PRACTICE SET 3

INSTRUCTIONS

- **This practice set consists of two sections. Quantitative Aptitude (Qs. 1-40) & Reasoning Ability (Qs. 41-80).**
- **All the questions are compulsory.**
- **Each question has five options, of which only one is correct. The candidates are advised to read all the options thoroughly.**
- **There is negative marking equivalent to $1/4^{th}$ of the mark allotted to the specific question for wrong answer.**

Time : 45 Min. **Max. Marks : 80**

QUANTITATIVE APTITUDE

DIRECTIONS (Qs. 1-10) : What should come in place of the question mark (?) in the following questions ?

1. $(786 \times 64) \div 48 = ?$

(a) 1050 (b) 1024
(c) 1048 (d) 1036
(e) None of these

2. $\sqrt[3]{13824} \times \sqrt{?} = 864$

(a) 1296 (b) 1156
(c) 1600 (d) 1024
(e) None of these

3. 60% of 20% of $\frac{3}{5}$ th of $? = 450$

(a) 6200 (b) 6,240
(c) 6150 (d) 6275
(e) None of these

4. $196 \times 948 \div 158 = ?$

(a) 1156 (b) 1200
(c) 1188 (d) 1176
(e) None of these

5. $3.5 + 11.25 \times 4.5 - 32.5 = ?$

(a) 18.275 (b) 21.625
(c) 32.375 (d) 25.45
(e) None of these

6. $\frac{\sqrt{4096} \times 56}{764 - 652} = ?$

(a) 36 (b) 48
(c) 32 (d) 44
(e) None of these

7. $(98360 + 25845 - 36540) \div 2500 = ?$

(a) 36.585 (b) 30.082
(c) 32.085 (d) 35.066
(e) None of these

8. $7414 + 3698 + 1257 + 1869 = ?$

(a) 14328 (b) 14438
(c) 13428 (d) 13248
(e) None of these

9. $(91)^2 + (41)^2 - \sqrt{?} = 9858$

(a) 11236 (b) 10816
(c) 10404 (d) 9604
(e) None of these

10. $(2640 \div 48) \times (2240 \div 35) = ?$

(a) 3520 (b) 3515
(c) 3495 (d) 3490
(e) None of these

DIRECTIONS (Qs. 11-15): What approximate value will come in place of the question mark (?) in the following questions ? (You are not required to find the exact value).

11. $2371 \div 6 + (43 \times 4.35) = ?$
(a) 582 (b) 590
(c) 600 (d) 570
(e) 595

12. $(4.989)^2 + (21.012)^3 + \sqrt{1090} = ?$
(a) 9219 (b) 9391
(c) 9319 (d) 9129
(e) None of these

13. 24.99% of 5001 – 65.01% of 2999 = ?
(a) 840 (b) 500
(c) 700 (d) –500
(e) –700

14. $(81)^{-\frac{1}{2}} - (64)^{-\frac{2}{3}} = ?$
(a) $\frac{3}{19}$ (b) $\frac{1}{16}$
(c) $\frac{7}{144}$ (d) $\frac{1}{9}$
(e) None of these

15. $\frac{\sqrt{29241}}{\sqrt{361}} \times 5\frac{2}{9} = ?$
(a) 47 (b) 49
(c) 46 (d) 45
(e) 61

DIRECTIONS (Qs. 16-20): What should come in place of question mark (?) in the following number series ?

16. 121 117 108 92 67 ?
(a) 31 (b) 29
(c) 41 (d) 37
(e) None of these

17. 50 26 14 ? 5 3.5
(a) 6 (b) 8
(c) 10 (d) 12
(e) None of these

18. 3 23 43 ? 83 103
(a) 33 (b) 53
(c) 63 (d) 73
(e) None of these

19. 748 737 715 682 638 ?
(a) 594 (b) 572
(c) 581 (d) 563
(e) None of these

20. 1 9 25 49 81 ? 169
(a) 100 (b) 64
(c) 81 (d) 121
(e) None of these

21. 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

22. The number of employees in Companies A, B and C are in a ratio of 4 : 5 : 6 respectively. If the number of employees in the Companies is increased by 25%, 30% and 50% respectively, what will be the new ratio of employees working in Companies A, B and C respectively ?
(a) 13 : 10 : 18 (b) 10 : 13 : 17
(c) 13 : 15 : 18 (d) Cannot be determined
(e) None of these

23. The average of five positive numbers is 213. The average of the first two numbers is 233.5 and the average of last two numbers is 271. What is the third number ?
(a) 64 (b) 56
(c) 106 (d) Cannot be determined
(e) None of these

