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(Quantitative Aptitude)

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Direction: A question is given followed by the information in three statements. You have to decide the information in which of the statements is necessary and sufficient to answer the question and mark answer accordingly.

1. What is the annual rate of interest for a sum at compound interest, which compound annually?

I. The sum invested is Rs.4200

II. In two years, the compound interest will be Rs.2898

III. In one year, the sum amounts to Rs.5460

A. I and II only

B. II and III only

C. I and III only

D. Any two of I, II and III

E. All I, II and III

Direction: The question given below has few statements along with it. You have to determine which of the statement/s is/are sufficient/necessary for answering the question and mark your answer accordingly

2. A boat takes 2 hours to travel from point A to B in still water. To find it's upstream speed, which of the following information is/are required?

I. Distance between point A and B.

II. Time taken to travel downstream from B to A.

III. Speed of the stream of water.

A. Any two of them are sufficient

B. Even with all these, the answer cannot be found

C. Only A and B

D. Only A and C

E. None of these

Direction: The question given below has few statements along with it. You have to determine which of the statement/s is/are sufficient/necessary for answering the question and mark your answer accordingly:

3. In how many days will B alone complete the work?

I. A and B together can complete the work in 8 days.

II. B and C together can complete the work in 10 days.

III. A and C together can complete the work in 12 days.

A. Both I and II

B. Both II and III

C. All I, II and III

D. Question cannot be answered even with the information given in all three statements

E. None of the above

Direction: The question given below has few statements along with it. You have to determine which of the statement/s is/are sufficient/necessary for answering the question and mark your answer accordingly.

4. To find out the share of Raju out of Rs 182 when only 3 partners(viz., Ram, Raju & Rohit) are there in the business, which of the following statements is/are sufficient/necessary?

a) The share of Ram is 1.8 times the combined share of Raju and Rohit.

b) The share of Raju is3/11 of the combined share of Ram and Rohit.

c) The share of Rohit is 1/6of the combined share of Ram and Raju.

A. Statements A and B together are sufficient

B. Statement A and C together are sufficient

C. Statements B and C together are sufficient

D. Either statement B alone or statements A and C together are sufficient

E. None of these

Direction: The question given below has few statements along with it. You have to determine which of the statement/s is/are sufficient/necessary for answering the question and mark your answer accordingly.

5. What is the selling price of the Toy car ?

Statement I: Cost price of the toy car is equal to the 50% of the price of AC which is equal to Rs.20000.

Statement II: Profit earned was 20%.

Statement III: Had 20% discount been offered on mark price the profit would have been Rs.1400.

A. Only III
B. Only II and III
C. Only I and II
D. All of these
E. Any two of these

Direction: In the following question, two quantities I and II are given. Compare these quantities and choose the correct option accordingly.

6. **Quantity I.** A shopkeeper sells an item at a loss of 15%. Had he sold it for Rs.55.20 more, he would have earned a profit of 8%. The cost price of the item
Quantity II. The marked price of an item is Rs.320. The shopkeeper sold it by giving 10% discount on the marked price and earned a profit of 20%. The cost price of the item
A. Quantity I > Quantity II
B. Quantity I < Quantity II
C. Quantity I $\geq$ Quantity II
D. Quantity I $\leq$ Quantity II
E. Quantity I = Quantity II or No relationship

Direction: In the following question, two quantities I and II are given. Compare these quantities and choose the correct option accordingly.

7. **Quantity I-** If the volume and the curved surface area of a cylinder are 462 m^3 and 264 m^2 respectively, then the total surface area of the cylinder (in m^2)
Quantity II- The sum of the curved surface area and the total surface area (in m^2) of a hemisphere of radius 10.5 m.
A. Quantity I $<$ Quantity II
B. Quantity I $>$ Quantity II
C. Quantity I $\geq$ Quantity II
D. Quantity I $\leq$ Quantity II
E. No relation

Direction: Each question below contains a statement followed by **Quantity I** and **Quantity II**. Find the relationship between them. Mark your answer accordingly.

8. Ram's salary, which is more than Rs.15000, is 80% of Daya's salary. Jay's salary is 80% of Ram's salary
Quantity I. Daya's salary
Quantity II. Jay's salary
A. Quantity I > Quantity II
B. Quantity I ≥ Quantity II
C. Quantity II > Quantity I
D. Quantity II ≥ Quantity I
E. Quantity I = Quantity II or Relation cannot be established

Direction: Each question below contains a statement followed by **Quantity I** and **Quantity II**. Find the relationship between them. Mark your answer accordingly.
9. Two dice are rolled.
Quantity I: Probability that the sum of the numbers obtained on the two dice is even.
Quantity II: Probability that the sum of the numbers obtained on the two dice is greater than 6.
A. Quantity II > Quantity I
B. Quantity I ≥ Quantity II
C. Quantity I > Quantity II
D. Quantity I ≤ Quantity II
E. Quantity I = Quantity II

Direction: Each question below contains a statement followed by **Quantity I** and **Quantity II**. Find the relationship between them. Mark your answer accordingly.

10. The average age of 12 women is increased by 2.5 years, when two of them whose ages are 19 years and 23 years are replaced by two new women.
Quantity I: The present age of the younger of the two new women. If after 5 years the age of the second woman is deducted from the age of the first woman, then the difference in their ages will be 14 years.
Quantity II: The present age of the younger of the two new women. If 3 years ago, the age of the first new woman was 1.75 times the age of the second new woman.
A. Quantity I < Quantity II
B. Quantity I > Quantity II

C. Quantity I ≤ Quantity II
D. Quantity I ≥ Quantity II
E. Quantity I = Quantity II or no relation

Direction (11 – 15) : Study the information given below and answer the questions based on it.
There are three highways: Highway A, Highway B and Highway C. On each of the given days - Friday, Saturday and Sunday, some number of vehicles ply on these three highways.
We have these pieces of information relating to the traffic on these days:
Friday: The number of vehicles on highway B is one-third of the number of vehicles on highway B on Saturday. The number of vehicles on highway C is 3/4th of the number of vehicles on highway C on Saturday. The number of vehicles on highway A and C is the same.
Saturday: The total number of vehicles on Saturday is 75000. The number of vehicles on highway B is 15000 less than that of highway A & C together. The number of vehicles on highway A is 5/6th of the number of vehicles on highway A on Sunday.
Sunday: The total number of vehicles on Sunday is 4/5th of thetotal number of vehicles on Saturday. The number of vehicles on highway A is equal to the number of vehicles on highway B on Saturday. The number of vehicles on highway C is the same on Saturday and Sunday.

11. What is the total number of vehicles on all three highways on Friday?
A. 45000
B. 40000
C. 50000
D. 55000
E. 48000

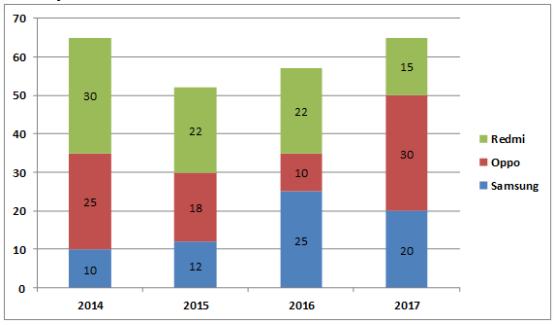
12. What is the total number of vehicles on Highway A of three days?
A. 75000
B. 65000
C. 60000
D. 70000
E. 80000

13. What is the average number of vehicles on Sunday?
A. 15000
B. 20000
C. 25000
D. 10000
E. 12000

14. What is the difference between the vehicles on highway A on Saturday and the vehicles on highway C on Friday?
A. 5000
B. 15000
C. 10000
D. 20000
E. 8000

15. The number of vehicles on highway B on Friday is approximately what percent of the total vehicles on Sunday?
A. 15%
B. 18%
C. 12%
D. 16.67%
E. 21%

Direction (16 – 20) : Refer to the Graph and answer the given questions.
Number of people (in lakh) using three different brands of mobile phones over the years.



16. Find the ratio of users of Samsung (2016) to Redmi (2015) if users of Samsung in 2016 Increases by 29% and users of Redmi in 2015 decreases by 15%.
A. 3225:187
B. 325:187
C. 645:374
D. 845:187
E. None of these

17. Find the percent of increase or decrease in the number of users of Oppo, Redmi and Samsung respectively in 2014 to make the ratio of Oppo to Redmi to Samsung as 2:3:5.
A. -29% , +26% , +37%
B. -60% , -50% , +150%
C. +150% , -60% , -50%
D. -19% , +26% , +37%
E. None

18. if total users of Samsung users are increased by 25% and Redmi users are decreased by 25%. Find the new ratio of Samsung users and Redmi Users.
A. 859: 619
B. 249:335
C. 89: 69
D. 335:267
E. 80.59: 63.19

19. By what percent users in 2014 is more than that of 2015.
A. 20%
B. 25%
C. 23%
D. 24%
E. None of these

20. 1) find the average of all years separately
2) Increase the lowest average by 7% and decrease the highest average by 9% & then find the ratio of revised lowest average to revised highest avg.
A. 1141: 1971: 1971
B. 1411: 1791
C. 18.54 : 19.71
D. 1.141: 1.971
E. 114.1: 197.1

21. When Chitra was born her mother's age was 30 years. Four years after the birth of Chitra, when her sister Bittu was born, her father was 26 years old. Find the difference between the ages of her parents.
A. 4 years
B. 5 years
C. 1 years
D. 2 years
E. None of these

22. In an examination, A candidate got 40% marks and failed by 40 marks. If the passing marks are 80% of the maximum marks, then what is the maximum marks in the examination?
A. 120
B. 100
C. 80
D. 95
E. None of these

23. A Labourer works for 120 hours in a week, and earn Rs. 2400. If his per hour wages increased by 40% and his working hours decreased by 16(2/3)% then what will be the percentage effect on his wages?
A. Decreased by 12(1/2)%
B. Decreased by 16(2/3)%
C. Increased by 16(2/3)%
D. Increased by 12(1/2)%
E. None of these

24. In a container containing a mixture of 60 litres, the ratio of water to spirit is 4: 1. How much spirit should be added to make the ratio 3: 2?
A. 20 litres
B. 27 litres
C. 16 litres
D. 9 litres
E. 31 litres

25. A person saves 10% of his income and after 1 years his income raises by 20% but his saving remains the same than the increase in the expenditure is?
A. 25.26%
B. 22.22%
C. 11.11%
D. 15.23%
E. Cannot be determined

Direction (26 – 30) : Study the graph and answer the questions that follow.
The following bar graph shows the percentage of votes gained by different parties in different states and table show the total number of voter in different states:

26. In State A, if 10% of the total voters do not vote and 2% of the total votes are considered as invalid votes, then how many of remaining votes did Congress get in state A?
A. 75.5 lakh
B. 72.9 lakh
C. 71.8 lakh
D. 72.6 lakh
E. None of these

27. The number of votes got by BSP in State C is how much per cent less by that gain in State B? (Assume that all the voters went to vote)
A. 53%
B. 46%
C. 48%
D. 49%
E. None of these

28. The total number of votes got by SP in all states is
A. 222 lakh
B. 250 lakh
C. 227 lakh
D. 405 lakh
E. None of these

29. In which of the following states is difference between the numbers of votes got by BSP & BJP the maximum?
A. A
B. B
C. C
D. A & B
E. B & C

30. What is the ratio of the number votes got by Others in State A to that in State C?
A. 25:23
B. 52:55
C. 55:53
D. 55:52
E. None of these

Direction: In the following question two equations are given in variables X and Y. You have to solve these equations and determine relation between X and Y.

31. I. $\frac{8}{\sqrt{x}}+\frac{6}{\sqrt{x}}=\sqrt{x}$
II. $y^{7/2}-14^{7/2}=0$
A. $x > y$
B. $x \geq y$
C. $x < y$
D. $x \leq y$
E. $x = y$ or the relationship cannot be established

Direction: In the following question, two quadratic equations I & II are given. Solve both the equations & establish the relationship between the given variables.

32. I. $x^2-41x+78=0$
II. $y^2+43y+82=0$
A. x > y
B. x ≥ y
C. x < y
D. x ≤ y
E. x = y or the relationship cannot be established

Direction: In the following question two equations numbered I and II are given. You have to solve both the equations and answer the question.

33. I. 9x – 15.45 = 54.55 + 4x
II. $\sqrt{y+155}-\sqrt{36}=\sqrt{49}$
A. x > y
B. x ≥ y
C. x < y
D. x ≤ y
E. x = y or the relation cannot be determined

Direction: In the question, two equations I and II are given. You have to solve both the equations and give answer
34. $8x^2 + 10x - 12=0$
$4y^2 - 15y + 14=0$
A. x > y
B. x < y
C. x=y, or relation cannot be established between x and y
D. x ≥ y
E. x ≤ y

Direction: In the following question, there are two equations. Solve the equations and answer accordingly.

35. I. $66a^2 - 78a - 108 = 0$

II. $18b^2 + 27b - 81 = 0$

A. If $a > b$

B. If $a < b$

C. If $a \leq b$

D. If $a \geq b$

E. If $a = b$ or Cannot determined

Direction: Find the missing number in the given series.

36.
14, 9, 20, 12 , ?, 15
A. 55
B. 14
C. 30
D. 26
E. 35

Direction: Find the Missing term in the following series:

37. 3.2, 4.8, 2.4, 3.6, ?, 2.7
A. 12.5
B. 1.8
C. 6.8
D. 13.2
E. 1.5

Direction: What should come in place of the question mark '?' in the following number series?

38. 30, 42, 56, 72, 90, ?
A. 110
B. 111
C. 215
D. 152
E. 116

Direction: What should come in place of question mark (?) in the following number series?

39. 2, 4, 10, 32, ?, 652
A. 130
B. 150
C. 170
D. 190
E. None of these

Direction: What will come in place of the question mark (?) in the following number series?

