Directions (1 – 5): What will come in place of the question mark (?) in the following questions?

1. $(5 \times 7)\%$ of $(34 \times 55) + 456.60 = 699.1 + ?$
(1) 412   (2) 422   (3) 418   (4) 428   (5) None of these

2. $14 \times 627 \div \sqrt{1089} = (?)^3 + 141$
(1) $5\sqrt{5}$ (2) $(125)^3$ (3) 25   (4) 5   (5) None of these

3. $2\frac{1.5}{5} + 2\frac{1}{6} - 1\frac{3.5}{15} = \frac{(?)^{\frac{1}{3}}}{4} + 1\frac{7}{30}$
(1) 2   (2) 8   (3) 512   (4) 324   (5) None of these

4. $(80 \times 0.40)^3 \div (40 \times 1.6)^3 \times (128)^3 = 2^{?+7}$
(1) 25   (2) 11   (3) 12   (4) 18   (5) None of these

5. $(\sqrt{7} + 11)^2 = (?)^{\frac{1}{3}} + 2\sqrt{847} + 122$
(1) 6   (2) $36 + 44\sqrt{7}$ (3) 216   (4) 36   (5) None of these

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

6. $(1494.89 \div 5.005 + 0.996) \div 11.990 = ?$
(1) 20   (2) 25   (3) 28   (4) 30   (5) 55

7. $5894 \div 14.99 + 589.01 - 111.99 = ?$
(1) 870   (2) 920   (3) 840   (4) 810   (5) 770

8. $(9.979)^3 - (23.99)^2 + (1.99)^5 = ?$
(1) 350   (2) 490   (3) 390   (4) 420   (5) 450

9. $\left(\frac{18}{4}\right)^2 \times \frac{455}{19} \div \frac{61}{799} = ?$
(1) 6320   (2) 6350   (3) 6400   (4) 6430   (5) 6490

10. $2439.97 - 1234.01 + 401.99 = ? + 989.99$
(1) 620   (2) 650   (3) 680   (4) 700   (5) 600

Directions(11 – 15): What will come in place of the question marking following number series?

11. 28   39   63   102   158   (?)
(1) 232   (2) 242   (3) 233   (4) 244   (5) None of these

12. 7   16   141   190   919   (?)
(1) 1029   (2) 1040   (3) 1020   (4) 1030   (5) None of these

13. 12   17   32   57   92   (?)
(1) 198   (2) 195   (3) 137   (4) 205   (5) None of these

14.   19   25   45   87   159   (?)
(1) 254   (2) 279   (3) 284   (4) 269   (5) None of these

15.   83   124   206   370   698   (?)
(1) 1344   (2) 1324   (3) 1364   (4) 1334   (5) None of these

Directions (16 – 20) : In the following questions two equations numbered I and II are given.
You have to solve both the equations and
 Give answer **(1)** if x > y   Give answer **(2)** if x ≥ y
 Give answer **(3)** if x < y   Give answer **(4)** if x ≤ y
 Give answer **(5)** if x = y or the relationship cannot be established.

16.   I. $\frac{25}{x^2} - \frac{12}{x} + \frac{9}{x^2} = \frac{4}{x^2}$ II. $9.84 - 2.64 = 0.95 + y^2$

17.   I. $\sqrt{901}\, x + \sqrt{1295} = 0$ II. $(257)^{\frac{1}{4}}\, y + (217)^{\frac{1}{3}} = 0$

18.   I. $\frac{(3)^5 + (7)^3}{3} = x^3$ II. $7\, y^3 = -(15 \times 2) + 17\, y^3$

19.   I. $(x^{1/4} \div 16)^2 = 144 \div x^{3/2}$ II. $y^{\frac{1}{3}} \times y^{\frac{2}{3}} \times 3104 = 16 \times y^2$

20.   I. $3x^2 - 19x + 28 = 0$ II. $5\, y^2 - 18y + 16 = 0$

21.   The respective ratio between the present ages of son, mother, father and grandfather is 2:7:8:12. The average age of son and mother is 27 years. What will be mother's age after 7 years?
(1) 40 years   (2) 41 years   (3) 48 years   (4) 49 years   (5) None of these

22.   In an examination Raman scored 25 marks less than Rohit. Rohit scored 45 more marks than Sonia. Rohan scored 75 marks which is 10 more than Sonia. Ravi's score is 50 less than maximum marks of the test. What approximate percentage of marks did Ravi score in the examination if he gets 34 marks more than Raman?
(1) 90   (2) 70   (3) 80   (4) 60   (5) 85

23.   The largest and the smallest angles of a triangle are in the ratio of 3:1 respectively. The second largest angle of the triangle is equal to 44^0.What is the value of 150 per cent of the largest angle of the triangle?
(1) 149   (2) 129   (3) 153   (4) 173   (5) None of these