24. Sonali invests 15% of her monthly salary in insurance policies. She spends 55% of her monthly salary in shopping and on household expenes. She saves the remaining amount of Rs. 12,750. What is Sonali's monthly income ?
(a) ₹. 42,500 (b) ₹38,800
(c) ₹40,000 (d) ₹35,500
(e) None of these

25. What **approximate** amount of compound interest can be obtained on an amount of ₹ 9, 650 at the rate of 6% p.a. at the end of 3 years ?
(a) ₹1,737 (b) ₹1,920
(c) ₹1,720 (d) ₹1, 860
(e) ₹1,843

26. A milkman sells 120 litres of milk for ₹ 3,360 and he sells 240 litres of milk for Rs. 6,120. How much concession does the trader give per litre of milk, when he sells 240 litres of milk ?
(a) ₹2 (b) ₹3.5
(c) ₹2.5 (d) ₹1.5
(e) None of these

27. When 3,626 is divided by the square of a number and the answer so obtained is multiplied by 32, the final answer obtained is 2,368. What is the number ?
(a) 7 (b) 36
(c) 49 (d) 6
(e) None of these

28. The sum of the digits of a two digit number is 14. The difference between the first digit and the second digit of the two digit number is 2. What is the product of the two digits of the two digit number ?
(a) 56 (b) 48
(c) 45 (d) Cannot be determined
(e) None of these

29. A car runs at the speed of 50 kmph when not serviced and runs at 60 kmph, when serviced. After servicing the car covers a certain distance in 6 hours. How much time will the car take to cover the same distance when not serviced ?
(a) 8.2 hours (b) 6.5 hours
(c) 8 hours (d) 7.2 hours
(e) None of these

30. Venkat has some ducks and some sheep. If the total number of animal heads is 81 and the total number of animal feet are 268, how many sheep does Venkat have?
(a) 28 (b) 53
(c) 44 (d) Cannot be determined
(e) None of these

31. The sum of the two digits of a two digit number is 13. The difference between the two digits of the number is 3. What is the two digit number?
(a) 85 (b) 49
(c) 57 (d) Cannot be determined
(e) None of these

32. 25 shirt pieces of 125 cms. each can be cut from a reel of cloth. After cutting these pieces 90 cms. of cloth remains. What is the length of the reel of cloth in metres?
(a) 3215 metres (b) 35.15 metres
(c) 32.15 metres (d) 3515 metres
(e) None of these

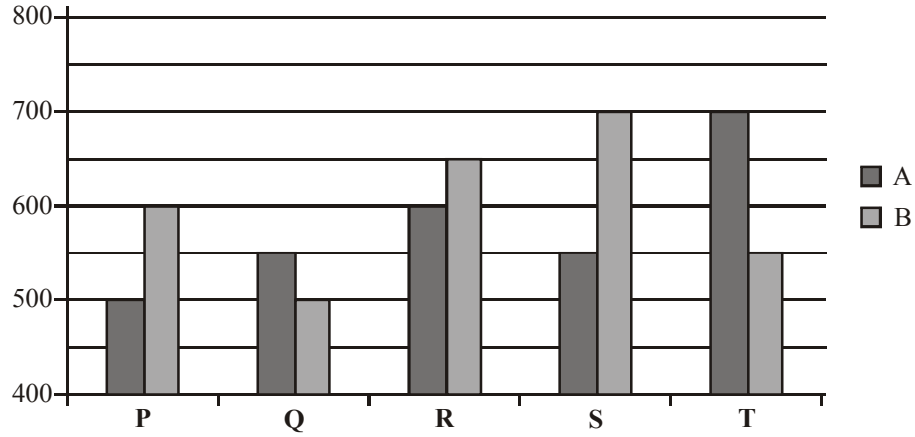
33. The sum of the squares of two consecutive positive odd numbers is 650. Which is the larger number?
(a) 17 (b) 21
(c) 23 (d) 15
(e) None of these

34. The profit earned after selling a pair of shoes for ₹ 2,033 is the same as loss incurred after selling the same pair of shoes for ₹ 1,063. What is the cost of the shoes?
(a) ₹ 1,650 (b) ₹ 1,548
(c) ₹ 1,532 (d) Cannot be determined
(e) None of these

35. When an amount of ₹ 1,58,965 is divided equally amongst 120 people, how much approximate amount would each person get?
(a) ₹ 1,330 (b) ₹ 1,315
(c) ₹ 1,335 (d) ₹ 1,320
(e) ₹ 1,325

DIRECTIONS (Qs. 36-40) : Study the following graph carefully and answer the questions that follow.

The graph given below represents the number of users of two broadband services A and B across 5 cities P, Q, R, S and T.