40. 9, 13, 4, 20, ?, 31
A. 5
B. -5
C. 25
D. -21
E. 26

Direction (14 – 45) : An organization has 8 departments. The table below gives information about the number of members in each of the departments, the age of the oldest and the youngest member of the departments and the average age of the departments. Some of the data is missing:

Department	No of employees	Age of oldest member	Age of youngest member	Average age of team
Content	7	42	27	32.86
Finance	4	45	34	
HR	3	44	35	39
Operations	6	52	29	
Production		46	35	40
R&D	5	54	28	40.4
Sales	8			33
Technical	6			

41. If there are a total of 44 employees, what is the average age of the employees apart from the youngest and oldest members in the production team?
A. 40 years
B. 39.67 years
C. 39.5 years
D. 39.4 years
E. 39.25 years

42. If the age of the 3rd person in HR is equal to the average age of the remaining 2 persons in finance, what is the average age of the members of finance team?
A. 38.75 years
B. 39 years
C. 39.25 years
D. 40 years
E. None of these

43. The ages of the members of sales team is in arithmetic progression. If no employee in the company is below 20 years, what is the age of the oldest member of the sales team? Age of every member is an integer in years.
A. 47 years

B. 45 years
C. 41 years
D. 40 years
E. 37 years

44. The ratio of the ages of the oldest and the youngest member of the technical team is 5:3. If the average age of the remaining members of the team is 35.5, what could be the possible average age of the technical team? Age of every member is an integer in years.
A. 37.17 years
B. 36.83 years
C. 36.5 years
D. 36 years
E. 35.67 years

45. If the average age of the remaining members of operations team is 3 years more than the average age of the remaining members of R&D team, what is the average age of the operations team?
A. 41.33 years
B. 41.83 years
C. 42.17 years
D. 42.5 years
E. 43 years

Directions: What **approximate** value will come in place of the question mark (?) in the following questions:
46. 1161 × 128 ÷ 8.008 + 969.007 =?
A. 18800
B. 19000
C. 19530
D. 19200
E. 18600

Direction: What will come in the place of question mark (?) in the following question (You do not have to calculate the exact value)?
47.
$40.012\% of 464.98 + 80.002\% of 279.99 = 50\% of ?$
A. 250
B. 155
C. 820
D. 935
E. 550

Direction: What approximate value should come in place of the question mark (?) in the following equation (Note: You are not expected to calculate the exact value)?
48. (304% of 709) ÷ 114 =?
A. 19
B. 25
C. 14
D. 28
E. 32

Direction:What approximate value should come in the place of the question mark in the following questions? (You do not have to calculate the exact value)

49. 20.06% of 599 + 10.01% 0f 901 = ?
A. 150
B. 210
C. 250
D. 280
E. 300

Direction: What approximate value should come in place of the question mark (?) in the following question (Note: You are not expected to calculate the exact value)?
50. 309 ÷ (2.1 × 6.9) =?
A. 22
B. 17
C. 28
D. 12
E. 33

Direction: What should come in place of the question mark (?) in the following number Series?
51. 1470, 1390, 1320,1260,1210,1170,?
A. 1120
B. 1140
C. 1130
D. 1150
E. 1110

52. **Directions:**What should come in place of question mark (?) in the following number series?
41, 17, ?, 13, 41, 9
A. 31
B. 51
C. 41
D. 47
E. 71

53. **Directions:** What should come at place of question mark (?) in the following number series?
198 190 175 151 116 (?)
A. 48
B. 62
C. 68
D. 42
E. None of these

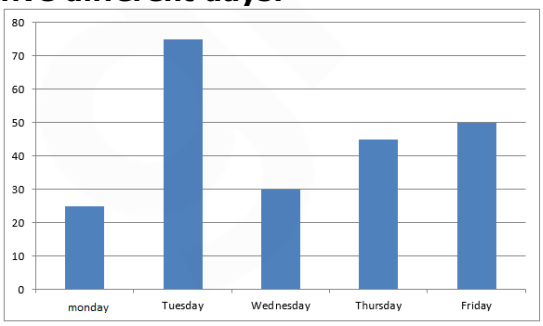
Direction: What will come in place of the question mark (?) in the following number series?
54. 28, 29, 56, 171, 680, ?
A. 4015
B. 3225
C. 3415
D. 3390
E. 3405

55. **Direction**: What will come in place of the question mark (?) in the following number series?

50, 31, 88, (?), 126, -45, 164
A. 102
B. -7
C. 100
D. 183
E. -5

Direction (56 – 60) : Bar graph given below shows pens sold by a retailer on five different days. Study the data carefully and answer the following questions.

Number of pen sold by a retailer on five different days.



56. Out of total pens sold on Tuesday, the ratio between the number of defective pens sold to total number of pens sold is 7 : 15. Find the total number of non - defective pens sold on Tuesday by the retailer.
A. 40
B. 15
C. 60
D. 45
E. 90

57. Total number of pens sold on Saturday is 40% more than total number of pens sold on Wednesday. Find the total number of pens sold on Friday and Saturday together.
A. 92
B. 122
C. 172
D. 125
E. 105

58. Find the difference between the total number of pens sold on Monday and Tuesday together to the total number of pens sold on Thursday and Friday together.
A. 25
B. 40
C. 5
D. 22
E. 10

59. The total number of pens sold on Tuesday is 25% more than the total number of pens sold on Sunday. Find the total number of pens sold on Sunday.
A. 72
B. 60
C. 94
D. 43
E. 75

60. Out of the total pens sold on Thursday, 20% were blue ink pens. Out of the remaining, 25% were red ink pens and the remaining were black ink pens. Find the total number of blue and black ink pens sold on Thursday.
A. 36
B. 46
C. 56
D. 66
E. 55

Direction: What value should come in place of question mark (?) in the following questions?

61. $\frac{15\times18+8\times8+20\times4+2}{7+5\times17-12\times7}=?$

A. 50
B. 54
C. 55
D. 60
E. None of these

Direction: What value should come in place of the question mark (?) in the following question?

62. 6824 + 7864 = ? × 40

A. 376.4
B. 359.2
C. 363.4
D. 367.2
E. None of these

Direction: What value will come in place of the question mark (?) in the following question?

63. 2.5% of 240 + √7.84= ? + 3.2% of 150

A. 6
B. 5
C. 4
D. 3
E. None of these

Direction: What value should come in place of the question mark (?) in the following question?

64. 15 × 18 – 4 + 6 - ? = 20÷4 + 26

A. 212
B. 241
C. 157
D. 311
E. 273

Direction: What value should come in place of the question mark (?) in the following question?

65. 567 - 4824 ÷ 134 = ? × 9

A. 33
B. 59
C. 37
D. 57
E. None of these

Direction: What should come in place of the question mark '?' in the following number series?

66. 17, 22, 39, 76, 141, ?

A. 225
B. 242
C. 250
D. 265
E. 280

Direction: What should come in place of the question mark '?' in the following number series?

67. 58 , 30 , ? , 51 , 106 , 270

A. 44
B. 32
C. 42
D. 48
E. 38

Direction: What should come in place of the question mark '?' in the following number series?

68. -4, 16, -12, 48, ?, 96

A. -16
B. -20
C. -8
D. 20
E. -25

Direction: What should come in place of the question mark '?' in the following number series?

69. 69, 93, 141, 213, 309, ?

A. 415
B. 429
C. 525
D. 540
E. 612

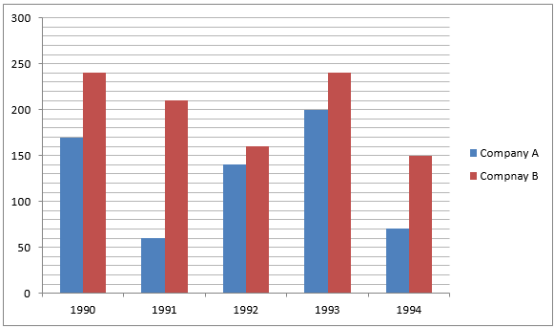
Direction: What should come in place of the question mark '?' in the following number series?

70. 384, 377, 356, 321, ?, 209

A. 272
B. 292
C. 252
D. 262
E. 242

Direction (71 – 75) : In the Bar-chart, total employees hired in different years from 1990 to 1994 in two company A and

B. Based on this Bar chart solve the following questions-



71. In the year 1995, 15% increase in total number of employees hired in 1994 of both companies, then find the total no. of employees hired in 1995?
A. 350
B. 410
C. 540
D. 253
E. 180

72. The ratio between total employees hired in both companies in 1990 to total employees hired in 1994 in both companies
A. $\frac{41}{22}$
B. $\frac{17}{21}$
C. $\frac{4}{9}$
D. $\frac{6}{13}$
E. $\frac{5}{11}$

73. The number of employees of company A in 1992 is what % of the no. of employees of company B in 1993
A. 98.20%
B. 58.33%
C. 45.45%
D. 85.28%
E. None of these

74.The total number of employees hired in company A from 1991 to 1994 together is what percent more than the total number of employees hired in company B in 1993 and 1994 together? (Rounded off to 2 decimal places)
A. 10.51%
B. 20.51%
C. 15.51%
D. 17.51%
E. None of these

75. Total employees hired in company B in 1992 and 1993 together is what % more than employees hired in company A in 1990 and 1994 together?
A. 16%
B. 28.20%
C. 66.67%
D. 74.56%
E. None of these

76. Simple interest accrued on a sum of certain principle is Rs 7,200 in six years at the rate of 12 p.c.p.a. What would be the compound interest accrued on that principle at the rate of 5 p.c.p.a. in 2 years?
A. Rs 1000
B. Rs 1025
C. Rs 1050
D. RS 1075
E. Rs 2000

77. In a mixture of milk and water of volume 30 litres, the ratio of milk and water is 7 : 3. How much quantity of water is to be added to the mixture to make the ratio of milk and water 1:2?
A. 30 liters
B. 32 liters
C. 33 liters
D. 35 liters
E. None of these

78. The ratio of ducks and frogs in a pond is 37: 39 respectively. The average number of ducks and frogs in the pond is 152. What is the number of frogs in the pond?
A. 148
B. 152
C. 156
D. 144
E. None of these

79. A man sells an article at profit of 30%. Had he bought it at 22% less and sold it for 884 Rs less, he would have gained 10%. What is the cost price of the article?
A. 1000 Rs
B. 1800 Rs
C. 2400 Rs
D. 2000 Rs
E. None of these

80. Mr. Pandit divided an amount of Rs. 1,08,000 amongst his two daughters and three sons. Each daughter received thrice the amount as each of the sons. How much amount did each daughter receive?
A. Rs. 12,000
B. Rs. 72,000
C. Rs. 24,000
D. Rs. 32,000
E. None of these

Direction: What will come in place of question mark (?) in the following questions?

81. ?= $(-5)^{(2)^2} \div (5)^{(2)^2}$
A. 5
B. 1
C. 8
D. 10
E. 2

Direction: What value should come in place of question mark (?) in the following question?

82. $\sqrt[3]{2744} \times \sqrt[3]{64} - \sqrt{289} \times \sqrt{2^2} = ?$
A. 24
B. 22
C. 28
D. 35
E. 31

Directions: What should come in place of the question mark (?) in the following questions?

83. $\sqrt{?} - 11 = \sqrt{1521}$
A. $\sqrt{2500}$
B. $(28)^2$
C. $\sqrt{28}$
D. 50
E. None of these

Direction: What value should come in place of the question mark (?) in the following equation?

84. $3\frac{7}{4} - 4\frac{3}{2} + 2\frac{1}{3} = ? \div 156$
A. $2\frac{7}{12}$
B. 247
C. $4\frac{7}{12}$
D. $7\frac{7}{12}$
E. 228

Direction: What value should come in place of the question mark (?) in the following equation?

85. $7429 = ? \times \sqrt{361} \times \sqrt[3]{12167}$
A. 12
B. 29
C. 23
D. 19
E. 17

86. A started a business with investing Rs. 8000 and after some months, B joined with investing Rs. 5000. At the end of one year, total profit was Rs. 4250 and share of A is Rs. 3000. After how many months did B join?
A. 4
B. 5
C. 2
D. 1
E. Date inadequate

87. Two pipes P and Q can fill a tank in 3 hours and 4 hours respectively. If each pipe is opened every alternate hour starting with P, in how many hours will the tank be filled?
A. $2\ ^2/_5$
B. $3^1/_3$
C. $4^4/_5$
D. $6^1/_2$

E. $4^1/_3$

88. Susmitto was married 6 years ago. The present age of Susmitto is (5/4) times of his age at the time of marriage. His brother was 4 years younger to him at the time of his marriage. What is the present age of his brother?
A. 24 years
B. 28 years
C. 26 years
D. 18 years
E. None of these

89. Sandip can finish a work in the same time in which Suman and Palash together can finish the same work. Sandip and Suman together can finish the work in 16 days and Palash alone can finish the work in 40 days. In how many days, Suman alone can finish the work?
A. 48
B. $53\frac{1}{3}$ days
C. $40\frac{1}{4}$ days
D. 35
E. $25\frac{1}{5}$ days

Direction :Ram bought some chairs & tables from a shopkeeper. The marked price of a chair and a table were in the ratio 5 : 7. The shopkeeper gives discounts of 20% and 25% on the chair &the table respectively. The ratio of chairs and tables bought by Ram is 9 : 8
90. If Ram sells each chair and table bought by him at discount of 25% and 20% respectively after marking up the prices of both by 50% and gives one 1 chair free for every 4 tables bought by a customer, then what is the net profit/loss % made by Ram after selling all of the items which he bought from the shopkeeper?
A. 5%
B. 15%
C. 18%
D. 16%
E. None of these

Direction: Which of the following number in the series is wrong?
91. 38 38 57 114 284 855
A. 284
B. 38
C. 57
D. 855
E. None of these

Direction: Which of the following number in the series is wrong?
92. 74, 99, 50, 125, 10, 179
A. 74
B. 125
C. 10
D. 179
E. None of these

Direction: Which of the following number in the series is wrong?
93. 140 142 151 179 244 370
A. 370
B. 151
C. 142
D. 140
E. None of these

Direction: Which of the following number in the series is wrong?
94. 75 92 58 109 41 127
A. 127
B. 41
C. 109
D. 58
E. None of these

Direction: Which of the following number in the series is wrong?
95. 250 124 60 29.5 13.75 5.875
A. 13.75
B. 124
C. 60
D. 5.875
E. None of these

Direction (96 – 100) : Deepti, Ujjwal, Rekha, Arijit, Bandita, Lalit, Ekta and Sachin are employees in a company. Their average age is 42 years. The following information is known about them:
- The ratio of present ages of Deepti, Ujjwal and Rekha is 8:10:7