24.   One of the angles of a quadrilateral is thrice the smaller angle of a parallelogram. The respective ratio between the adjacent angles of the parallelogram is 4:5. Remaining three angles of the quadrilateral are in ratio 4:11:9 respectively. What is the sum of the largest and the smallest angles of the quadrilateral?
(1) 255^0 (2)260^0 (3)265^0 (4)270^0 (5) None of these

25.   An aeroplane flies with an average speed of 756 km/hr. A helicopter takes 48 hours to cover twice the distance covered by aeroplane in 9 hours. How much distance will the helicopter cover in 18 hours?
(1) 5014 km   (2) 5140 km   (3) 5130 km   (4) 5103 km   (5) None of these

26.   The circumference of a semicircle of area 1925 sq. cm is equal to the breadth of a rectangle. If the length of the rectangle is equal to the perimeter of a square of side 48 cm. What is the perimeter of rectangle?
(1) 734 cm   (2) 754 cm   (3) 745 cm   (4) Cannot be determined   (5) 744

27. Meera purchased an item for Rs. 62,000 and sold it at loss of 25 percent.   With that amount she purchased another item and sold it at a gain of 30 percent. What was her overall gain/ loss?
(1) Loss Rs. 1560   (2) Profit Rs. 1560   (3) Loss Rs. 1550   (4) Profit Rs. 1550   (5) None

28. Sum of two numbers is equal to sum of square of 11 and cube of 9. Larger number is $(5)^2$ less than square of 25. What is the value of the sum of twice of 24 percent of the smaller number and half of the larger number?
(1) 415   (2) 420   (3) 410   (4) 425   (5) None of these

29. The average of eleven consecutive odd number is 23. What will be 150% of the sum of the greatest and the smallest number of this series?
(1) 64   (2) 69   (3) 72   (4) 84   (5) 95

30. The simple interest accrued on a sum of certain principal is Rs6500 in eight years at the rate of 13% per year. What would be the compound interest accrued on that principal at the rate of 8 per cent per year in 2 years?
(1) 1040   (2) 1020   (3) 1060   (4) 1200   (5) None of these

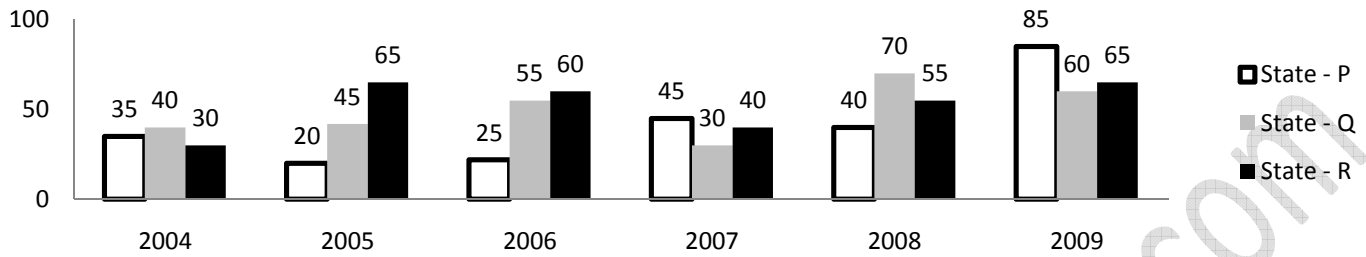*Directions (31 – 35)* **:** Study the table carefully to answer the questions that following:

Production of two types of items by four different companies in six different months.

Company	K		L		M		N	
Months	Type-1	Type-2	Type-1	Type-2	Type-1	Type-2	Type-1	Type-2
January	234	452	432	654	434	324	435	564
February	545	543	534	335	532	450	652	544
March	756	670	864	654	765	565	564	765
April	634	765	643	454	665	933	875	809
May	568	656	789	654	424	666	565	544
June	875	426	908	767	568	958	574	546

31. In which month was the difference between number of items of type – 1 produced by company – M and number of items of type – 2 produced by company-N second lowest?
(1) January   (2) February   (3) March   (4) April   (5) May

32. What was the average number of items of type-2 produced by all the companies together in the month of January?
(1) 498.5   (2) 489.5   (3) 469.5   (4) 496.5   (5) None

33. What was the respective ratio between the number of items of type-2 produced by Company- M in the month of May and the number of items of type-1 produced by Company-L in the month of March?
(1) $\frac{49}{109}$ (2) $\frac{31}{48}$ (3) $\frac{50}{109}$ (4) $\frac{43}{58}$ (5)None of these

34. Number of items of type-1 produced by company-N in the month April was approximately what percentage of number of items of type-2 produced by Company-M in the month of March?
(1) 145   (2) 150   (3) 140   (4) 160   (5) 154