36. What is the total number of users of brand B across all five cities together ?
(a) 2700 (b) 3000
(c) 3100 (d) 2900
(e) 3200

37. The number of users of brand A in city T is what percent of the number of users of brand B in City Q ?
(a) 150 (b) 110
(c) 140 (d) 160
(e) 120

38. What is the average number of users of brand A across all five cities together ?
(a) 560 (b) 570
(c) 580 (d) 590
(e) 550

39. What is the difference between the total number of users of Brand A and B together in city R and the total number of users of brand A and B together in city P ?
(a) 170 (b) 140
(c) 130 (d) 150
(e) 160

40. What is the respective ratio of the number of users of brand A in city P to the number of users of brand B in city S ?
(a) 5 : 7 (b) 4 : 7
(c) 2 : 5 (d) 3 : 4
(e) 5 : 6

REASONING ABILITY

DIRECTIONS (Qs. 41-45) : In each of the questions below are given three statements followed by four conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

41. **Statements :** All books are notes.
Some notes are pencils.
No pencil is paper.
Conclusions : I. Some notes are books.
II. Some pencils are books.
III. Some books are papers.
IV. No book is a paper.

(a) Only I and either III or IV follow
(b) Either III or IV follows
(c) Only I and III follow
(d) Neither II nor III follows
(e) None of these

42. **Statements :** Some fruits are seeds.
All seeds are trees.
All plants are trees.
Conclusions : I. Some plants are seeds.
II. Some plants are fruits.
III. Some trees are fruits.
IV. No plant is a seed.
(a) Only III follow
(b) III and either I or IV follow
(c) II and either I or IV follow
(d) Either I or IV follow
(e) None of these

43. **Statements :** Some motors are books.
Some scooters are motors.
All girls are scooters.
Conclusions : I. Some girls are motors.
II. Some girls re books.
III. Some scooters are girls.
IV. No girl is a book
(a) I and III follow (b) II and III follow
(c) I and II follow (d) I, II and III follow
(e) Either II or IV and III follow

44. **Statements :** All dogs are rats.
All rats are crows.
All crows are parrots.
Conclusions : I. All dogs are parrots.
II. Some parrots are dogs.
III. Some crows are dogs.
IV. All rats are dogs.
(a) I and II follow (b) I, II and III follow
(c) Either II or IV follow (d) Either I or II and III follow
(e) None of these

45. **Statements :** All papers are books.
All bags are books.
Some purses are bags.
Conclusions : I. Some papers are bags.
II. Some books are papers.
III. Some books are purses.
IV. All books are purses.
(a) Only I follows
(b) Only II and III follow
(c) Only I and III follow
(d) Only I and II follow
(e) None of the above

DIRECTIONS (Qs. 46-50) : In the following questions, the symbols %, *, @, $ and # are used with the following meaning as illustrated below :

'P @ Q' means 'P is not smaller than Q'.
'P # Q' means 'P is not greater than Q'.
'P % Q' means 'P is neither greater than nor equal to Q'.
'P * Q' means 'P is neither smaller than nor greater than Q'.
'P $ Q' means 'P is neither smaller than nor equal to Q'.

46. **Statements :** T$K, K#R, R*M
Conclusions : I. M*K
II . M % T
III. M$K
(a) All follows
(b) Only either I or III follows
(c) Only either I or II follows
(d) Only either II or III follows
(e) None of the above

47. **Statements :** M%R, R#T, T*N
Conclusions : I. N*R
II . N$R
III . N$M
(a) All follows
(b) Either I or II follows
(c) Either I or II and III follows
(d) Either I or III and II follows
(e) None of the above

48. **Statements :** V@M, A$M, R#V
Conclusions : I. R#A
II . V@A
III. R$M
(a) Only I follows (b) Only II follows
(c) Only III follows (d) None follows
(e) All follow

49. **Statements :** B*D, D@H, H%F
Conclusions : I. B*F
II . B$F
III. D$F
(a) None follows
(b) Only either I or II follows
(c) Only either I or II and III follows
(d) Only III follows
(e) All follow

50. **Statements :** J#N, K@N, T$K
Conclusions : I . J%T
II. T$N
III . N@J
(a) None follows
(b) Only I or II follow
(c) Only I and III follow
(d) Only II and III follow
(e) All follow

DIRECTIONS (Qs. 51-55) : Read the following information carefully and answer the questions based on it.

Ten students– A, B, C, D, E, F, G, H, I and J are sitting in a row facing West.

I. B and F are not sitting on either of the edges.
II. G is sitting to the left of D and H is sitting to the right of J.
III. There are four persons between E and A.
IV. I is to the North of B and F is to the South of D.
V. J is in between A and D and G is in between E and F.
VI. There are two persons between H and C.