- The ratio of present ages of Bandita and Sachin is 5:4
- 4 years ago, the ratio of ages of Ekta and Sachin was 5:4
- 1 year from now, the ratio of ages of Ekta and Lalit will be 9:8
- 1 year from now, the ratio of ages of Arijit and Lalit will be 6:5

96. Who is the oldest person among them?
A. Arijit
B. Ekta
C. Ujjwal
D. Bandita
E. Lalit

97. Deepti, Rekha, Bandita and Ekta are females. What is the difference between the average age of men and women?
A. 0.5 year
B. 1 year
C. 1.5 years
D. 2 years
E. 2.5 years

98. What is the difference between the ages of Arijit and Rekha?
A. 15 years
B. 12 years
C. 10 years
D. 9 years
E. 8 years

99. Arrange the following persons in the descending order of their ages: Deepti, Bandita, Sachin, Ekta
A. Bandita, Deepti, Sachin, Ekta
B. Ekta, Bandita, Deepti, Sachin
C. Ekta, Bandita, Sachin, Deepti
D. Bandita, Deepti, Ekta, Sachin
E. Bandita, Ekta, Deepti, Sachin

100. Which of the following statements is/are true?
I. The difference between the ages of the oldest and the youngest person is 15 years.
II. 1 year from now, the ratio of ages of Rekha and Ekta will be 4:5.
III. Lalit is older than only 2 other persons.
IV. 5 years ago, Arijit was 9 years older than Lalit.
A. I, II and III
B. I and II
C. II, III and IV
D. II and IV
E. All I, II, III and IV

Direction: What should come in place of question mark (?) in the following number series?
101. 1, 2, 6, 21, ?, 445, 2676
A. 88
B. 77
C. 52
D. 64
E. 54

Directions: What should come in place of the question mark (?) in the following number series?
102. 576, 288, 144, 72, 36, ?
A. 18
B. 30
C. 16
D. 24
E. 20

Direction: what will come in place of the question mark (?) in the following number series?
103. 35, 49, 63, 77, ?
A. 95
B. 93
C. 91
D. 99
E. 90

Direction: What will come in place of the question mark (?) in the following number series?
104. 7, 9, 19, 45, 95,?
A. 150
B. 160
C. 145
D. 177
E. 180

Direction: What will come in place of the question mark (?) in the following number series?
105. 4 , 16 , 36 , 64, 100 , (?)
A. 90

B. 169
C. 144
D. 121
E. 105

106. Each child from a certain school can make 5 items of handicraft in day. If 1125 handicraft items are to be displayed in an exhibition then in how many days can 25 children make these items ?
A. 6 days
B. 9 days
C. 8 days
D. 7 days
E. None of these

107. The average marks obtained by Mithun in Sanskrit, Science and Social Science were 68. But erroneously the marks in Science were taken as 72 instead of 81. The maximum marks of each subject were 120. Find the percentage of marks obtained by Mithun in nearest integer.
A. 62
B. 59
C. 61
D. 55
E. 63

108. What is the least number to be added to 4523 to make it a perfect square?
A. 101
B. 34
C. 238
D. 121
E. None of these

109. Shilpa can complete a piece of work in 15 days and Shamita can complete the same piece of work in 24 days. On which day can Shilpa and Shamita together complete the same piece of work?
A. 6th day
B. 4th day
C. 7th day
D. 10th day
E. 9th day

110. The cost of 4 bags and 12 purses is Rs. 1,520, what is the cost of 10 bags and 30 purses?
A. Rs. 3,600
B. Rs. 3,500
C. Rs. 4,000
D. Rs. 3,900
E. None of these

111. A water tank has a leak which would empty it in 6 hours when no tap is opened. A tap is turned on which fills the water tank at 10 litres per hour if there is no leak. What is the capacity of the tank if it takes 15 hours in emptying the full tank when both tap & leak are opened together?
A. 80 liters
B. 90 liters
C. 100 liters
D. 150 liters
E. 120 liters

112. A number is divided successively by 5, 9 and 13 and the remainders were 4, 8 and 12 respectively. If the number had been divided by 585, what would have been the remainder?
A. 0
B. 1
C. 13
D. 572
E. 584

113. Three wheels can complete 60, 36 and 24 revolutions per minute. There is a red spot on each wheel that touches the ground at time zero. After how much time, all these spots will simultaneously touch the ground again?
A. $\frac{5}{2}$ s
B. $\frac{5}{3}$ s
C. 6 s
D. 7.5 s
E. None of these

114. There are 2 Cans containing a mixture of wine, water and coke. The first Can contains wine, water and coke in the ratio 3 : 5 : 2. The second Can contains water and wine in the ratio 5 : 4. 1litre of the first and 2 litres of the second are

mixed together. What fraction of the mixture is coke?
A. 1/15
B. 1/10
C. 1/25
D. 1/13
E. None of these.

115. Aditya interchanged positions of the digits of a two-digit number, the number obtained is smaller than the original number by 27. If the digits of the number are in the ratio of 2 : 4, what is the original number?
A. 36
B. 63
C. 48
D. Cannot be determined
E. None of these

Direction: What will come in place of question mark (?) in the following question?
116. 1/2 of 3842 + 15% of ? = 2449
A. 3520
B. 3250
C. 3350
D. 3540
E. None of these

Direction: What value should come in place of the question mark (?) in the following equation?
117. $(43)^2 + 841 = (?)^2 + 1465$
A. 15
B. 65
C. 45
D. 35
E. 25

Direction: What will come in place of question mark (?) in the following equations?
118. $\sqrt{5^2 \times 14 - 6 \times 7 + (4)^?} = 18$
A. 2
B. 5
C. 4
D. 3
E. 1

Direction: What will come in place of question mark (?) in the following question?
119. $326 - 441 + 1130 = ? - 141$
A. 1166
B. 864
C. 1156
D. 874
E. 765

Direction: What will come in place of question mark (?) in the following equations?
120. (6.5% of 375) – (0.85% of 230) =?
A. 22.42
B. 25.76
C. 21.64
D. 24.24
E. 23.42

Direction: In the following question, there are two equations. Solve the equations and answer accordingly.
121. **I.** $2p^2 + 17p + 26 = 0$
II. $2q^2 + 17q + 33 = 0$
A. p > q
B. p ≥q
C. p < q
D. p ≤q
E. p = q or the relationship between p and q cannot be established.

Direction: In the following question, there are two equations. Solve the equations and answer accordingly.
122. I) $14a^2 - 5\sqrt{15}a - 90 = 0$
II) $6b^2 + \sqrt{21}b - 21 = 0$
A. $a \geq b$
B. $a = b$ or no relation can be established
C. $a > b$
D. $a \leq b$
E. $a < b$

Direction: In the following question, two quadratic equations I & II are given. Solve both the equations & establish the relationship between the given variables.
123. **I.** $X^2 + 15X + 56 = 0$
II. $Y^2 + 22Y + 117 = 0$

A. X > Y
B. X ≥ Y
C. Y > X
D. Y ≥ X
E. X = Y OR the relationship cannot be established

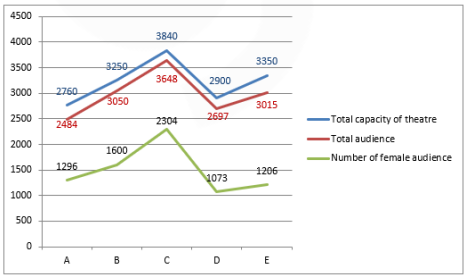
Direction: In the following question two equations numbered I and II are given. You have to solve both the equations and give answers.

124. **I.** $16a^2 = 1$
II. $3b^2 + 7b + 2 = 0$
A. a < b
B. a ≤ b
C. a=b or relationship between a and b cannot be established
D. a > b
E. a ≥ b

Directions: In the following question two equations numbered I and II are given. You have to solve both the equations and answer the question.

125. **I.** 4x + 6y = 18
II. 3x + 10y = 21
A. X > Y
B. X ≥ Y
C. Y > X
D. Y ≥ X
E. X = Y OR the relationship doesn't exist

Direction (126 – 130) : Answer the questions based on the information given below:
A movie is played in five different theatres after release. The chart represents the total capacity of each theatre, total number of audiences and the number of female audiences in each theatre on the 1st day 1st show after the release of the moviE.



126. The total number of male audiences who watched the movie in theatre E is what percentage of the total number of audience who watched the movie in theatre E?
A. 55%
B. 65%
C. 45%
D. 60%
E. 70%

127. Find the number of seats which has remained vacant in all the five movie theatres together.
A. 1537
B. 1206
C. 1372
D. 1140
E. 1485

128. What is the difference between the number of males and the number of females who watched the movie in all the five movie theatres together?
A. 64
B. 89
C. 51
D. 30
E. 103

129. What is the ratio of the number of males to the number of females who watched the movie in theatre C?
A. 8: 13
B. 6: 13
C. 7: 12
D. 4: 9
E. None of these

130. The ratio of the number of audience in the 1st show to the number of audience in the 2nd show in theatre A is 23: 25 respectively. If the ratio of the number of males to the number of females who have watched the movie in the 2nd show is 4: 5 respectively then find the number of males who have watched the movie in the 2nd show in theatre A.
A. 1280
B. 1200
C. 1204
D. 1236
E. 1248

Direction: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value.

131. 2831.627 ÷ 23.899 + $(11.7)^2$ ÷ $(6.09)^2$ = ?
A. 104
B. 134
C. 122
D. 154
E. 165

Direction: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value.
132.
$\left(\frac{1}{59.82} - \frac{1}{63.09}\right) \times (760.78 - 4.80) \times 5 + 74.876\% of 4999.671$
= ?
A. 3998
B. 3789
C. 4167
D. 3846
E. 3753

###COMMON###133###133###**Direction**: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value.
133. $\frac{1}{112.89}$ of 116.988 + ?% of 4999.79 = $(42.09)^2$ + 49.67
A. 44
B. 39
C. 25
D. 45
E. 34

Direction: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value.

134.
$2530 \times \sqrt{24.62} + 24.78\%\ of\ 608.04 - 95.12\ of\ \frac{4}{5}$
= ?
A. 12726
B. 13404
C. 12654
D. 14650
E. 13456

Direction: What approximate value will come in place of the question mark (?) in the following question? (You are not expected to calculate the exact value.
135. (1565.09 + 2561.99 – 847.22) ÷ 8.08 = ? – 2199.98
A. 2550
B. 2610
C. 2690
D. 2720
E. 2640

136. A, B and C started a business with initial investments of Rs. 12000, Rs. 15000 and Rs. 20000 respectively. After one year A and B made additional investments equal to 25% and 20% of their initial investments respectively whereas C withdrew 20% of his initial investment. Find the profit share of A out of the total profit of Rs. 3840 after two years.
A. Rs. 1080
B. Rs. 1420
C. Rs. 1860
D. Rs. 2240
E. None of these

137. Suresh has two books A and B whose cost price is 'P' and Rs. 120 respectively. He marked up the price of book B by 40% and sold at (P – 55)% discount and sold the books A at 15% profit. If the profit amount earned from book A is double of the profit amount earned from book B, then what is the value of 'P'?
A. 60
B. 80
C. 70
D. 90
E. None of these

138. The speed of boat downstream and upstream is 30 km/hr and 18 km/hr respectively. Time taken to travel a distance of (x + 40) km downstream and (y + 60) km upstream is 42 hours, and time taken to travel (x + 40) km upstream and (y + 60) km downstream is 38 hours. Find the time taken by the

boat to travel a distance $\left[\frac{x+y}{2}\right]$ km upstream with speed $\frac{100}{3}\%$ more than the normal stream speed.
A. 16 hours
B. 21 hours
C. 25 hours
D. 30 hours
E. 36 hours

139. The ratio of the present age of Rohit to that of Mohit is 5: 7 respectively. The ratio of the present age of Mohit's son to that of the Rohit's son is 3: 2 respectively. When the age of the Mohit was same as present age of Rohit, Mohit's son was born. Rohit's son was born after 3 years of marriage of Rohit and the ratio of the age of Rohit to that of Mohit was 5: 8, respectively at the time of Rohit's marriage. Find the difference between the age of Rohit's son and Mohit's son?
A. 5 years
B. 10 years
C. 9 years
D. 4 years
E. 6 years

140. Piyush went to buy an article. The shopkeeper sold the article at the marked price but told him to pay 20% tax on eth marked price if he asked for the bill. Piyush manages to get the discount of 5% on the actual marked price of the article. Besides he manages to avoid paying 20% tax on the already discounted price. He paid the shopkeeper Rs. 2280 without tax after the discount. What is the amount of discount he got?
A. 500
B. 550
C. 600
D. 650
E. 700

Direction: What value should come in place of the question mark (?) in the following question?

141. $3\frac{1}{4}+2\frac{1}{2}+6\frac{1}{6}=?$

A. $13\frac{11}{12}$
B. $11\frac{11}{12}$
C. $12\frac{11}{12}$
D. $15\frac{11}{12}$
E. None of these

Direction: What value should come in place of the question mark (?) in the following question?

142. $3328\div\sqrt[3]{?}=256$

A. 2197
B. 1728
C. 2744
D. 729
E. None of these

Direction: What should come in place of question mark (?) in the following questions?
143. 628.88 – 410.25 + 153.05 = ?
A. 371.68
B. 56.58
C. 317.68
D. 65.58
E. None of these

Direction: What value should come in place of the question mark (?) in the following question?

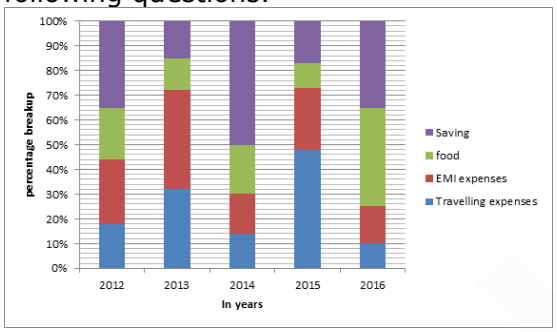
144. $\frac{25-4^2}{6^2-28}=?$

A. $2\frac{1}{4}$
B. $\frac{5}{8}$
C. $\frac{9}{10}$
D. $1\frac{1}{7}$
E. None of these

Directions: What value should come in place of the question mark (?) in the following questions?

