Q. 1-5. What should come in place of question mark (?) in the following questions?

1. 92.5% of 550 = ?

(1) 506.45   (2) 521.65

(3) 518.55   (4) 508.75

(5) None of these

2. $12^4 \times 12^{13} = ?$

(1) 12^7 (2) 12^{39} (3) 12^{17}

(4) 12^{-7} (4) None of these

3. 12.22 + 22.21 + 221.12?

(1) 250.55   (2) 255.50

(3) 250.05   (4) 255.05

(5) None of these

4. $464 \div (16 \times 2.32) = ?$

(1) 12.5   (2) 14.5

(3) 10.5   (4) 8.5

(5) None of these

5. $78 \div 5 \div 0.5 = ?$

(1) 15.6   (2) 31.2

(3) 7.8   (4) 20.4

(5) None of these

6. A bus covers a distance of 2,924 kms. in 43 hours. What is the speed of the bus?

(1) 72 kms/hr   (2) 60 kms/hr   (3) 68 kms/hr

(4) Cannot be determined

(5) None of these

7. If $(9)^3$ is subtracted from the square of a number, the answer so obtained is 567. What is the number?

(1) 36   (2) 28   (3) 42

(4) 48   (5) None of these

8. What would be the simple interest obtained on an amount of Rs 5,760 at the rate of 6 p.c.p.a. after 3 years?

(1) Rs 1,036.80   (2) Rs 1,666.80   (3) Rs 1,336.80

(4) Rs 1,063.80   (5) None of these

9. What is 333 times 131?

(1) 46,323   (2) 43,623   (3) 43,290

(4) 42,957   (5) None of these

10. The product of two successive numbers is 8556. What is the smaller number?

(1) 89   (2) 94   (3) 90

(4) 92   (5) None of these

11. The owner of an electronics shop charges his customer 22% more than the cost price. If a customer paid Rs 10,980 for a DVD Player, then what was the cost price of the DVD Player?

(1) Rs 8,000   (2) Rs 8,800   (3) Rs 9,500

(4) Rs 9,200   (5) None of these

12. What would be the compound interest obtained on an amount of Rs 3,000 at the rate of 8 p.c.p.a after 2 years?

(1) Rs 501.50   (2) Rs 499.20   (3) Rs 495

(4) Rs 510   (5) None of these

13. What is the least number to be added to 4321 to make it a perfect square?

(1) 32   (2) 34   (3) 36

(4) 38   (5) None of these

14. 45% of a number is 255.6. What is 25% of that number?

(1) 162   (2) 132   (3) 152

(4) 142   (5) None of these

15. Find the average of the following Set of Scores:

221,   231,   441,   359,   665,   525

(1) 399   (2) 428   (3) 407

(4) 415   (5) None of these

16. If $(78)^2$ is subtracted from the square of the number, the answer so obtained is 6,460. What is the number?

(1) 109   (2) 111   (3) 113

(4) 115   (5) None of these

17. In an examination it is required to get 40% of the aggregate marks to pass. A student gets 261 marks and is declared failed by 4% marks. What are the maximum aggregate marks a student can get?

(1) 700   (2) 730   (3) 745

(4) 765   (5) None of these

18. Pinku, Rinku and Tinku divide an amount of Rs 4,200 amongst themselves in the ratio of 7 : 8 : 6 respectively. If an amount of Rs 200 is added to each of their shares, what will be the new respective ratio of their shares of amount?

(1) 8 : 9 : 6   (2) 7 : 9 : 5   (3) 7 : 8 : 6

(4) 8 : 9 : 7   (5) None of these

19. Ms Suchi deposits an amount of Rs 24,000 to obtain a simple interest at the rate of 14 p.c.p.a. for 8 years. What total amount will Ms Suchi get at the end of 8 years?

(1) Rs 52,080   (2) Rs 28,000   (3) Rs 50,880

(4) Rs 26,880   (5) None of these

20. The average of 5 consecutive even numbers A, B, C, D and E is 52. What is the product of B and E?

(1) 2912   (2) 2688   (3) 3024
(4) 2800   (5) None of these

21. The difference between 42% of a number and 28% of the same number is 210. What is 59% of that number?

(1) 630   (2) 885   (3) 420
(4) 900   (5) None of these

22. What **approximate** value should come in place of the question mark (?) in the following question?

$4275 \div 496 \times (21)^2 = ?$

(1) 3795   (2) 3800   (3) 3810
(4) 3875   (5) 3995

23. A canteen requires 112 kgs of wheat for a week. How many kgs of wheat will it require for 69 days?

(1) 1,204 kgs   (2) 1,401 kgs   (3) 1,104 kgs
(4) 1,014 kgs   (5) None of these

24. If an amount of Rs 41,910 is distributed equally amongst 22 persons. How much amount would each person get?

(1) Rs 1,905   (2) Rs 2,000   (3) Rs 1,885
(4) Rs 2,105   (5) None of these

25. The cost of 4 Cell-phones and 7 Digital cameras is Rs 1,25,627. What is the cost of 8 Cell-phones and 14 Digital cameras?