51. Who is sitting at the seventh place counting from left?
(a) H (b) C
(c) J (d) Either H or C
(e) None of these

52. Who among the following is definitely sitting at one of the ends?
(a) C (b) H
(c) E (d) Cannot be determined
(e) None of these

53. Who are immediate neighbours of I?
(a) BC (b) BH
(c) AH (d) Cannot be determined
(e) None of these

54. Who is sitting second left of D?
(a) G (b) F
(c) E (d) J
(e) None of these

55. If G and A interchange their positions, then who become the immediate neighbours of E?
(a) G and F (b) Only F
(c) Only A (d) J and H
(e) None of these

DIRECTIONS (Qs. 56-60): Answer these questions referring to the symbol-letter-number sequence given below:

E G 4 B H 7 5 @ K 8 D N £ Q Z $ W 3 C 1 9 * 1 B 2 S 6

56. How many such consonants are there in the above sequence which are immediately preceded by a symbol and immediately followed by a digit ?
(a) One (b) Two
(c) None (d) Three
(e) More than three

57. What should come in place of the question mark (?) in the following sequence ?
4H@, KDQ, ?, 9IS
(a) ZW1 (b) NQ$
(c) @8N (d) $W9
(e) None of these

58. Which of the following is exactly in the midway between the ninth from left end and the seventh from right end ?
(a) Q (b) Z
(c) $ (d) W
(e) None of these

59. If the first fifteen elements are written in the reverse order then which of the following will be seventh to the left of twelfth element from right end ?
(a) 7 (b) @
(c) 5 (d) K
(e) None of these

60. How many such digits are there in the above sequence which are immediately preceded as well as followed by digits ?
(a) None (b) One
(c) Two (d) Three
(e) None of these

DIRECTIONS (Qs. 61-65) : Read the following information carefully to answer the given questions.

A university organised exams for six different subjects, viz Maths, Physics, Chemistry, Electronics, Statistics and English on six days of a week, not necessarily in the same order. The exams start from Monday, with a holiday on any day of the week. Only full day is devoted to one exam.

The exam of Maths is scheduled immediately after the exam of Physics. The exam of Electronics is scheduled on Wednesday but not after the exam of English. The exam of Chemistry is scheduled on Friday. There is only one exam between the exams of Statistics and Maths. There is only one day when no paper is scheduled but that is not Saturday. The exam of English is scheduled just before the holiday.

61. On which of the following days is the exam of Statistics scheduled?
(a) Tuesday (b) Wednesday
(c) Friday (d) Saturday
(e) None of these

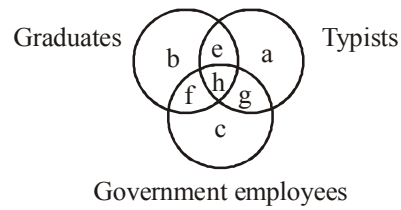
62. On which day is a holiday?
(a) Sunday (b) Monday
(c) Tuesday (d) Wednesday
(e) None of these

63. How many exams is/are scheduled between the exams of Maths and Electronics?
(a) One (b) Two
(c) Three (d) Four
(e) None of these

64. Which two exams are scheduled on the first and last day?
(a) Electronics, English (b) Maths, English
(c) Physics, Chemistry (d) Physics, English
(e) None of these

65. Which of the following combinations is correct?
(a) English - Thursday (b) Maths-Monday
(c) Statistics- Saturday (d) Physics-Monday
(e) None of these

DIRECTIONS (Q. 66-67): Below is given a figure made of three circles intersecting one another. These circles represents graduates, typists and Government employees. The intersecting regions have been denoted by a, b, c, e, f, g and h, respectively. Study the diagram carefully and answer the questions that follow.



66. Which of the following letters represents the typists who are only graduates ?
(a) e (b) h
(c) g (d) a
(e) f

67. Which of the following letters represents the typists who are government employees but not graduates?
(a) e (b) g
(c) f (d) h
(e) c

68. In a certain code, a number 13479 is written as AQFJL and 2568 is written as DMPN. How is 396824 written in that code?
(a) QLPNMJ (b) QLPNMF
(c) QLPMNF (d) QLPNDF
(e) None of these

69. In a certain code OVER is written as $#%*. and VIST is written as #+×–. How is SORE written in that code?
(a) ×$*% (b) %×$*
(c) ×*$% (d) ×%*$
(e) None of these

70. A boy goes to see a film and finds a man who is his relative. The man is the husband of the sister of his mother. How is the man related to the boy?
(a) Brother (b) Nephew
(c) Uncle (d) Father
(e) None of these

71. Laxman went 15 km to the west from my house, then turned left and walked 20 km. He then turned East and walked 25 km and finally turning left covered 20 km. How far was he from my house?
(a) 5 km (b) 10 km
(c) 40 km (d) 80 km
(e) None of these

72. Rearrange the first four letters, in any way, of the word DECISION. Find how many words can be formed by using all the four words.
(a) One (b) Two
(c) Three (d) More than three
(e) None of these

73. In the following question a word is given followed by four different words, one of which can be formed by using the letter of the given word find the word.