145. 4 x 306 + 5x 204- 6x 187 = ? x17x6
A. 11
B. 12
C. 17
D. 23
E. None of these

Directions (146 – 150) : The following bar graph shows the percentage break-up of a Sunil's salary from year 2012 to 2016. With the given information, find the following questions.



146. If the ratio on saving in the year 2013 and 2016 are in the ratio 3 : 5. Then what is the ratio of EMI expenses in the year 2013 and 2016.
A. 56:5
B. 8:15
C. 56:15
D. Can't be determined
E. none of these

147. If the saving in 2012 is $\frac{4}{5}$th of the saving in 2014. Then what is the total expenditure spent on food in 2012. (Given that total expense in 2014 is INR 1,85,000)
A. INR 40,400
B. INR 44,400
C. INR 21,100
D. INR 45,100
E. none of these

148. Every year there is an increase of 100% in monthly salary as compared to previous year's monthly salary then what is the ratio of monthly salary in 2016 to the expenses on travelling in 2013.
A. 8:1
B. 1:25
C. 80:3
D. 25:1
E. none of these

149. If the total expenses in year 2011 is INR 3, 00,000 and there is an increase of 18% in 2012. Then how much Sunil has spent on travelling and EMI combine in 2012?
A. INR 1,53,740
B. INR 1,40,330
C. INR 1,50,740
D. INR 92,400
E. INR 1,55,760

150. What approx. percentage of average money spend by Sunil on food to that of average money saved by him during all these years if his salary per annum was INR 5,00,000
A. 65%
B. 70%
C. 68%
D. 69%
E. 66%

151. A boat goes 35 km upstream and 49 km downstream in 3.5 hours each time. Find the speed of the current.
A. 2 kmph
B. 4 kmph
C. 8 kmph
D. 2.5 kmph
E. 1.5 kmph

152. Krishna bought two different computers at a total cost of 45000. If he sold computer one at 15% profit and computer two sold at a loss of 15%. In these two transactions his loss is 750. If he sold computer one at a profit of 10% then at what profit/loss percentage he should sold computer two to get his investment.
A. 8%
B. 10%
C. 12%
D. 15%
E. 20%

153. A person invests Rs.5000 at 5% p.a. simple interest for a certain period and earns Rs.750. If he earns Rs.720 on Rs.6000 in the same time period what is the rate of interest?
A. 6%
B. 4%
C. 5%
D. 3%
E. 7%

154. K and L are two alloys of bronze and iron prepared by mixing the respective metals in the ratio of 5:3 and 5:11 respectively. If the alloys K and L are mixed to form a third alloy M with an equal ratio of bronze and iron then what is the ratio of alloys K and L in the new alloy M?
A. 3:5
B. 4:5
C. 3:2
D. 2:3
E. None of these

155. Akash saves 6 % of his income , After five years his income increases by 15 % but his saving remains same. Find the percentage increase in his expenditure?
A. 16%
B. 17%
C. 15.95%
D. 18%
E. 19%

Direction: What will come in place of the question mark (?) in the following number series?
156. 77, 85, 69, 101, 37, ?
A. 105
B. 125
C. 145
D. 165
E. 185

Directions: What will come in place of the question mark (?) in the following number series?

157. 8850, 5475, 3278,1947, 1218,(?)
A. 1125
B. 875
C. 925
D. 1025
E. None of these

Direction: What will come in place of the question mark (?) in the following number series?
158. 7, 8, 18, 57, ?, 1165
A. 212
B. 217
C. 232
D. 247
E. 275

Direction: What will come in place of the question mark (?) in the following number series

159. 12, 12, 36, 180, ?, 11340
A. 1145
B. 1294
C. 1038
D. 1168
E. 1260

Direction: What should come at the place of question mark (?) in the following number series?
160. 1, 5, 13, 29, ?, 125, 253
A. 83
B. 69
C. 61
D. 65
E. 81

###ANSWERS###

1. Ans. D.
From statements I and II:
P = Rs.4200, CI = Rs.2898, n = 2
From the formula $CI = P\left[\left(1+\frac{r}{100}\right)^2 - 1\right]$, we can easily find the annual rate of interest.
From statements I and III:
P = Rs.4200, A = Rs.5460, n = 1
From the formula A= $P\left(1+\frac{r}{100}\right)^1$, we can easily find the annual rate of interest.

From statements II and III:
CI = Rs.2898, n = 2
From the formula $CI = P\left[\left(1+\frac{r}{100}\right)^2 - 1\right]$, we can find the $\left(1+\frac{r}{100}\right)$ in terms of P
Also given, A = Rs.5460, n = 1
From the formula A= $P\left(1+\frac{r}{100}\right)^1$ we can find the $\left(1+\frac{r}{100}\right)$ in terms of P

Equate the both $\left(1+\frac{r}{100}\right)$, we will get the value of r.
Hence, any two of statements I, II and III are sufficient to answer this question
2. Ans. A.
Let distance = d
Speed in still water = x
Speed of current = y
$\frac{d}{2}$ = 2
From A, d given
From B, $\frac{d}{x+y}$ given
From C, y = given
So, any two of them together are sufficient.
3. Ans. C.
From all three statements,
A+B=8 ...(i)
B+C=10 ...(ii)
C+A=12 ...(iii)
... Work of day of 2(A + B + C)
$= \frac{1}{8}+\frac{1}{10}+\frac{1}{12} = \frac{37}{120}$A
A, B and C together finished the work in $\frac{240}{37}$ days
B alone can complete the work in
$= \frac{\frac{240}{37} \times 12}{12-\frac{240}{17}} = \frac{240}{17}$ days
4. Ans. D.
Only statement (b) is sufficient
Raju:(Ram + Rohit) = 3:11
Therefore Raju = 3*182/14= Rs 39

Using Statement (a) alone we can get share of Ram.
Using Statement (c) alone we can get share of Rohit.

Now with combination of (a) & (c) we can get share of Raju.
5. Ans. E.
From I and II :
SP can be calculated .
From II and III:
Let cp = x
sp = (120x)/100 = 6x/5
After ,20% discount on sp =New sp = (80/100)*6x/5
From I and III:
Let sp = x
After 20% discount ,
sp = 8x/10
=> 8x/10 -10,000 = 1400
sp can be calculated .
Hence, from any of two options, we can get the value of sp.
6. Ans. E.
Quantity I: Let CP be Rs. P.
Then, (108% of P) – (85% of P) = 55.20
23% of P = 55.20
P = 240

Quantity I = CP = Rs. P = Rs.240

Quantity II:

SP = 90% of 320 = Rs. 288

Given, Profit% = 20%

∴ Quantity II = CP = $\frac{100}{120} \times 288$ = Rs.240

Hence, Quantity I = Quantity II

7. Ans. A.

Quantity I:

According to questions, $\frac{\pi r^2 h}{2\pi r h} = \frac{462}{264}$

⇒ r= 3.5 m

So, h = $\frac{462}{\pi r^2} = \frac{462 \times 7}{22 \times 3.5 \times 3.5}$ =12 m

Quantity I =Total surface area of the cylinder = $2\pi r(r+h) = 2 \times \frac{22}{7} \times 3.5(3.5+12) = 341m^2$

Quantity II = The sum of curved surface area + Total surface area = $2\pi r^2 + 3\pi r^2 = 5\pi r^2$

$5 \times \frac{22}{7} \times (10.5)^2$ =1732.5 m^2

Hence, Quantity I < Quantity II

8. Ans. A.

According to question,

Daya's salary > Ram's salary > Jay's salary

Hence, Quantity I > Quantity II

9. Ans. A.

Quantity I:

When two dice are rolled, total number of outcomes = 6 × 6 = 36

Number of outcomes when sum of numbers obtained will be even = {(1, 1), (1, 3), (1, 5), (2, 2), (2, 4), (2, 6), (3, 1), (3, 3), (3, 5), (4, 2), (4, 4), (4, 6), (5, 1), (5, 3), (5, 5), (6, 2), (6, 4) and (6, 6)} = 18

Quantity I = Probability of the sum of numbers obtained is even = 18/36 = ½

Quantity II:

When two dice are rolled, total number of outcomes = 6 × 6 = 36

Number of outcomes in which sum of numbers is greater than 6 = {(1, 6), (2, 5), (2, 6), (3, 4), (3, 5), (3, 6), (4, 3), (4, 4), (4, 5), (4, 6), (5, 2), (5, 3), (5, 4), (5, 5), (5, 6), (6, 1), (6, 2), (6, 3), (6, 4), (6, 5), (6, 6)} = 21

Quantity II = Probability of the sum of numbers obtained is greater than 6 = 21/36 = 7/12

Thus, quantity II > quantity I.

10. Ans. B.

The average age of 12 women is increased by 2.5 years when two of them whose ages are 19 years and 23 years are replaced by two new women.

⇒ Overall increase in the total ages = 12 × 2.5 = 30 years

∴ Sum of the ages of the two new women = 19 + 23 + 30 = 72 years

Quantity I:

Let the age of elder new woman and younger new woman be x years and y years, then

x + y = 72 ..... (1)

Given that the difference in their ages will be 14 years, then

⇒ x – y = 14 ..... (2)

Now, solving equation (1) and (2) we get,

x = 43 years and y = 29 years

Quantity I = y years = 29 years

Quantity II:

Let the age of elder new woman and younger new woman be x years and y years, then

x + y = 72 ..... (1)

3 years ago, the first new woman was 1.75 times the age of the second new woman.

⇒ (x – 3) = 1.75(y – 3)

⇒ x – 3 = 1.75y – 5.25

⇒ x – 1.75y = –2.25 ..... (2)

On solving equation (1) and (2) we get,

x = 45 years and y = 27 years

Quantity II = y years = 27 years

Hence, Quantity I > Quantity II

11. Ans. B.

The number of vehicles on Friday is 40000.

Hence, option B.

Total vehicles on Saturday=75000

Total vehicles on Sunday=75000*4/5=60000

Saturday,

The number of vehicles on highway B is 15000 less than that of highway A & C together.

Let A&C together=x

Then highway B=x-15000

x+x-15000=75000

x=45000
So on highway B=75000-45000=30000
A&C=45000
Friday,
The number of vehicles on highway B is one third of the highway B of Saturday.
So on highway B=30000/3=10000
Sunday,
The number of vehicle of highway A is equal to highway B of Saturday.
So highway A=30000
Saturday,
The number of vehicles on highway A is 5/6th of highway A of Sunday.
So highway A=30000*5/6=25000
We know that highway A +C=45000
So highway C=45000-25000=20000
Sunday,
The number of vehicles on highway C is same on Saturday and Sunday.
So highway C=20000
Total Sunday=60000
Then highway B=60000-(30000+20000)10000
Friday,
The number of vehicles on highway C is 3/4th of highway C of Saturday.
So highway C=20000*3/4=15000
The number of vehicle on highway A and C is same.
So highway A=15000

Day	Highway A	Highway B	Highway C
Friday	15000	10000	15000
Saturday	25000	30000	20000
Sunday	30000	10000	20000

12. Ans. D.
The total number of vehicles on highway A of three days,
15000+25000+30000=70000
Hence, option D.
Total vehicles on Saturday=75000
Total vehicles on Sunday=75000*4/5=60000
Saturday,
The number of vehicles on highway B is 15000 less than that of highway A & C together.
Let A&C together=x
Then highway B=x-15000
x+x-15000=75000
x=45000
So on highway B=75000-45000=30000
A&C=45000
Friday,
The number of vehicles on highway B is one third of the highway B of Saturday.
So on highway B=30000/3=10000
Sunday,
The number of vehicle of highway A is equal to highway B of Saturday.
So highway A=30000
Saturday,
The number of vehicles on highway A is 5/6th of highway A of Sunday.
So highway A=30000*5/6=25000
We know that highway A +C=45000
So highway C=45000-25000=20000
Sunday,
The number of vehicles on highway C is same on Saturday and Sunday.
So highway C=20000
Total Sunday=60000
Then highway B=60000-(30000+20000)10000
Friday,
The number of vehicles on highway C is 3/4th of highway C of Saturday.
So highway C=20000*3/4=15000
The number of vehicle on highway A and C is same.
So highway A=15000

Day	Highway A	Highway B	Highway C
Friday	15000	10000	15000
Saturday	25000	30000	20000
Sunday	30000	10000	20000

13. Ans. B.
60000/3=20000
Hence, option B.
Total vehicles on Saturday=75000
Total vehicles on Sunday=75000*4/5=60000
Saturday,
The number of vehicles on highway B is 15000 less than that of highway A & C together.
Let A&C together=x
Then highway B=x-15000
x+x-15000=75000
x=45000
So on highway B=75000-45000=30000
A&C=45000
Friday,
The number of vehicles on highway B is one third of the highway B of Saturday.
So on highway B=30000/3=10000
Sunday,
The number of vehicle of highway A is equal to highway B of Saturday.