(1) Rs 2,51,254   (2) Rs 2,52,627   (3) 2,25,524
(4) Cannot be determined
(5) None of these

Q. 26-30. Each of the questions below consists of a question and two statements numbered I and II are given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer:

(1) if the data in Statement I alone are sufficient to answer the question, while the data in Statement II alone are not sufficient to answer the question.

(2) if the data in Statement II alone are sufficient to answer the question, while the data in Statement I alone are not sufficient to answer the question.

(3) if the data in Statement I alone or in Statement II alone are sufficient to answer the question.

(4) if the data in both the Statements I and II are not sufficient to answer the question.

(5) if the data in both the Statements I and II together are necessary to answer the question.

26. What is the area of the circle?
    I. Perimeter of the circle is 88 cms.
    II. Diameter of the circle is 28 cms.

27. What is the rate of interest?
    I. Simple interest accrued on an amount of Rs 25,000 in two years is less than the compound interest for the same period

by Rs 250.
    II. Simple interest accrued in 10 years is equal to the principal.

28. What is the number of trees planted in the field in rows and columns?
    I. Number of columns is more than the number of rows by 4.
    II. Number of trees in each column is an even number.

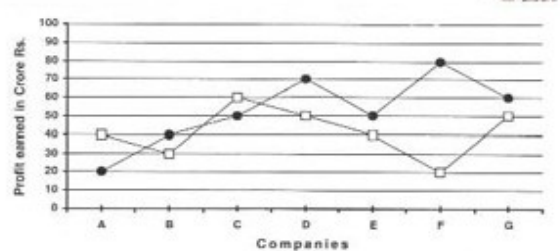**29.** What is the area of the right-angled triangle?
    I. Height of the triangle is three-fourth of the base.
    II. Diagonal of the triangle is 5 metres.

30. What is the father's present age?
    I. Father's present age is five times the son's present age.
    II. Five years ago the father's age was fifteen times the son's age that time.

Q. 31-35. Study the following graph carefully to answer these questions:

Profit earned (in Crore Rs) by Seven Companies during 2003-2004
Profit = Income – Expenditure

31. What is the ratio between the profit earned by Company A in 2004 and the profit earned by Company B in 2003 respectively?

(1) 4 : 3   (2) 3 : 2   (3) 3 : 4
(4) 2 : 3   (5) None of these

32. What is the difference (in Crore Rs) between the total profit earned by Companies E, F and G together in 2003 and the total profit earned by these companies in 2004?

(1) 70   (2) 75   (3) 78
(4) 82   (5) None of these

33. What is the ratio between the total profit earned by Company C in 2003 and 2004 together and the total profit earned by Company E in these two years respectively?

(1) 11 : 9   (2) 9 : 10   (3) 10 : 11
(4) 11 : 10   (5) None of these

34. What was the average profit earned by all the companies in 2003? (In Crore Rs Rounded-Off to two digits after decimal).

(1) 52.75   (2) 53.86   (3) 52.86

(4) 53.75 (5) None of these

35. Profit earned by Company B in 2004 is what per cent of the profit earned by the same company in 2003?

(1) 133.33 (2) 75 (3) 67.66
(4) 75.25 (5) None of these

Q. 36-40. Study the following table carefully to answer these questions:

TABLE GIVING PERCENTAGE OF UNEMPLOYED MALE AND FEMALE YOUTH AND THE TOTAL POPULATION FOR DIFFERENT STATES IN 2005 AND 2006

	2005			2006		
STATE	M	F	T	M	F	T
A	12	15	32	7	8	35
B	8	7	18	10	9	20
C	9	10	28	10	12	34
D	10	6	24	8	8	30
E	6	8	30	7	6	32
F	7	5	28	8	7	35

M = Percentage of unemployed Male youth over total population

F = Percentage of unemployed Female youth over total population

T = Total population of the State in lakhs

36. What was the total number of unemployed youth in State A in 2006?

(1) 2,20,000 (2) 3,25,000
(3) 5,20,000 (4) 5,25,000
(5) None of these

37. How many female youth were unemployed in State D in 2005?

(1) 14,400 (2) 1,44,000
(3) 1,40,000 (4) 14,000
(5) None of these

38. Number of unemployed male youth in State A in 2005 was what per cent of the number of unemployed female youth in State E in 2006?

(1) 66 (2) 50 (3) 200
(4) 133 (5) None of these

39. What was the difference between the number of unemployed male youth in State F in 2005 and the number of unemployed male youth in State A in 2006?

(1) 70,000 (2) 45,000
(3) 68,000 (4) 65,000
(5) None of these

40. What was the respective ratio between unemployed male youth in State D in 2005 and the unemployed male youth in State D in 2006?