'IMMEDIATELY'

(a) DIALECT (b) LIMITED
(c) DIAMETER (d) DICTATE
(e) None of these

74. Five boys took part in a race. Raj finished before Mohit but behind Gaurav. Ashish finished before Sanchit but behind Mohit. Who won the race?
(a) Raj (b) Gaurav
(c) Mohit (d) Ashish
(e) None of these

DIRECTIONS (Qs. 75-80) : Study the following information carefully to answer the given questions.

Eight friends A, B, C, D, E, F, G and H are sitting around a circle facing the centre but not necessarily in the same order. G sits third to left of D. Only one person sits between D and F. B sits second to right of H. H is not an immediate neighbour of D.C is not an immediate neighbour of D.E is an immediate neighbour of H.

75. What is the position of E with respect to the position of C?
(a) Third to the left (b) Second to the left
(c) Immediate right (d) Third to the right
(e) Second to the right

76. Who amongst the following sits exactly between A and G?
(a) B (b) C
(c) E (d) F
(e) D

77. Four of the following five are alike in a certain way and thus form a group. Which is the one that does not belong to that group?
(a) CG (b) AE
(c) HD (d) EC
(e) None of these

78. Which of the following is true with respect to given seating arrangement ?
(a) Both A and D are immediate neighbours of E
(b) C sits exactly between H and F
(c) Only three people sit between C and E
(d) H is to the immediate left of B
(e) None of these

79. Who amongst the following sits thrid to the left of F?
(a) A (b) B
(c) C (d) G
(e) H

80. What is the position of A with respect to H?
(a) Second to the left (b) Fourth to the left
(c) Third to the right (d) Third to the left
(e) Second to the right

HINTS & EXPLANATIONS

1. (c) $? = \frac{786 \times 64}{48} = 1048$

2. (a) $\sqrt[3]{13824} \times \sqrt{?} = 864$

$\sqrt[3]{24 \times 24 \times 24} \times \sqrt{?} = 864$

$\Rightarrow 24 \times \sqrt{?} = 864$

$\Rightarrow \sqrt{?} = \frac{864}{24}$

$\therefore ? = 36 \times 36 = 1296$

3. (e) $\frac{60}{100} \times \frac{20}{100} \times \frac{3}{5} \times ? = 450$

$\Rightarrow \frac{9}{125} \times ? = 450$

$\Rightarrow ? = \frac{450 \times 125}{9} = 6250$

4. (d) $? = 196 \times 948 \div 158 = \frac{196 \times 948}{158} = 1176$

5. (b) $? = 3.5 + 11.25 \times 4.5 - 32.5$
$= 3.5 + 50.625 - 32.5 = 54.125 - 32.5 = 21.625$

6. (c) $? = \frac{\sqrt{4096} \times 56}{764 - 652} = \frac{64 \times 56}{112} = 32$

7. (d) $? = (98360 + 25845 - 36540) \div 2500$
$= 87665 \div 2500 = 35.066$

8. (e) $? = 7414 + 3698 + 1257 + 1869 = 14238$

9. (b) $(91)^2 + (41)^2 - \sqrt{?} = 9858$

$\Rightarrow 8281 + 1681 - \sqrt{?} = 9858$

$\Rightarrow \sqrt{?} = 9962 - 9858 = 104$

$\therefore ? = 104 \times 104 = 10816$

10. (a) $? = (2640 \div 48) \times (2240 \div 35)$
$= 55 \times 64 = 3520$

11. (a) $? \approx 395 + 187 = 582$

12. (c) $? \approx (5)^2 + (21)^3 + \sqrt{1089}$
$\approx 25 + 9261 + 33 \approx 9319$

13. (e) $? \approx \frac{5000 \times 25}{100} - \frac{3000 \times 65}{100}$
$\approx 1250 - 1950 \approx -700$

14. (c) $? = (81)^{-1/2} - (64)^{-2/3}$

$= \left(\frac{1}{8}\right)^{\frac{1}{2}} - \left(\frac{1}{64}\right)^{\frac{2}{3}} = \frac{1}{9} - \frac{1}{16} = \frac{16 - 9}{144} = \frac{7}{144}$