So highway A=30000
Saturday,
The number of vehicles on highway A is 5/6th of highway A of Sunday.
So highway A=30000*5/6=25000
We know that highway A +C=45000
So highway C=45000-25000=20000
Sunday,
The number of vehicles on highway C is same on Saturday and Sunday.
So highway C=20000
Total Sunday=60000
Then highway B=60000-(30000+20000)10000
Friday,
The number of vehicles on highway C is 3/4th of highway C of Saturday.
So highway C=20000*3/4=15000
The number of vehicle on highway A and C is same.
So highway A=15000

Day	Highway A	Highway B	Highway C
Friday	15000	10000	15000
Saturday	25000	30000	20000
Sunday	30000	10000	20000

14. Ans. C.
Highway A on Saturday=25000
Highway C on Friday=15000
Difference=25000-15000=10000
Hence, option C.
Total vehicles on Saturday=75000
Total vehicles on Sunday=75000*4/5=60000
Saturday,
The number of vehicles on highway B is 15000 less than that of highway A & C together.
Let A&C together=x
Then highway B=x-15000
x+x-15000=75000
x=45000
So on highway B=75000-45000=30000
A&C=45000
Friday,
The number of vehicles on highway B is one third of the highway B of Saturday.
So on highway B=30000/3=10000
Sunday,
The number of vehicle of highway A is equal to highway B of Saturday.
So highway A=30000
Saturday,
The number of vehicles on highway A is 5/6th of highway A of Sunday.
So highway A=30000*5/6=25000
We know that highway A +C=45000
So highway C=45000-25000=20000
Sunday,
The number of vehicles on highway C is same on Saturday and Sunday.
So highway C=20000
Total Sunday=60000
Then highway B=60000-(30000+20000)10000
Friday,
The number of vehicles on highway C is 3/4th of highway C of Saturday.
So highway C=20000*3/4=15000
The number of vehicle on highway A and C is same.
So highway A=15000

Day	Highway A	Highway B	Highway C
Friday	15000	10000	15000
Saturday	25000	30000	20000
Sunday	30000	10000	20000

15. Ans. D.
Vehicles on highway B on Friday=10000
Total vehicles on Sunday=60000
According to the questions,
10000*100/60000=16.66%
Hence, option D.
Total vehicles on Saturday=75000
Total vehicles on Sunday=75000*4/5=60000
Saturday,
The number of vehicles on highway B is 15000 less than that of highway A & C together.
Let A&C together=x
Then highway B=x-15000
x+x-15000=75000
x=45000
So on highway B=75000-45000=30000
A&C=45000
Friday,
The number of vehicles on highway B is one third of the highway B of Saturday.
So on highway B=30000/3=10000
Sunday,
The number of vehicle of highway A is equal to highway B of Saturday.
So highway A=30000
Saturday,
The number of vehicles on highway A is 5/6th of highway A of Sunday.
So highway A=30000*5/6=25000
We know that highway A +C=45000
So highway C=45000-25000=20000

Sunday,
The number of vehicles on highway C is same on Saturday and Sunday.
So highway C=20000
Total Sunday=60000
Then highway B=60000-(30000+20000)10000
Friday,
The number of vehicles on highway C is 3/4th of highway C of Saturday.
So highway C=20000*3/4=15000
The number of vehicle on highway A and C is same.
So highway A=15000

Day	Highway A	Highway B	Highway C
Friday	15000	10000	15000
Saturday	25000	30000	20000
Sunday	30000	10000	20000

16. Ans. C.
Users of Samsung in 2016 = 25 lakh
Users of redmi in 2015 = 22 lakh
Increased users of Samsung = 25*129/100
Decreased users of redmi = 22*85/100
Ratio = (25*129/100) /(22*85/100) = 645:374
17. Ans. B.
In 2014 Ratio of oppo:redmi:samsung = 5:6:2
Final Required Ratio of oppo:redmi:samsung = 2:3:5
% Decrease in users of oppo = 3/5*100 = 60%
% Decrease in users of Redmi = 3/6*100 = 50%
% Increase in users of samsung = 3/2*100 = 150%
18. Ans. D.
Total users of Samsung in all years = 67 lakh
New users of Samsung= 67*125/100
Total users of Redmi in all years = 89 lakh
Decrement in users = 89*75/100
Ratio = (67*125/100)/(89*75/100) = 335:267
19. Ans. B.
Total users of 2014 = 65 lakh
Total users of 2015 = 52 lakh
Percent increased = (65-52)*100/52 = 25%
20. Ans. C.
1) Average of all years
2014 = 65/3 = 21.67
2015 = 52/3 = 17.33
2016 = 57/3 = 19.00
2017 = 65/3 = 21.67
2) Increment in lowest average = 17.33*107/100 = 18.54
Decrement in highest average = 21.67*91/100 = 19.71
21. Ans. E.
Chitra was born her mother's age was 30 years
Chitra's brother was born 4 years after Chitra
Mother's age when Chitra's sister was born = 30 + 4 = 34
Father's age when Chitra's sister was born = 26 years
Age difference between her parents = 34 – 26 = 8 years
So option (e) is the correct answer.
22. Ans. B.
Let total marks = m
Passing marks = 0.8 m
So, 0.4 m + 40 = 0.8 m
0.8 m – 0.4 m = 40
m = 100 Marks
23. Ans. C.
Total earning = Rs 2400
No. of hours in a week = 120 hours
Per hour wages = Total earnings/No. of hours in a week
=> 2400/120
=> Rs 20
Per hour wages increased by = 40%
=> 20/100 * 140
=> Rs 28
No. of hours decreased by = 16(2/3)% =1/6
Earlier hours = 6 = 120 hours
New hours = 5 =100 hours
New wages = 100 * 28
=> Rs 2800
% change = (2800-2400)/2400 * 100
=> 400/2400 *100
=> 16(2/3)%
24. Ans. A.
Amount of mixture in the container = 60 litres
Given, the ratio of water to spirit is 4: 1
Therefore, Amount of water = $\frac{4}{5} \times 60 = 48$
Amount of spirit= $\frac{1}{5} \times 60 = 12$
Let the amount of spirit added be x

Therefore, $\frac{\text{Amount of water}}{\text{Amount of spirit}} = \frac{3}{2}$

$$\frac{48}{12+x} = \frac{3}{2}$$

$$96 = 36 + 3x$$

$$3x = 60; x = 20$$

So option (a) is the correct answer.
25. Ans. B.
Let the income be →100
So, 100 →120
And saving is 10 so, expenditure raises from 90 ->110
Increase –> 20/90*100 =22.22%
26. Ans. D.
Total valid votes = 550*[(100-10-2)/100] = 484 lakh

Congress gets = [15/100]*484 = 72.6 lakh
27. Ans. A.
No. of votes by BSP in state B = [40/100]*760 = 304 lakh

No. of votes in state C = [22/100]*650 = 143 lakh

Less = 161 lakh. Percent less = [161/304]*100 = 52.9 ~ 53%
28. Ans. C.
Total no. of votes got by SP = [18/100]*550 + [10/100]*760 + [8/100]*650 = 227 lakh
29. Ans. B.
You can easily find the maximum difference on the basis of percentage figures. State B has Maximum Number difference of votes got by BSP & BJP.
(760*40/100) - (760*25/100) = 304 - 190 = 114
30. Ans. D.
Ratio = [15/100]*550 : [12/100]*650 = 55:52
31. Ans. E.
From I,

$$\frac{8}{\sqrt{x}} + \frac{6}{\sqrt{x}} = \sqrt{x}$$

⇒ x = 14
From II,
$y^{7/2} - 14^{7/2} = 0$

⇒ $y^{\frac{7}{2}} = 14^{\frac{7}{2}}$
⇒ y = 14
So, $x = y$
32. Ans. A.
I.

$$x^2 - 41x + 78 = 0$$

$$x^2 - 39x - 2x + 78 = 0$$

$$x(x-39) - 2(x-39) = 0$$

$$x = 2, 39$$

II.
$y^2 + 41y + 2y + 82 = 0$
y (y+41) +2 (y+41) = 0
(y+41)(y+2) = 0
Y = -41, -2
x>y
33. Ans. E.
We will solve both the equations separately.
Equation I:
9x – 15.45 = 54.55 + 4x
⇒9x – 4x = 70
⇒5x = 70
⇒x = 14
Equation II:

$$\sqrt{y+155} - \sqrt{36} = \sqrt{49}$$

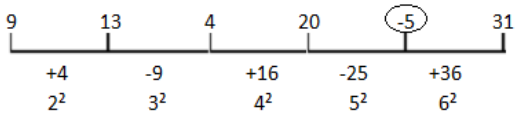
$$\Rightarrow \sqrt{y+155} - 6 = 7$$

$$\Rightarrow \sqrt{y+155} = 13$$

On squaring both sides,
y + 155 = 169
⇒y = 169 – 155
⇒y = 14
Comparing the values of x and y, we get,
x = y
34. Ans. B.
$8x^2 + 10x - 12 = 0$
$8x^2 + 16x - 6x - 12 = 0$
8x (x+2) – 6 (x+2)=0
(8x-6) (x+2)=0
x=3/4 or -2
$4y^2 - 15y + 14 = 0$
$4y^2 - 8y - 7y + 14 = 0$
4y (y-2) – 7 (y-2)=0
(4y-7) (y-2)=0
y=7/4 or +2
So, **x<y.**
35. Ans. E.

$$66a^2 - 78a - 108 = 0$$
$$66a^2 - (132 - 54)a - 108 = 0$$
$$66a^2 - 132a + 54a - 108 = 0$$
$$66a(a-2) + 54(a-2) = 0$$
$$(66a + 54)(a-2) = 0$$
$$a_1 = -\frac{9}{11}$$
$$a_2 = 2$$
$$18b^2 + 27b - 81 = 0$$
$$18b^2 + (54 - 27)b - 81 = 0$$
$$18b^2 + 54b - 27b - 81 = 0$$
$$18b(b+3) - 27(b+3) = 0$$
$$(18b - 27)(b+3) = 0$$
$$b_1 = \frac{3}{2}$$
$$b_2 = -3$$

Relationship can't be established.
36. Ans. D.
14÷2+2=9
9×2+2=20
20÷2+2=12
12×2+2=26
26÷2+2=15
37. Ans. B.
The series is
3.2 *1.5= 4.8
4.8 ÷ 2= 2.4
2.4 *1.5= 3.6
3.6 ÷ 2= 1.8
38. Ans. A.
The series is $5^2 + 5 = 30$
$6^2 + 6 = 42$
$7^2 + 7 = 56$
$8^2 + 8 = 72$
$9^2 + 9 = 90$
$10^2 + 10 = 110.$
Thus, option (A) is correct choice.
39. Ans. A.
The pattern followed is: 2, 4, 10, 32, ?, 652
4 = 2*1 + 2
10 = 4*2 + 2
32 = 10*3 + 2
? = 32*4 + 2, i.e. ? = 130
652 = 130*5 + 2
40. Ans. B.



Hence option B is the right answer.
41. Ans. B.
Number of members in production team = 44 – (7+4+3+6+5+8+6) = 5
Total age of remaining members = 40 x 5 – (46 + 35) = 119
Average age of remaining 3 members = 119/3 = 39.67 years
42. Ans. A.
Age of the 3rd person in HR = 39 x 3 – (44+35) = 38 years
Total age of the members of finance team = 45+34 + 38x2 = 155 years
Average age = 155/4 = 38.75 years
43. Ans. D.
Let the ages of the members of the sales team be a, a+d, a+2d, … a+7d
Sum of their ages = a + (a+d) + (a+2d) + …. (a+7d) = 33 x 8 = 264
=> 8a + 28d = 264
Putting d = 1, 2, 3, 4…

d	a
1	29.5
2	26
3	22.5
4	19

Since no employee in the company is below 20 years, we will take the values of a and d as 26 and 2 respectively.
Hence, the age of the oldest member of the sales team = 26 + 14 = 40 years
44. Ans. E.
Let the ages of the oldest and the youngest member of the technical team be 5a and 3a respectively.
Total age of the team = 8a + 35.5 x 4 = 8a + 142
Average age = (8a + 142)/6 = (4a+71)/3
for the minimum value of a
5a > 35.5
a > 7
for the maximum a
3a < 35.5

a < 11
Putting a = 7, 8, 9, 10…

a	Average age
7	33
8	34.33
9	35.67
10	37

Hence, the possible average age is 35.67 years
45. Ans. C.
The average age of the remaining members of R&D team = (5 x 40.4 – 54 – 28)/3 = 40 years
The average age of the remaining members of operations team = 43 years
The average age of the operations team = (52+29 + 4x43)/6 = 42.17 years
46. Ans. C.
=1161 × 128 ÷ 8.008 + 969.007 =?
=1160*16+970
=18560+970
=19530
47. Ans. C.
$40.012\% of 464.98 + 80.002\% of 279.99$
40% of 465+ 80% of 280= 50% ?

186+ 224=50% ?
?=820
48. Ans. A.
$710 \times \frac{304}{100} \div 114$
= 18.93 ≈ 19
49. Ans. B.
(20/100 * 600) + (10/100 * 900) = 120 + 90 = 210
50. Ans. A.

309 ÷ (2.1 × 6.9) =?
309 ÷ (2 × 7) =?
308 ÷ 14 = 22
51. Ans. B.
1470-80=1390
1390-70=1320
1320-60=1260
1260-50=1210
1210-40=1170
1170-30=1140
52. Ans. C.
The pattern is:
30*1 + 11 = 41
29*1 - 12 = 17
28*1 + 13 = 41
27*1 - 14 = 13
26*1 + 15 = 41
25*1 - 16 = 9
53. Ans. C.
The pattern of given series is:
→198,
→190 = 198 – 3^2 + 1,
→175 = 190 – 4^2 + 1,
→151 = 175 – 5^2 + 1,
→116 = 151 – 6^2 + 1,
→? = 116 – 7^2 + 1,
→? = 68
Thus, the missing number is 68
54. Ans. E.
28*1+1 = 29
29*2-2 = 56
56*3+3 = 171
171*4-4 = 680
680*5+5 = 3405
55. Ans. B.
The pattern of given series is:
→50,
→31 = 50 - (19 × 1),
→88 = 31 + (19 × 3),
→? = 88 - (19 × 5),
→? = - 7
→126 = -7 + (19 × 7),
→-45 = 126 - (19 × 9)
→164 = -45 + (19 × 11)
Thus, the missing number is -7
56. Ans. A.
Total pens sold on Tuesday = 75
The ratio of the total defective pens sold to total pens sold is 7: 15
∴ Total number of non - defective pens sold on Tuesday = $\frac{(15-7)}{15} \times 75 = 40.$
57. Ans. A.
The total number of pens sold on Saturday = 30 × 1.4 = 42
Hence, the total number of Pens sold on Friday and Saturday together = 50 + 42 = 92
58. Ans. C.
Required difference = 25 + 75 – (45 + 50) = 5
59. Ans. B.
Total number of pens sold on Sunday = $\frac{75}{(100+25)} \times 100 = 60.$

60. Ans. A.
Number of blue ink pens sold on Thursday
$= \frac{20}{100} \times 45 = 9$
Number of Red ink pens sold on Thursday
$= \frac{25}{100} \times (45 - 9) = 9$
Number of Black ink pens sold on Thursday = 45 – 9 – 9 = 27.
∴Required sum = 9 + 27 = 36
61. Ans. E.

$$\frac{15\times18+8\times8+20\times4+2}{7+5\times17-12\times7}=?$$

$$\frac{270+64+80+2}{7+85-84}=?$$

$$?=\frac{416}{8}=52$$

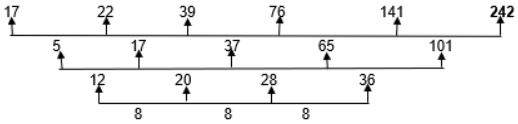
62. Ans. D.

$$6824+7864=?\times 40$$

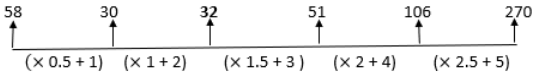
$$\Rightarrow 14688=?\times 40$$

$$\Rightarrow ?=\frac{14688}{40}=367.2$$

63. Ans. C.
2.5% of 240 + √7.84= ? + 3.2% of 150
6+ 2.8 = ? + 4.8
?= 8.8- 4.8= 4
64. Ans. B.
15 × 18 – 4 + 6 - ? = 20÷4 + 26
270 – 4 + 6 - ? =5+26
272 - ?=31
?=241
65. Ans. B.
$567 - \frac{4824}{134} = ? \times 9$
⇒ 567 - 36 = ? × 9
$\Rightarrow ? = \frac{531}{9}$
⇒ ? = 59
66. Ans. B.