35. What was the approximate percent decrease in number of items of type-2 that Company-K produced in the month of June as compared to previous month?
(1) 30   (2) 25   (3) 22   (4) 40   (5) 35

Directions (36 – 40) : Study the following graph carefully to answer the questions that follow:
Number of Candidate (in thousands) who qualified in an exam in three different states in six different years
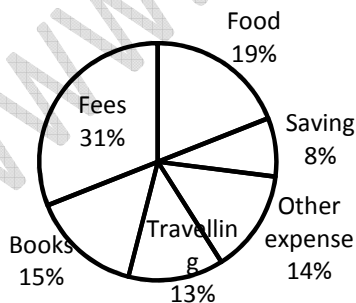

36. If 40 per cent of the candidates who qualified in the exam from state-P in the year 2009 were females then what was the sum of number of male candidates who qualified from State-P in the year 2009 and the number of candidates who qualified in the exam from state-R in the year 2007?
(1) 91,000   (2) 9.1 lacs   (3) 93,000   (4) 9.3 lacs   (5) None of these

37. What was the respective ratio between the number of candidates who qualified in the exam from State-R in the year 2008 and the number of candidates who qualified in the exam from state-P in the year 2004?
(1) 11 : 10   (2) 9 : 11   (3) 11 : 7   (4) 11 : 9   (5) None of these

38. Total number of candidates who qualified in the exam in the year 2004 and 2005 together from state-Q was approximately what percentage of total number of candidates who qualified in the exam from all the states together in the year 2007?
(1) 61   (2) 65   (3) 79   (4) 69   (5) 74

39. What was difference between the total number of candidates who qualified in the exam from all the states together in the year 2006 and the total number of candidates who qualified in the exam from State-P over all the years together?
(1) 1.2 lacs   (2) 11,000   (3) 1.1 lacs   (4) 12,000   (5) None of these

40. What was approximate percent age decrease in number of candidates who qualified in the exam from State-Q in year 2007 as compared to the previous year?
(1) 45   (2) 55   (3) 50   (4) 60   (5) 30

Directions (41 – 45) : Study the following pie-chart carefully to answer these questions.

Total Monthly expenditure of a boy = Rs. 8500
Percentage of Monthly Expenditure

41. The boy deposits 75 percent of his savings in a bank.What amount is left with him after depositing money from his savings?
(1) 220   (2) 160   (3) 210
(4) 170   (5) None of these

42. If 20 per cent of other expense of the boy is on mobile phone, 70 percent on smoking and remaining on gambling, then what is the amount he spends on smoking and gambling together?
(1) 942   (2) 940   (3) 952   (4) 960   (5) None of these

43. What is the difference between the boy's total expenditure on books and food together and his expenditure on fees?
(1) 255   (2) 260   (3) 275   (4) 250   (5) None of these

44. What is the boy's average expense on travelling, books, fees and food together?
(1) 1657.50   (2) 1675.50   (3) 1757.50   (4) 1775.50   (5) None of these

45. Expense of the boy on travelling is approximately what per cent of his expense on fees?
(1) 48   (2) 50   (3) 42   (4) 55   (5) 35

Directions (46 – 50) : Study the following table carefully to answer the questions that follow :
Number of Passengers (in hundreds) travelling in five trains on six different days

Train	A	B	C	D	E
Day					
Monday	4.55	4.38	4.64	7.73	7.68
Tuesday	3.54	6.34	6.90	5.82	5.59
Wednesday	7.65	2.79	7.23	5.64	6.28
Thursday	6.75	8.65	7.83	9.74	8.83
Friday	5.78	9.50	8.91	8.16	6.54
Saturday	3.48	5.39	9.84	9.92	10.9

46. What is the difference between the total number of passengers travelling in Train-C on Thursday and Saturday together and the number of passengers travelling in Train-E on Saturday?
(1) 667   (2) 676   (3) 687   (4) 686   (5) None of these

47. What is the approximate per cent increase in the number of passengers travelling in Train-B on Tuesday as compared to the previous day?
(1) 49   (2) 52   (3) 59   (4) 53   (5) 45

48. In which train the number of passengers travelling consistently increases from Monday to Saturday?
(1) A   (2) B   (3) C   (4) D   (5) E

49. If four- eleventh of the number of passengers in Train-C on Friday is travelling without ticket, then what is the number of passengers having tickets?
(1) 567   (2) 546   (3) 576   (4) 564   (5) None of these

50. Total number of passengers travelling in train C and E together on Thursday is approximately what per cent of the number of passengers travelling in train-D on Saturday?
(1) 151   (2) 155   (3) 168   (4) 174   (5) 162