15. (a) $? = \frac{\sqrt{29241}}{\sqrt{361}} \times \frac{47}{9} = \frac{171}{19} \times \frac{47}{9} = 47$

16. (a) 121 117 108 92 67 **31**
-2^2 -3^2 -4^2 -5^2 -6^2

17. (b) 50 26 14 **8** 5 3.5
÷2+1 ÷2+1 ÷2+1 ÷2+1 ÷2+1

18. (c) 3 23 43 **63** 83 103
+20 +20 +20 +20 +20

19. (e) 748 737 715 682 638 **583**
–11 –22 –33 –44 –55

20. (d) 1 9 25 49 81 **121** 169
1^2 3^2 5^2 7^2 9^2 11^2 13^2

21. (c) Let the number of ducks and frogs in the pond be 37x and 39x respectively.
ATQ,

$\frac{37x + 39x}{2} = 152$

$\Rightarrow 38x = 152 \Rightarrow x = \frac{152}{38} = 4$

$\therefore$ Number of frogs = 39x
$= 39 \times 4 = 156$

22. (e) The number of employees in companies A, B and C be 4x, 5x and 6x respectively
After increase in the number of employees, required ratio will be

$= 4x \times \frac{125}{100} : 5x \times \frac{130}{100} : 6x \times \frac{150}{100}$

$= 4 \times 25 : 5 \times 26 : 6 \times 30$
$= 10 : 13 : 18$

23. (b) According to the questions, third number will be
$= 5 \times 213 - 2 \times 233.5 - 2 \times 271$
$= 1065 - 467 - 542 = 56$

24. (a) Let Sonali's monthly income = ₹ x
Sonali's percentage monthly spendings
$= (55 + 15)\% = 70\%$
Percentage savings $= 100 - 70 = 30\%$
ATQ,
$\therefore$ 30% of x = 12750

$\Rightarrow x = \frac{12750 \times 100}{30} =$ ₹ 42500

25. (e) $C.I. = P\left[\left(1+\frac{r}{100}\right)^t - 1\right] = 9650\left[\left(1+\frac{6}{100}\right)^3 - 1\right]$

$= 9650(1.191016 - 1)$

$= 9650 \times 0.191016 \approx$ ₹ 1843

26. (c) The rate of milk when milkman sells 120 litres of milk for ₹ 3360

$\therefore \quad SP = \left(\frac{3360}{120}\right) =$ ₹ 28

The rate of milk when milkman sells 240 litres of milk for ₹ 6120.

$\therefore \quad SP = \left(\frac{6120}{240}\right) =$ ₹ 25.5

$\therefore$ Required discount $= (28 - 25.5) =$ ₹ 2.5

27. (a) Let the number be x.

ATQ, $\frac{3626}{x^2} \times 32 = 2368$

$\Rightarrow \quad x^2 = \frac{3626 \times 32}{2368} = 49$

$\therefore \quad x = \sqrt{49} = 7$

28. (b) Let the two digits number be 10n + m and n > m.
As given,
n + m = 14
n – m = 2
On solving the equation,
n = 8, m = 6
$\therefore$ Product of digits = 8 × 6 = 48

29. (d) After servicing, speed of car = 60 km/h
$\therefore$ Distance covered in 6 hours
= (60 × 6)km = 360 km
Before servicing, time taken to cover 360 km

$\therefore$ Time taken $= \frac{360\,\text{km}}{50\,\text{km/h}} = 7.2$ hours

30. (b) Let Venkat has x ducks and y sheep.
$\therefore$ x + y = 81
$\therefore$ x = 81 – y ...(i)
and 2x + 4y = 268
$\Rightarrow$ 162 – 2y + 4y = 268
$\Rightarrow$ 2y = 268 – 162 = 106

$\Rightarrow y = \frac{106}{2} = 53$

$\therefore$ Number of sheep = 53

31. (a) x + y = 13 ...(i)
x – y = 3 ...(ii)
On adding,
2x = 16
$\Rightarrow$ x = 8
$\therefore$ y = 5
$\therefore$ Numbers are 85 and 58.