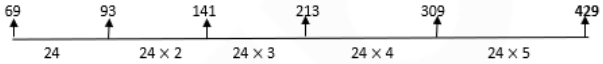
67. Ans. B.



68. Ans. B.

$$1^2-(1\times5)=-4$$
$$2^2+(2\times6)=16$$
$$3^2-(3\times7)=-12$$
$$4^2+(4\times8)=48$$
$$5^2-(5\times9)=-20$$
$$6^2+(6\times10)=96$$

Hence, Option B is correct.
69. Ans. B.



70. Ans. A.

$$384-(1\times7)=377$$
$$377-(3\times7)=356$$
$$356-(5\times7)=321$$
$$321-(7\times7)=272$$
$$272-(9\times7)=209$$

Hence, option A is correct.
71. Ans. D.
The total number of employees in 1994 = Employees in A in 1994 + Employees in B in 1994
∴ Total number of employees in 1994 = 70 + 150 = 220
Now, from the given information we can write,
Employees in 1995 = Employees in 1994 + $\frac{15}{100} \times$ Employees in 1994
Substituting the value of employees in 1994 we get,
Employees in 1995 = 1.15*220=253

Hence the answer is option (D).
72. Ans. A.

$$\frac{Total\ no.\ of\ employees\ in\ 1990}{Total\ no.\ of\ employees\ in\ 1994}=\frac{170+240}{70+150}$$

$$\frac{Total\ no.\ of\ employees\ in\ 1990}{Total\ no.\ of\ employees\ in\ 1994}=\frac{410}{220}$$

∴ Ratio = $\frac{41}{22}$
Hence the answer is option (A).

73. Ans. B.
Total number of employees of A in 1992 = 140
Total number of employees of B in 1993 = 240

$\therefore$ Required Percent = $\frac{140}{240}\times 100$

$\therefore$ Required Percent = $\frac{7}{12}\times 100$

$\therefore$ Required Percent = 58.33 %

Hence the answer is option (B).

74. Ans. B.
Total number of employees hired in A in 1991 = 60
Total number of employees hired in A in 1992 = 70
Total number of employees hired in A in 1993 = 140
Total number of employees hired in A in 1994 = 200
Number of employees in A from 1991 to 1994 = 60 + 70 + 140 + 200 = 470
Total number of employees hired in B in 1993 = 240
Total number of employees hired in B in 1994 = 150
Number of employees in B from 1993 to 1994 = 240 + 150 = 390

$$\therefore Required\ Percent = \frac{Employees\ in\ A - Employees\ in\ B}{Employees\ in\ B}\times 100$$

$$\therefore Required\ Percent = \frac{470-390}{390}\times 100$$

$$\therefore Required\ Percent = \frac{80}{390}\times 100$$

$$\therefore Required\ Percent = 20.51\%$$

Hence the answer is option (B).

75. Ans. C.
Total number of employees hired in B in 1992 = 160
Total number of employees hired in B in 1993 = 240
Number of employees in B in 1992 and 1993 = 160 + 240= 400
Total number of employees hired in A in 1990 = 170
Total number of employees hired in A in 1994 = 70
Number of employees in A in 1990 and 1994 = 170 + 70= 240

$$\therefore Required\ Percent = \frac{Employees\ in\ B - Employees\ in\ A}{Employees\ in\ A}\times 100$$

$$\therefore Required\ Percent = \frac{400-240}{240}\times 100$$

$$\therefore Required\ Percent = \frac{160}{240}\times 100$$

$$\therefore Required\ Percent = 66.67\%$$

Hence the answer is option (C).

76. Ans. B.
Ans. B
Let the principal be Rs x . Then,

$$\Rightarrow \frac{x\times 12\times 6}{100} = Rs7200 \Rightarrow x = Rs10000$$

Required

$$CI = 10000[(1+\frac{5}{100})^2 - 1] = Rs\ 1025$$

77. Ans. C.
In 30 liter of mixture quantity of milk = (7×30)/10 = 21Liter
Hence quantity of water = 30 – 21 = 9 liter
Now let X liter of water is added in mixture to make the ratio of milk and water 1:2.
Hence now quantity of water = (9+X)L
Milk = 21 L
Therefore (21 : (9+X)) = 1:2

$$\frac{21}{9+X} = \frac{1}{2}$$

$$\rightarrow 42 = 9 + X$$

$$\rightarrow X = 42 - 9 = 33$$

Hence 33 liters of water is added in the mixture.

78. Ans. C.
Ans. C
Let number of ducks = 37x
And number of frogs = 39x
Average number of ducks and frogs in the pond= (1/2)*(37+39) =38x = 152
x = 4.
Hence number of frogs = 39x = 156

79. Ans. D.
Let CP = X
⇒ SP = 1.3X
Now, if CP = .78X and SP = 1.3X-884
⇒ profit = 10%
⇒ 0.78X*1.1 = 1.3X-884

⇒ 884 = 1.3X - 0.858X = 0.442X
⇒ X = 2000 Rs
Note: You can solve this question easily by going through the options.
80. Ans. E.
Let each son receive Rs. x, then each daughter receive Rs. 3x
Total number of boys = 3 and number of girls = 2
Total amount = 3x + 2 × 3x = Rs. 9x
108000 = 9x
⇒ x = 10800/9 = 12000
So, each daughter's share = 3x = 12000 × 3 = Rs. 36000
Hence option E is correct
81. Ans. B.
$(-5)^4 \div (5)^4$
$(5)^{4-4}$
$(5)^0$
1
82. Ans. B.
14×4 - 17×2 =?
56 - 34 = ?
22=?
83. Ans. E.
$\sqrt{?} - 11 = \sqrt{1521}$

--->? = (50)^2= 2500
?= 2500
Hence, option E is correct.
84. Ans. B.
$3\frac{7}{4} - 4\frac{3}{2} + 2\frac{1}{3} = ? \div 156$
$(3-4+2) + \frac{7}{4} - \frac{3}{2} + \frac{1}{3} = ? \div 156$
$(5-4) + \frac{21-18+4}{12} = ? \div 156$
$1\frac{25-18}{12} = ? \div 156$
$1\frac{7}{12} = ? \div 156$
$? = \frac{19}{12} \times 156$
$? = 19 \times 13$
$? = 247$
85. Ans. E.
$7429 = ? \times \sqrt{361} \times \sqrt[3]{12167}$
$7429 = ? \times 19 \times 23$
$\frac{7429}{19 \times 23} = ?$
$? = \frac{7429}{437}$
$? = 17$
86. Ans. A.
A started a business with investing Rs. 8000 and after some months, B joined with investing Rs. 5000.
Equivalent capital of A
= Rs. 8000 × 12
= Rs. 96000
Let B joined after x months.
So, equivalent capital of B
= Rs. 5000 × (12 – x)
= Rs. 60000 – 5000x
Total profit after one year = Rs. 4250
Share of A = Rs. 3000. Then, the share of B = Rs. 4250 – 3000 = Rs. 1250
So, the ratio of their share;
A : B = 3000 : 1250 = 12 : 5
Now, we can write,
96000/(60000 – 5000x) = 12/5
⇒ 60000 – 5000x = 96000 × (5/12)
⇒ 60000 – 5000x = 8000 × 5
⇒ 5000x = 60000 – 40000
⇒ x = 20000/5000
⇒ x = 4
∴ After 4 months, B joined in the business.
87. Ans. B.
P fills 1/3 of the tank in 1 hour and Q fills ¼.
Part filled in 2 hr = 1/3 +1/4 =7/12
Remaining part after 2 hr = 1-7/12=5/12
P fills the 3rd hr, so after 3 hr =5/12 -1/3 =1/12 part is remaining
Q fills this in 4*1/12=1/3 hr
1/3*60 =20 min
Total time =2+1+20 min =3hr 20 min=$3^1/_3$ hrs
88. Ans. C.
Let the present age of Susmitto be x years.
Susmitto married 6 years ago. So, Susmitto's age at time of his marriage = (x – 6) years.
Now we can write,
x = (x – 6) × (5/4)

⇒ 4x = 5x – 30
⇒ x = 30
So, Susmitto's present age = 30 years.
His age at the time of his marriage = (30 – 6) years = 24 years.
∴ The present age of his brother = (24 – 4) + 6 = 26 years.
89. Ans. B.
Sandip and Suman together can finish the work in 16 days and Palash alone can finish the work in 40 days.
So, (Sandip + Suman)'s 1 day's work = 1/16
Palash's 1 day's work = 1/40
Sandip can finish a work in the same time in which Suman and Palash together can finish the same work.
So, Sandip's 1 day's work = (Suman + Palash)'s 1 day's work
Then, (Sandip + Suman + Palash)'s 1 day's work = (1/16) + (1/40) = 7/80
⇒ 2 × Sandip's 1 day's work = 7/80
⇒ Sandip's 1 day's work = 7/160
Then, Suman's 1 day's work = (1/16) – (7/160) = 3/160
∴ Suman alone can finish the work in 160/3 days = $53\frac{1}{3}$ days.
90. Ans. A.
Let the marked price of a chair be=Rs50
And the marked price of a table be= Rs70
Also no. of chairs bought be = 9x
And no. of tables bought be = 8x
C.P. of chair for Ram = $\frac{4}{5}$ X 50 = 40
C.P. of table for Ram = $\frac{3}{4}$ X 70 = 52.5
Total C.P. for Ram =9x X 40 + 8x X 52.5 = 780x
Total S.P. for Ram =7x X 40 X 1.5X0.75 + 8x X 52.5 X1.5 X 0.8 =315x + 504x =819x
profit % = $\frac{819-780}{780}$ x 100= $\frac{39}{780}$ x 100=5%
91. Ans. A.
The series is
38 *1= 38
38*1.5= 57
57*2= 114
114*2.5= 285
So, 284 is the wrong number in the series.
92. Ans. B.
The series is
74 + 5^2= 99
99- 7^2= 50
50 + 9^2= 131
So, 125 is the wrong number in the series.
93. Ans. E.
The series is
140+ 1 + 1^3= 142
142+ 1+ 2^3= 151
151+1+ 3^3= 179
179+ 1+4^3 = 244
244+1+ 5^3 = 370
So, there is no wrong number in the series.
94. Ans. A.
The series is
75+ 17= 92
92- 34= 58
58 + 51= 109
109- 68= 41
41+85= 126
So, 127 is the wrong number in the series.
95. Ans. C.
The series is
250÷2 - 1= 124
124 ÷ 2-1= 61
So, 60 is the wrong number in the series.
96. Ans. C.
1 year from now, the ratio of ages of Ekta and Lalit will be 9:8 and that of Arijit and Lalit will be 6:5. So, 1 year from now, the ratio of ages of Ekta, Lalit and Arijit will be 45:40:48
So their current ages are 44, 39 and 47 or 89, 79 and 95 respectively. The latter case seems unlikely but we'll still check for the same.
4 years ago, the ratio of ages of Ekta and Sachin was 5:4.
If Ekta's present age is 44, Sachin's present age = 36
If Ekta's present age is 89, Sachin's present age = 72
The ratio of present ages of Bandita and Sachin is 5:4.
If Sachin's present age is 36, Bandita's present age = 45

If Sachin's present age is 72, Bandita's present age = 90
Sum of the ages of 8 persons = 42 x 8 = 336
If we take the second case, the sum of ages of Ekta, Lalit, Arijit, Sachin and Bandita exceeds this number.
Hence, the first case is to be considered.

Person	Age (years)	
Deepti		
Ujjwal		
Rekha		
Arijit	47	
Bandita	45	
Lalit	39	
Ekta	44	
Sachin	36	

Sum of ages of Deepti, Ujjwal and Rekha = 336 – (47+45+39+44+36) = 125
The ratio of present ages of Deepti, Ujjwal and Rekha is 8:10:7
Thus, age of Deepti = 8/25 x 125 = 40, Ujjwal = 10/25 x 125 = 50 and Rekha = 7/25 x 125 = 35 years

Person	Age (years)
Deepti	40
Ujjwal	50
Rekha	35
Arijit	47
Bandita	45
Lalit	39
Ekta	44
Sachin	36

Ujjwal is the oldest person among them
97. Ans. D.
1 year from now, the ratio of ages of Ekta and Lalit will be 9:8 and that of Arijit and Lalit will be 6:5. So, 1 year from now, the ratio of ages of Ekta, Lalit and Arijit will be 45:40:48
So their current ages are 44, 39 and 47 or 89, 79 and 95 respectively. The latter case seems unlikely but we'll still check for the same.
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Arijit	47
Bandita	45
Lalit	39
Ekta	44
Sachin	36

The average age of men = (50+47+39+36)/4 = 43 years
The average age of women = (40+35+45+44)/4 = 41 years
Required difference = 43-41 = 2 years
98. Ans. B.
1 year from now, the ratio of ages of Ekta and Lalit will be 9:8 and that of Arijit and Lalit will be 6:5. So, 1 year from now, the ratio of ages of Ekta, Lalit and Arijit will be 45:40:48
So their current ages are 44, 39 and 47 or 89, 79 and 95 respectively. The latter case seems unlikely but we'll still check for the same.
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The ratio of present ages of Deepti, Ujjwal and Rekha is 8:10:7
Thus, age of Deepti = 8/25 x 125 = 40, Ujjwal = 10/25 x 125 = 50 and Rekha = 7/25 x 125 = 35 years

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Bandita	45
Lalit	39
Ekta	44
Sachin	36

Person	Age (years)
Deepti	40
Ujjwal	50
Rekha	35
Arijit	47
Bandita	45
Lalit	39
Ekta	44
Sachin	36

Required difference = 47-35 = 12 years
99. Ans. E.