(1) 1 : 1 (2) 2 : 3 (3) 3 : 2
(4) 4 : 5 (5) None of these

ANSWERS AND EXPLANATIONS

1. (4)
2. (3)
3. (5) Ans. 255.55
4. (1)
5. (2)
6. (3) $\text{Speed} = \dfrac{D}{t}$
7. (1) $x^2 - 9^3 = 567 \Rightarrow x = 36$
8. (1) $\text{S.I.} = \dfrac{5760 \times 6 \times 3}{100} = \text{Rs} 1036.80$
9. (2) Ans. 43623
10. (4) $x(x + 1) = 8556 \Rightarrow x = 92$
11. (5) $\dfrac{122}{100} x = 10980 \Rightarrow x = \text{Rs } 9000$
12. (2) $\text{C.I.} = P\left[\left(1 + \dfrac{R}{100}\right)^n - 1\right]$
    $= 3000 \left[\left(1 + \dfrac{8}{100}\right)^2 - 1\right] = \text{Rs } 499.20$
13. (5)

    $$\begin{array}{r} 65 \\ \hline 6 \,|\, 4321 \\ 36 \\ \hline 125 \,|\, 721 \\ 625 \\ \hline 96 \end{array}$$

    $65^2 < 4321 < 66^2$

    Reqd. no. $= 66^2 - 4321 = 35$
14. (4) $\dfrac{45}{100}$ of $x = 255.6 \Rightarrow x = 255.6 \times \dfrac{100}{45}$

    $\therefore \dfrac{25}{100} \times 255.6 \times \dfrac{100}{45} = 142$
15. (3)
16. (5) $x^2 - 78^2 = 6460 \Rightarrow x = 112$
17. (5) $\dfrac{40}{100} x = 261 + \dfrac{4}{100} x \Rightarrow x = 725$
18. (4) Shares of Pinku, Rinku and Tinku in

    Rs 4200 are $\dfrac{7}{7+8+6} \times 4200, \dfrac{8}{21} \times 4200,$

    $\dfrac{6}{21} \times 4200$ i.e. 1400, Rs 1600, Rs 1200

    Reqd. ratio

    $= (1400 + 200) : (1600 + 200) : (1200 + 200)$

    $= 8 : 9 : 7$
19. (3) Total Amount

    $= \text{Rs } 24000 + \dfrac{24000 \times 14 \times 8}{100} = \text{Rs } 50880$
20. (4) $A + B + C + D + E$

    $x + (x + 2) + (x + 4) + (x + 6) + (x + 8)$

    $= 5 \times 52 \Rightarrow x = 48 = A, B = 50$

    $\therefore E = 48 + 8 = 56$

    $\therefore BE = 50 \times 56 = 2800$

21. (2) $(42 - 28)\%$ of $x = 210 \Rightarrow x = 210 \times \dfrac{100}{14}$

$= 1500$

$\therefore \dfrac{59}{100} \times 15 = 885$

22. (2) Use BODMAS

23. (3) $\dfrac{112}{7} \times 69 = 1104$ kg

$=$ Reqd. quantity of wheat

24. (1)

25. (1) $4x + 7y = 125627 \bigr] \times 2$

$\therefore 8x + 14y = 251254$

26. (3) $2\pi r = 88 \Rightarrow r = \dfrac{88}{2\pi}$

$r = \dfrac{D}{2} = \dfrac{28}{2} = 14$

Either (i) or (ii) is reqd.

$A = \pi r^2$

27. (3) $250 = 25000 \left[(1 + R)^2 - 1\right] - 25000 \times R \times 2$

or $R = \dfrac{x \times 100}{x \times 10} = 10\%$

From either of statement we can find R

28. (4)

29. (5) $x^2 + \left(\dfrac{3}{4}x\right)^2 = 5^2 \Rightarrow x = 4$,

$h = \dfrac{3}{4} \times 4 = 3$

Area $= \dfrac{1}{2}\left(x \times \dfrac{3}{4}x\right) = \dfrac{1}{2}(4 \times 3) = 6$ sq. units

Both (i) and (ii) statements are reqd.

30. (5) Let son's present age be x

$\therefore$ Father's present age $= 5x$

ATS $5x - 5 = 15 (x - 5) \Rightarrow x = 7$

$\therefore$ Father's present age $= 35$ yrs

31. (5) $\dfrac{40}{40} = \dfrac{1}{1}$

32. (5) Diff $= (50 + 80 + 60) - (40 + 20 + 50) = 80$

33. (1) Reqd ratio $= \dfrac{50 + 60}{40 + 50} = \dfrac{11}{9}$

34. (3)

35. (2) $30 = x\%$ of $40 \Rightarrow x = 75$

36. (4)

37. (2)

38. (3)

39. (5) Ans 49000

40. (1) $\dfrac{\dfrac{10 \times 24}{100}}{\dfrac{8 \times 30}{100}} = 1:1$