32. (c) Length of the reel
= (25 × 125 + 90) cm
= 3215 cm = 32.15 m

33. (e) 17 × 17 = 289
19 × 19 = 361

34. (b) Le the CP of the shoes be ₹ x.
$\therefore$ 2033 – x = x – 1063
$\Rightarrow$ 2x = 2033 + 1063 = 3096

$\Rightarrow x = \frac{3096}{2} =$ ₹1548

35. (e) Amount received by each person

$= ₹ \left(\frac{158965}{120}\right) =$ ₹ 1325

36. (b) Total number of users of brand B across all Five cities
= 600 + 500 + 650 + 700 + 550 = 3000

37. (c) 700 = x % of 500

$700 = \frac{x \times 500}{100} \Rightarrow x = \frac{700}{5} = 140$

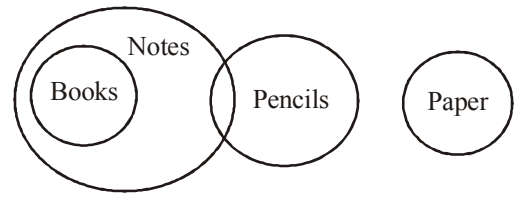
38. (c) Required average $= \frac{500 + 550 + 600 + 550 + 700}{5}$

$= 580$

39. (d) Required difference = 1250 – 1100 = 150

40. (a) Required Ratio $= \frac{500}{700} = 5:7$

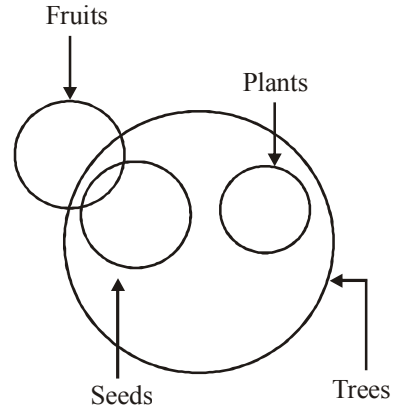
41. (a)



conclusions: I √ II. × III. • IV.
Complementary pair

So, only I and either III and IV, follow.

42. (c)



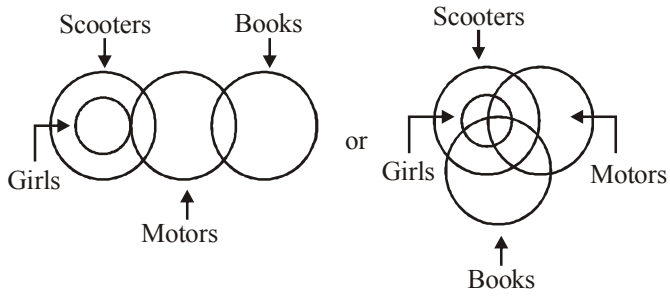
Conclusions

I. Some plants are seeds.
II. Some plants are fruits. (×)
III. Some trees are fruits. (×)
IV. No plant is a seed.

Complementary pair (I-E)

So, either I or IV follow.

43. (e)



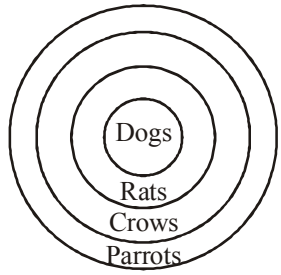
Conclusions

I. Some girls are motors. (×)
II. Some girls are books. (×)
III. Some scooters are girls. (√)
IV. No girl is book. (×)

Complementary pair (I-E)

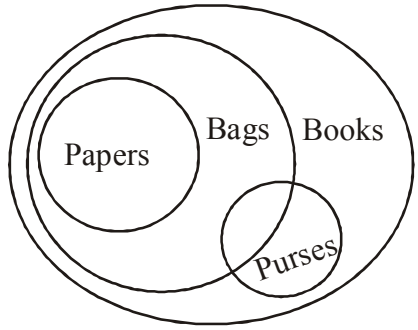
So, either II or IV and III follow.

44. (b)



Conclusions I. All dogs are parrots. **(√)**
II. Some parrots are dogs. **(√)**
III. Some crows are dogs. **(√)**
IV. All rats are dogs. **(×)**

45. (b)



Conclusions: I. × II. √ III. √ IV ×
So, only II and III follow.

46. (b) Here, $T > K$ ...(i)
$K \le R$ ...(ii)
$R = M$ ...(iii)
From (ii) and (iii), we get
$R = M \ge K$ ...(iv)
Now, from (iv) we get $M > K$ (conclusion III) for $M = K$ (conclusion I). Hence, either conclusion I or conclusion III follows. Again, from (i) and (iv) we can't get any specific relationship between 'M' and 'T'. Hence, conclusion II does not follow.

47. (c) Here, $M < R$ ...(i)
$R \le T$ ...(ii)
$T = N$ ...(iii)
From (i), (ii) and (iii), we get
$T = N \ge R > M$ ...(iv)
Hence, from (iv) we get $N = R$ (conclusion I) or $N > R$ (conclusion II). Hence, either conclusion I or conclusion II follows. Also, from (iv) we get $N > M$ (conclusion III). Hence, conclusion III follows.