1 year from now, the ratio of ages of Ekta and Lalit will be 9:8 and that of Arijit and Lalit will be 6:5. So, 1 year from now, the ratio of ages of Ekta, Lalit and Arijit will be 45:40:48
So their current ages are 44, 39 and 47 or 89, 79 and 95 respectively. The latter case seems unlikely but we'll still check for the same.
4 years ago, the ratio of ages of Ekta and Sachin was 5:4.
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Sum of the ages of 8 persons = 42 x 8 = 336
If we take the second case, the sum of ages of Ekta, Lalit, Arijit, Sachin and Bandita exceeds this number.
Hence, the first case is to be considered.

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Deepti	40
Ujjwal	50
Rekha	35
Arijit	47
Bandita	45
Lalit	39
Ekta	44
Sachin	36

The correct order is Bandita(45), Ekta(44), Deepti(40), Sachin(36)

100. Ans. A.

1 year from now, the ratio of ages of Ekta and Lalit will be 9:8 and that of Arijit and Lalit will be 6:5. So, 1 year from now, the ratio of ages of Ekta, Lalit and Arijit will be 45:40:48

So their current ages are 44, 39 and 47 or 89, 79 and 95 respectively. The latter case seems unlikely but we'll still check for the same.

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If we take the second case, the sum of ages of Ekta, Lalit, Arijit, Sachin and Bandita exceeds this number.

Hence, the first case is to be considered.

Person	Age (years)
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The ratio of present ages of Deepti, Ujjwal and Rekha is 8:10:7

Thus, age of Deepti = 8/25 x 125 = 40, Ujjwal = 10/25 x 125 = 50 and Rekha = 7/25 x 125 = 35 years

Person	Age (years)
Deepti	40
Ujjwal	50
Rekha	35
Arijit	47
Bandita	45
Lalit	39
Ekta	44
Sachin	36

I:

The difference between the ages of the oldest and the youngest person = 50-35 = 15 years. True.

II:

1 year from now, the ratio of ages of Rekha and Ekta = 36:45 = 4:5. True.

III:

Lalit is older than only Sachin and Rekha. True

IV:

The difference between the ages Arijit and Lalit = 47-39 = 8 years. False

Therefore, statements I, II and III are true.

101. Ans. A.

1 × 1 + 1 = 2

2 × 2 + 2 = 6

6 × 3 + 3 = 21

21 × 4 + 4 = 88

88 × 5 + 5 = 445

102. Ans. A.

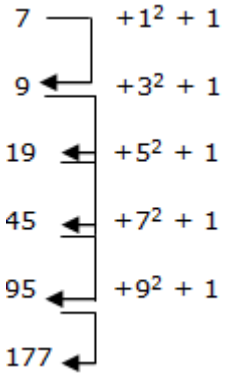
All number becomes half. So, 36÷2 =18

103. Ans. C.

7×5, 7×7, 7×9, 7×11,

Next number: 7×13 = 91

104. Ans. D.



Hence option D is correct

105. Ans. C.

The pattern is 2^2, 4^2, 6^2, 8^2 , 10^2

So the missing term is = 12^2 = 144

106. Ans. B.

Required number of days $= \frac{1125}{5\times 25} = 9$ days

107. Ans. B.
Total marks obtained by Mithun in Sanskrit, Science and Social Science = 68 × 3 = 204
Corrected total = 204 – 72 + 81 = 213
Required Percentage $= \frac{213}{360}\times 100 = 59$
Hence Option B is correct
108. Ans. A.
We know 67×67 = 4489
68×68 = 4624
Therefore 4624 is the number which is 1st perfect square which lies after 4523
Hence 4624 – 4523 = 101
Hence 101 is to be added with 4523 to make it perfect square.
109. Ans. D.
1 day work of Shilpa = 1/15
1 day work of Shamita = 1/24
Total work done by both = 1/10 + 1/24 = 13/120
Both working together will complete work in 120/13 days = more than 9 days
hence, the work will be completed on 10th day.
Hence option D is correct
110. Ans. E.
Cost of 1 bag be Rs.x and cost of 1 purse is Rs.y
4x + 12y = 1520
Multiplying both the sides with 2.5
10x + 30y = 3800
Hence option E is correct
111. Ans. C.
When both the tap and the leakage are turned together,
the water tank is emptied in 15
Let Tap takes 'x' hours in filling the water tank.
(1/x) - (1/6) = -(1/15)
(1/x) = (1/6) - (1/15) = 1/10
Hence, x = 10
Thus, the tap is filled in 10 hours at the rate of 10 liters per hour.
Hence capacity of water tank= 100 liters
112. Ans. E.
Let the number be y
A number is divided by 5, then the remainders is 4
⇒ y = 5p + 4
Successive division by 9 gives remainder 8
⇒ p = 9q + 8

Successive division by 13 gives remainder 12
⇒ q = 13r + 12
Where p, q and r are integers.

This give p = 9 × (13r + 12) +8
p = 9 × 13r + 116

Further y = 5 × (9 × 13r + 116) + 4
y = 5 × 9 × 13r + 584
y = 585r + 584
Meaning when divided by 585, remainder will be 584

Alternate Method
The number = 13[9(5a + 4) + 8] + 12 = 13[45a + 36 + 8] + 12 = 13[45a + 44] + 12 = 585a + 572 + 12 = 585a + 584
So, this number is divided by 585, then remainder will be 584.
113. Ans. C.
The time taken by the white spots on all three wheels to simultaneously touch the ground again will be equal to the LCM of the times taken by the three wheels to complete one revolution.
The first wheel complete 60 revolutions per minute. This means that to complete one revolution, it takes $\left(\frac{60}{60}\right) = 1$ s.
Similarly, the second wheel takes $\left(\frac{36}{60}\right) = \frac{3}{5}$ s to complete one revolution.
Similarly, the third wheel takes $\frac{24}{60} = \frac{2}{5}$ s to complete one revolution.
Hence, LCM of 1,
$\frac{3}{5}, \frac{2}{5} = \frac{LCM(1,3,2)}{HCF(1,5,5)} = \frac{6}{1} = 6$ s
114. Ans. A.
Coke in 1 litre of first Can = 1*2/10=1/5
Coke in 2 litre of second Can = 2 × 0 = 0
When mixture are mixed then total volume of mixture = 3

fraction of coke = volume of coke/total volume of mixeture

Required answer = (1/5)/3 =1/15
115. Ans. B.
Let the number be y × 10 + x
After interchanging digits, the number will be x × 10 + y
As given, y × 10 + x = x × 10 + y + 27
⇒y – x = 3
Since, 2y = 4x
Or, y = 2x
Therefore, x=3 y = 6
And hence the required number is 63
116. Ans. A.
1/2 of 3842 + 15% of ? = 2449
1921 + 15% of ? = 2449
15% of ? = 2449 -1921
15 % of ? = 528
15×? / 100 = 528
? = 528 × 100/ 15
? = 3520
117. Ans. D.

$$(43)^2+841=(?)^2+1465$$
$$1849+841=(?)^2+1465$$
$$(?)^2=2690-1465$$
$$(?)^2=1225$$
$$?=\sqrt{1225}=35$$

Hence, option D is correct.
118. Ans. A.
? = 25 × 14 – 42 + $4^?$ = 18^2
= 350 – 42 + $4^?$ = 324
= $4^?$ = 324 – 308 = 16
? = 2
119. Ans. C.
326 – 441 + 1130 = 1456 – 441 = 1015
1015 = ? -141 → ? = 1015 + 141 = 1156
Hence option C is correct
120. Ans. A.
? = 24.375 – 1.955 = 22.420
121. Ans. E.
$2p^2 + 17p + 26 = 0$
$2p^2 + 4p + 13p + 26 = 0$
(p+2)(2p+13)=0
p=-2,-6.5

$2q^2 + 17q + 33 = 0$
$2q^2 + 6q + 11q + 33 = 0$
(q+3)(2q+11)=0
q=-3,-5.5

Clearly -2>-3& -5.5
But, -6.5 <-3& -5.5

So, No relation can be established
122. Ans. B.

$$14a^2-5\sqrt{15}a-90=0$$
$$14a^2-\left(12\sqrt{15}-7\sqrt{15}\right)a-90=0$$
$$14a^2-12\sqrt{15}a+7\sqrt{15}a-90=0$$
$$2a\left(7a-6\sqrt{15}\right)+\sqrt{15}\left(7a-6\sqrt{15}\right)=0$$
$$\left(2a+\sqrt{15}\right)\left(7a-6\sqrt{15}\right)=0$$
$$a_1=-\frac{\sqrt{15}}{2}$$
$$a_2=\frac{6\sqrt{15}}{7}$$
$$6b^2+\sqrt{21}b-21=0$$
$$6b^2+\left(3\sqrt{21}-2\sqrt{21}\right)b-21=0$$
$$6b^2+3\sqrt{21}b-2\sqrt{21}b-21=0$$
$$3b\left(2b+\sqrt{21}\right)-\sqrt{21}\left(2b+\sqrt{21}\right)=0$$
$$\left(3b-\sqrt{21}\right)\left(2b+\sqrt{21}\right)=0$$
$$b_1=\frac{\sqrt{21}}{3}$$
$$b_2=-\frac{\sqrt{21}}{2}$$

Hence, no relation can be established.
123. Ans. A.
$X^2 + 15X + 56 = 0$
$X^2 + 7X + 8X + 56 = 0$
X(X+7) + 8(X+7) = 0
(X+7)(X+8) = 0
X = -7, -8
$Y^2 + 22Y + 117 = 0$
$Y^2 + 9Y + 13Y + 117 = 0$
Y(Y+9) + 13(Y+9) = 0
(Y+9)(Y+13) = 0
Y = -9, -13
X > Y
124. Ans. D.
From Statement I, $16a^2=1$

$\therefore \quad a = \pm\frac{1}{4}$

From Statement II,

$3b^2 + 7b + 2 = 0$

$3b^2 + 6b + b + 2 = 0$

$3b(b+2) + 1(b+2) = 0$

$(3b+1)(b+2) = 0$

$b = -2$ or $-\frac{1}{3}$

$\therefore \quad a > b$

125. Ans. A.
4x + 6y = 18
12x + 18y = 54 …Eq1
3x + 10y = 21
12x + 40y = 84 …Eq2
Eq2 – Eq1
22y = 30
Y = 30/22 = 15/11

X = $\frac{54 - 18 * \frac{15}{11}}{12}$ = 27/11

x > y

126. Ans. D.
The total number of male audiences who watched the movie in theatre E = $3015 - 1206 = 1809$

Required percentage = $\frac{1809}{3015} \times 100 = 60\%$

So option (d) is the correct answer.

127. Ans. B.
Total number of seats in all the five movie theatres together = $2760 + 3250 + 3480 + 2900 + 3350 =$

Total number of persons who watched the movie in all the five theatres together = $2484 + 3050 + 3648 + 2697 + 3015 =$

Therefore, the number of seats which has remained vacant in all the five movie theatres together = $16100 - 14894 = 1206$

So option (b) is the correct answer.

128. Ans. A.
Number of females who watched the movie in all the five theatres together = $1296 + 1600 + 2304 + 1073 + 1206 = 7479$

Total number of peoples who watched the movie in all the five theatres together = $2484 + 3050 + 3648 + 2697 + 3015 = 14894$

So, total number of males who watched the movie in all the five theatres together = $14894 - 7479 = 7415$

Therefore, required difference = $7479 - 7415 = 64$

So option (a) is the correct answer.

129. Ans. C.
The total number of females who watched the movie in theatre C = 2304

So, the total number of males who watched the movie in theatre C = $3648 - 2304 = 1344$

Required Ratio = $1344 : 2304 = 7 : 12$

So option (c) is the correct answer.

130. Ans. B.
Let the total number of audience who have watched the movie in the 1st show and the total number of audience who have watched the movie in the 2nd show in theatre A is 23x and 25x, respectively

So, $23x = 2484; x = 108$

Therefore, the total number of audience who have watched the movie in the 2nd show in theatre A = $25x = 2700$

So, the number of males who have watched the movie in the 2nd show in theatre A = $\frac{4}{9} \times 2700 = 1200$

So option (b) is the correct answer.

131. Ans. C.

=2831.627 ÷ 23.899 + $(11.7)^2$ ÷ $(6.09)^2$

=2832 ÷ 24 + $(12)^2$ ÷ $(6)^2$

=118 + 144 ÷ 36

=118 + 4

=122

132. Ans. E.

$= \left(\frac{1}{59.82} - \frac{1}{63.09}\right) \times (760.78 - 4.80) \times 5 + 74.876\% \; of \; 4999.671$

$= \left(\frac{1}{60} - \frac{1}{63}\right) \times (761 - 5) \times 5 + 75\%\ of\ 5000$

$= \frac{63-60}{60\times63} \times 756 \times 5 + 3750$

$= \frac{3\times756\times5}{60\times63} + 3750$

= 3 + 3750

= 3753

133. Ans. E.

$\frac{1}{112.89}\ of\ 116.988$ + ?% of 4999.79 = $(42.09)^2$ + 49.67

$\frac{1}{113}\ of\ 117$ + ?% of 5000 = $(42)^2$ + 50

$\frac{14}{13} \times 117$ + ?% $\times$ 5000 = 1764 + 50

$14 \times 9 + ?\% \times 5000$ = 1814

126 + ? $\times$ 50 = 1814

?= (1814 – 126) $\div$ 50

= 1688 $\div$ 50

= 33.76 ~34

134. Ans. A.

$= 2530 \times \sqrt{24.62} + 24.78\%\ of\ 608.04 - 95.12\ of\ \frac{4}{5}$

$= 2530 \times \sqrt{25} + 25\%\ of\ 608 - 95\ of\ \frac{4}{5}$

= 2530 $\times$ 5 + $\frac{608}{4}$ – 95 $\times \frac{4}{5}$

= 12650 + 152 – 19 $\times$ 4

= 12802 – 76

= 12726

135. Ans. B.

(1565.09 + 2561.99 – 847.22) $\div$ 8.08 = ? – 2199.98

(1565 + 2562 – 847) $\div$ 8 = ? – 2200

(4127 – 847) $\div$ 8 = ? – 2200

3280 $\div$ 8 = ? – 2200

410 = ? – 2200

? = 2200 + 410

= 2610

136. Ans. A.

Additional investments made by A = $0.25 \times 12000 = Rs.3000$

Additional investments made by B = $0.2 \times 15000 = Rs.3000$

Amount of money withdrew by C = $0.2 \times 20000 = Rs.4000$

Ratio of their profits =

$12000 + 12000 + 3000 : 15000 + 15000 + 3000 : 20000 + 20000 - 4000$

$27000 : 33000 : 36000 = 9 : 11 : 12$

So, the profit share of A = $\frac{9}{32} \times 3840 = Rs.1080$

So option (a) is the correct answer.

