \frac{3}{1} = 108$

32. (3) $P = \frac{I \times 100}{R \times T} = \frac{240 \times 100}{5 \times 6} =$ Rs 800

33. (2) Let the shares of P., Q & R be Rs 3x, 5x, 6x
A.T.S. $6x - 5x = 400$
$x = 400$
Reqd. diff. $= 5x - 3x = 2x =$ Rs 800

34. (1) $\frac{20}{100}x = 12 \Rightarrow x = 60$
$\frac{2}{3}x = \frac{2}{3} \times 60 = 40$

35. (2) Let Jayesh's present age be x yrs
$\therefore$ Prabir's present age $= 4 + x$ yrs
A.T.S. $\frac{x+4+4}{x+4} = \frac{3}{2} \Rightarrow x = 4$

36. (5) A (rect.) $= L \times B = 20B \Rightarrow L = 20$

37. (2) Reqd no. of days $= \frac{16 \times 12}{24} = 8$ days
(It's a question of Inverse Variation)

38. (3) SP $=$ M.P. $\times \frac{(100 - D\%)}{100} = 600 \times \frac{(100-10)}{100}$
$=$ Rs 540

39. (1) $2x + 3y = 5600\ ] \times 3$
$6x + 9y = 16800$ $\quad x =$ Cost of 1 table
$y =$ Cost of 1 chair

40. (3) Age of teacher $= 25 \times 12 - 24 \times 11 = 36$ yrs

41. (4) Reqd. price $= 35 \times \frac{100}{140} \times \frac{160}{100} =$ Rs 40

42. (1) $\frac{7x-4}{8x-4} = \frac{5}{6} \Rightarrow x = 2$
$\therefore$ Anil's present age $= 8x = 16$ yrs

43. (2) New area
$= \frac{120}{100}L \times \frac{(100+x)}{100}B = \frac{150}{100}LB \Rightarrow x = 25$

44. (5) Surjeet's salary $= \frac{80}{100} \times 15000 =$ Rs 12000

45. (1) $\frac{60}{100}x = \frac{2}{3}y \Rightarrow \frac{x}{y} = \frac{10}{9}$

46. (3) $\frac{400}{800} \times 200 = 100$ (approx.)

47. (4) C.P. $= 270 \times \frac{100}{120} =$ Rs 225

48. (4)

49. (5) $B = \frac{\text{Area of a rect}}{L} = \frac{2100}{60} = 35$m
$P = 2(L + B) = 2(60 + 35) = 190$ m

50. (5) $\frac{x + (x+1) + (x+2) + (x+3) + (x+4)}{5} = 7$
$\Rightarrow x = 5$
Highest no. $= x + 4 = 5 + 4 = 9$