48. (d) Here, $V \ge M$ ...(i)
$A > M$ ...(ii)
$R \le V$ ...(iii)
Therefore, $R \le V \ge M < A$
Conclusions I. $R < A$ ...(false)
II. $V \ge A$ ...(false)
III. $R > M$ ...(false)
So, none follows.

49. (a) Here, $B = D$ ...(i)
$D \ge H$ ...(ii)
$H < F$ ...(iii)
Therefore; $B = D \ge H < F$
Conclusions: I. $B = F$ ...(false)
II. $B > F$ ...(false)
III. $D > F$ ...(false)
So, none follows.

50. (e) Here, $J \le N$ ...(i)
$K \ge N$ ...(ii)
$T > K$ ...(iii)
From (i), (ii) and (iii), we get
$T > K \ge N \ge J$ ...(iv)
Conclusions: I. $J < T$ ...(True)
II. $T > N$ ...(True)
III. $N \ge J$ ...(True)
Thus, all follow.

51. (d) Either H or C will occupy seventh position from the left.
52. (c) Clearly, E is definitely sitting at one of the ends.
53. (d) The immediate neighbours of I cannot be determined because the position of H and C are not fixed.
54. (a) G is sitting to the second left of D.
55. (c) A will become the immediate neighbour of E after interchanging position.

56. (b) E G 4 B H 7 5 @ K 8 D N £ Q Z $ W 3 C 1 9 * 1 B 2 S 6

57. (a) The first, second and third element of each group is sixth element to the right of the respective element of previous group as given in all in the sequence.

58. (b) There are 27 elements in all in the sequence.
So, (27 – 9 – 7 =) 11 elements are between the 9th from left and 7th from right.
Hence, (9 + 6 =) 15th element from the left and will be the required answer.

59. (c) 7th to the left of 12th from right
= (12 + 7 =) 19th from right
= (27 – 19 + 1 =) 9th from left
But the first 15 elements are reversed.
= (15 – 9 + 1 =) 7th from left in the original sequence = 5.

60. (a) For the condition to be fulfilled, three digits should be together but it is not so in the given sequence.

Sol. (Qs. 61-65)

Monday	Physics
Tuesday	Maths
Wednesday	Electronics
Thursday	Statistics
Friday	Chemistry
Saturday	English
Sunday	Holiday

61. (e) 62. (a) 63. (e) 64. (d) 65. (d)

66. (a) Letter e represents the typists who are only graduates but not Government employees.

67. (b) Letter g represent the typists who are only Government employees but not graduates

68. (d) Given

1	3	4	7	9	2	5	6	8
A	Q	F	J	L	D	M	P	N

From the above table, 396824 is coded as:

Thus,

3	9	6	8	2	4
Q	L	P	N	D	F

69. (a) Given,

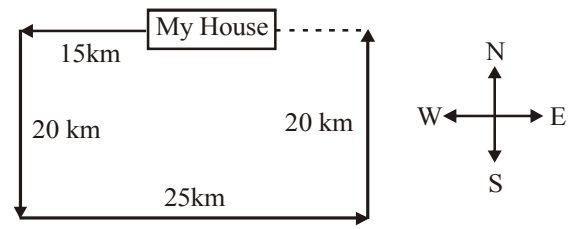
O	V	E	R	V	I	S	T
$	#	%	*	#	+	×	–

From the above table, SORE is coded as :

S	O	R	E
×	$	*	%

70. (c) The sister of one's mother is one's maternal aunt. Hence, the man is the husband of the boy's maternal aunt.

71. (b) The direction movement of laxman is as following:



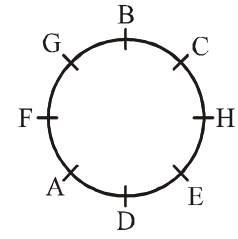
From the above diagram, required distance is
= 25 – 15 = 10 km.

72. (a) The first four letters are D, E, C, I and only word DICE can be formed. so, the answer is option (a).

73. (d) 'LIMITED' is the only word which can be formed using the letters of given word.

74. (b) The order in which the five boys reach the finishing line is, Gaurav > Raj > Mohit > Ashish > Sanchit.
Hence, Gaurav won the race.

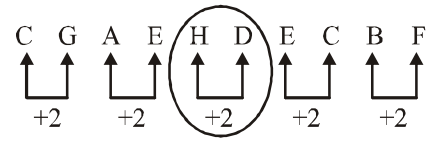
(75-80):



75. (b) Clearly, E is second to the left of C.

76. (d) F sits exactly between A and G.

77. (c) Except HD, in all other pairs, first member is present on the clockwise side of other.



78. (e) It is clear from the figure that none of the options (a) - (d) is true.

79. (d) Clearly, C is third to the left of F.

80. (d) A is third to the left of H.