137. Ans. B.

Cost price of book A = P

Profit from book A = 15% of P = 0.15P

Cost price of book B = 120

Selling price of book B = [100 – (P – 55)]% of 140% of 120 = (260.4 – 1.68P)

Profit from book B = (260.4 – 1.68P) – 120 = (140.4 – 1.68P)

According to the question,

0.15P = 2 * (140.4 – 1.68P)

0.15P = 280.8 – 3.36P

3.51P = 280.8; P = 80

So option (b) is the correct answer.

138. Ans. C.

Let, the boat's speed and stream's speed be B km/hr and s km/hr

B + s = 30 km/hr

B – s = 18 km/hr

Adding both the equations, we get,

$= B = \frac{30+18}{2} = 24$ km/hr

Also, $s = 30 - 24 = 6$ km/hr

According to question,

$$\frac{x+40}{30} + \frac{y+60}{18} = 42$$

$$\frac{3x + 120 + 5y + 300}{90} = 42$$

$$3x + 5y = 3360$$

Also, $\frac{x+40}{18} + \frac{y+60}{30} = 38$

$$\frac{5x + 200 + 3y + 180}{90} = 38$$

$$5x + 3y = 3040$$

So, from $3x + 5y = 3360$ and $5x + 3y = 3040$, we get

x = 320 and y =480

Therefore, required time = $\frac{\left[\frac{320+480}{2}\right]}{24-6\times\frac{4}{3}} = \frac{400}{16} = 25$ hours

So option (c) is the correct answer.

139. Ans. E.

Let, the present age of Rohit and Mohit be '5a' and '7a' years respectively

Present age of Mohit's son = 7a – 5a = 2a

Then, the present age of Rohit's son = 4a/3 years

Age of Rohit at the time of his marriage = $5a - \left(\frac{4a}{3}+3\right) = \frac{15a-4a-9}{3}$ years

Age of Mohit at the time of Rohit's marriage = $7a - \left(\frac{4a}{3}+3\right) = \frac{21a-4a-9}{3}$ years

So, $\frac{\left(\frac{15a-4a-9}{3}\right)}{\frac{21a-4a-9}{3}} = \frac{5}{8}$

$$\frac{11a-9}{17a-9} = \frac{5}{8}$$

88a – 72 = 85a – 45; a= 9

Present age of Mohit's son = 2a = 18 years

Present age of Rohit's son = 4a/3=12 years

Required difference = 18 – 12 = 6 years

So option (e) is the correct answer.

140. Ans. C.

Let the marked price of an article be 100

Then, selling price with tax = 100+20% of 100= 120

New selling price = 100-5 = 95

Effective discount = 120-95=25

At selling price of Rs. 95, he get discount of Rs. 25

At selling price of Rs. 1, he get discount of (25/95)

At selling price of Rs. 2280, he get discount of (25/95) x 2280 = 600

So option (c) is the correct answer.

141. Ans. B.

$$? = 3\frac{1}{4} + 2\frac{1}{2} + 6\frac{1}{6}$$

$$? = (3+2+6) + \left(\frac{1}{4}+\frac{1}{2}+\frac{1}{6}\right)$$

$$? = 11 + \left(\frac{3+6+2}{12}\right)$$

$$? = 11 + \left(\frac{11}{12}\right) = 11\frac{11}{12}$$

142. Ans. A.

3328/256 = $\sqrt[3]{?}$

$(13)^3$ = ? ⇒ 2197

Hence option A is correct

143. Ans. A.

? = 628.88 – 410.25 + 153.05

= 628.88+ 153.05– 410.25

371.68

144. Ans. E.

$$\frac{25-4^2}{6^2-28} = ?$$

$$? = \frac{25-16}{36-28}$$

$$? = \frac{9}{8} = 1\frac{1}{8}$$

145. Ans. A.

$4\times 17\times 18 + 5\times 17\times 12 - 6\times 17\times 11 = ?\times 17\times 6$

$72 + 60 - 66 = ?\times 6$

$? = 11$

146. Ans. C.

Let total salary in 2013 be INR x

Total salary in 2016 be INR y

According to the given information:

The ratio on saving in the year 2013 and 2016 are in the ratio 3 : 5.

$$\Rightarrow \frac{15\%\ of\ x}{35\%\ of\ y} = \frac{3}{5}$$

$\frac{x}{y} = \frac{3}{5}\times\frac{35}{15} = \frac{7}{5}$ ..... (1)

∴ Ratio of EMI expenses = $\frac{40\%\ of\ x}{15\%\ of\ y}$

⇒ Ratio of EMI expenses = $\frac{0.4x}{0.15y}$
Now taking the values of x/y from (1)
⇒Ratio of EMI expenses $= \frac{7}{5} \times \frac{40}{15} = 56:15$
Hence, the required ratio is 56: 15
147. Ans. B.
Total expense in 2014 = INR 1, 85,000
⇒Saving in 2014 = 50% of 1, 85,000
⇒Saving in 2014 = INR 92,500
According to the given information:
The saving in 2012 is $\frac{4}{5}$th of the saving in 2014
∴Saving in 2012 = 4/5 × 92,500 = INR 74,000
Let the total expense in 2012 be INR x
∴35% of x = 74,000
⇒ x = $\frac{74,000\times100}{35}$
Now, expenditure on food in 2012 is 21% of x
⇒Expenditure on food in 2012 = $\frac{74,000\times100}{35} \times \frac{21}{100}$
⇒Expenditure on food in 2012 = INR 44,400
148. Ans. D.
Let the monthly salary in 2013 be INR 100
According to the given information:
Every year there is an increase of 100% in monthly salary as compared to previous year's monthly salary
Then salary in 2014 = INR 200
⇒Salary in 2015 = INR 400
⇒Salary in 2016 = INR 800
Now, expenses on travelling in 2013 = 32% of salary
⇒Expenses on travelling in 2013 = INR 32
∴Required ratio = 800/32 = 25: 1
149. Ans. E.
Total expenses in year 2011 = INR 3, 00,000
There is an increase of 18%
∴Total expense in 2012 = 3, 00,000 + 18% of 3,00,000
⇒Total expense in 2012 = INR 3, 54,000
Now, Expense on travelling in 2012 = 18% of 3, 54,000
⇒Expense on travelling in 2012 = INR 63,720
EMI expense in 2012 = 26% of 3, 54,000
⇒EMI expense in 2012 = INR 92,040
Combine expense = 63,720 + 92,040 = INR 1, 55,760
150. Ans. C.
Money spend by Sunil on food = 21% + 13% + 20% + 10% + 40%
Average money spend by Sunil on food = 104%/ 5 = 20.8% of 5, 00,000
⇒Average money spend by Sunil on food = INR 1, 04,000
Now, Money saved by Sunil = 35% + 15% + 50% + 17% + 35%
Average money saved by Sunil = 152%/ 5 = 30.4% of 5, 00,000
⇒Average money saved by Sunil = INR 1, 52,000
∴Required ratio = $\frac{1,04,000}{1,52,000} \times 100 = 68.42\%$ ≈68%
151. Ans. A.
Upstream rate = 35/3.5 = 10 kmph
Downstream rate = 49/3.5 = 14 kmph
The speed of the current = (14 - 10)/2 kmph = 2 kmph
152. Ans. A.
Let cost of computer one=x, Sold at 15% profit = $x\times115/100$
Hence 2nd computer cost=45000-x, Sold at 15% loss = $(45000-x)\times85/100$
In total transaction loss occurred is

$$750 = 45000 - (x\times\frac{115}{100} + (45000 - x)\times\frac{85}{100})$$

$$44250 = \frac{30x}{100} + 38250$$

$$x = 6000\times\frac{100}{30} = 20,000$$

Hence Computer 1 Price=20,000
Computer 2 price= 25,000
If he sold computer 1 at profit 10% = $20,000\times\frac{110}{100} = 22,000$
Then price of computer 2 should be=45000-22000=23000
Hence loss percentage of computer 2 $= \frac{25000-23000}{25000}\times100 = \frac{2000}{250} = 8\%$
153. Ans. B.

According to question,

$$S.I. = \frac{P \times R \times T}{100}$$

$$750 = \frac{5000 \times 5 \times T}{100}$$

T = 3 years

$$720 = \frac{6000 \times 3 \times R}{100}$$

R = 4%

154. Ans. C.

K	L	
B:I	B:I	(B= bronze and I= iron)
5:3	5:11	

Concentration of bronze in K = 5/8

Concentration of bronze in L = 5/16

By allegation

(L) 5/16 (K) 5/8

1/2

(5/8-1/2) = 2/16 (1/2-5/16) = 3/16

So, the required ratio of K:L = 3:2

155. Ans. C.

Let the person income is 100

Saving →6 % of 100 = 6

And Expenditure -=94

After five years income becomes →115 (15 % increase)

Saving =6→Expenditure – 115-6 =109

% Increase in expenditure – (109-94)/94=15.95%

156. Ans. D.

$77 + (8 \times 1) = 85$

$85 - (8 \times 2) = 69$

$69 + (8 \times 4) = 101$

$101 - (8 \times 8) = 37$

$37 + (8 \times 16) = 165$

157. Ans. B.

The pattern of given series is:

→8850,

→5475 = 8850 – 15^3,

→3278 = 5475 – 13^3,

→1947 = 3278 – 11^3,

→1218 = 1947 – 9^3,

→? = 1218 – 7^3,

→? = 875

Thus, the missing number is 875

158. Ans. C.

$7 \times 1 + 1 = 8$

$8 \times 2 + 2 = 18$

$18 \times 3 + 3 = 57$

$57 \times 4 + 4 = 232$

$232 \times 5 + 5 = 1165$

Hence option C is the right answer.

159. Ans. E.

Given series - 12, 12, 36, 180, ?, 11340

The pattern is as follows:

12 x1 =12

12 x 3 = 36

36 x 5 = 180

180 x 7 = **1260**

1260 x 9 =11340

160. Ans. C.

1 + 4 = 5

5 + 8 = 13

13 + 16 = 29

29 + 32 = **61**

61 + 64 = 125

125 + 128 = 253

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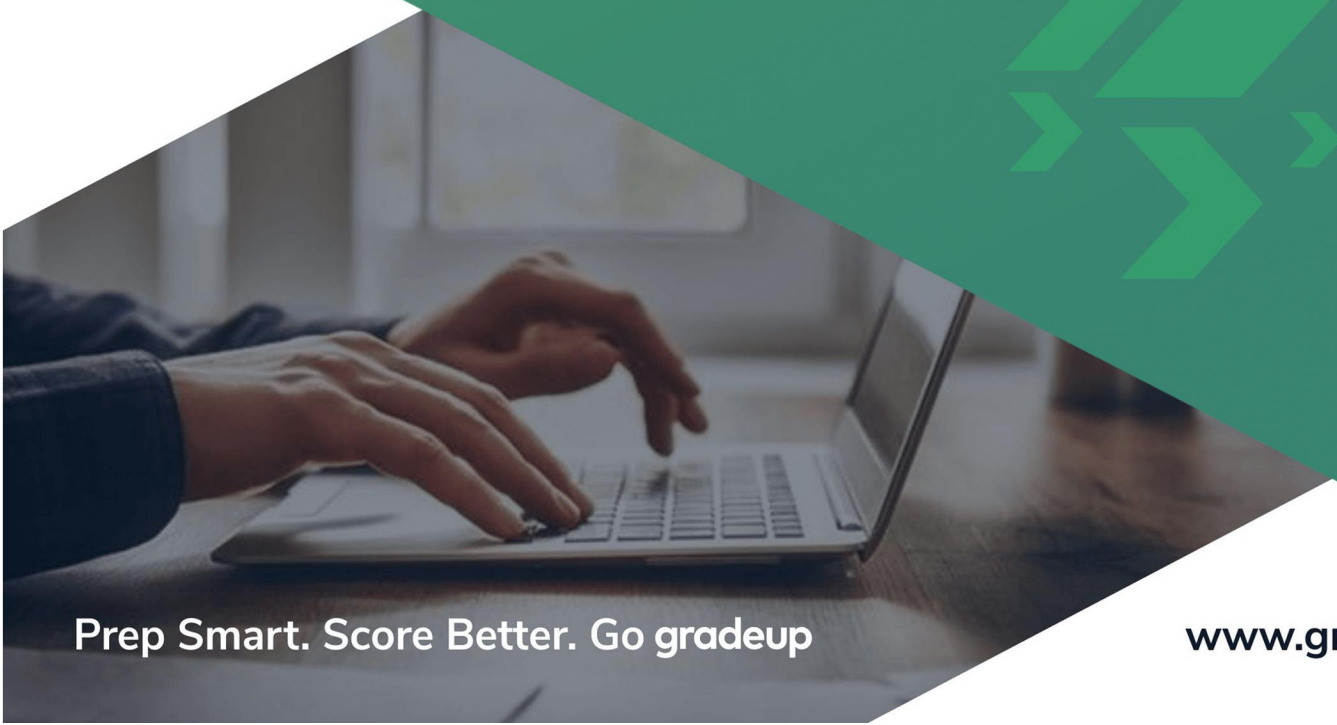

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