PRACTICE SET

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 1/4th of the mark allotted to the specific question for wrong answer.**

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

QUANTITATIVE APTITUDE

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

1. $72.42 + 385.66 + 4976.38 = ?$
   (a) 5234.46   (b) 5434.46
   (c) 5434.66   (d) 5244.66
   (e) None of these

2. $8\dfrac{5}{9} \times 4\dfrac{3}{5} - 6\dfrac{1}{3} = ?$
   (a) $32\dfrac{11}{45}$ (b) $33\dfrac{11}{45}$

   (c) $32\dfrac{1}{45}$ (d) $33\dfrac{1}{45}$

   (e) None of these

3. $\dfrac{17 \times 4 + 4^2 \times 2}{90 \div 5 \times 12} = ?$
   (a) $\dfrac{25}{54}$ (b) $\dfrac{22}{57}$

   (c) $\dfrac{11}{27}$ (d) $\dfrac{13}{27}$

   (e) None of these

4. $16\% \text{ of } 250 + 115\% \text{ of } 480 = ?$
   (a) 522   (b) 588
   (c) 582   (d) 498
   (e) None of these

5. $55\% \text{ of } 860 + ?\% \text{ of } 450 = 581$
   (a) 24   (b) 28
   (c) 32   (d) 36
   (e) None of these

6. $16.45 \times 2.8 + 4.5 \times 1.6 = ?$
   (a) 56.23   (b) 56.32
   (c) 53.26   (d) 53.66
   (e) None of these

7. $8\dfrac{2}{5} \times 5\dfrac{2}{3} + ? = 50\dfrac{1}{5}$
   (a) $3\dfrac{2}{5}$ (b) $2\dfrac{2}{5}$

   (c) $3\dfrac{3}{5}$ (d) $2\dfrac{3}{5}$

   (e) None of these

8. $2520 \div 14 \div 9 = ?$
   (a) 22   (b) 18
   (c) 20   (d) 16
   (e) None of these

9. $\dfrac{5}{9} \text{ of } 504 + \dfrac{3}{8} \text{ of } 640 = ?$
   (a) 520   (b) 480
   (c) 460   (d) 540
   (e) None of these

10. $3.2\% \text{ of } 250 + 1.8\% \text{ of } 400 = ?$
    (a) 14.8   (b) 15.75
    (c) 14.75   (d) 15.2
    (e) None of these

11. Difference between the digits of a two digit number is 5 and the digit in the unit's place is six times the digit in the ten's place. What is the number?
    (a) 27   (b) 72
    (c) 16   (d) 61
    (e) None of these

12. Populations of two villages X and Y are in the ratio of 5 : 7 respectively. If the population of village Y increases by 25000 and the population of village X remains unchanged the respective ratio of their populations becomes 25:36. What is the population of village X?
    (a) 625000   (b) 675000
    (c) 875000   (d) 900000
    (e) None of these

13. Ajay spends 25 per cent of his salary on house rent, 5 per cent on food, 15 per cent on travel, 10 per cent on clothes and the remaining amount of ₹ 27,000 is saved. What is Ajay's income?
    (a) ₹60,000   (b) ₹80,500
    (c) ₹60,700   (d) ₹70,500
    (e) None of these

14. The length of a rectangular field is thrice its breadth. If the cost of cultivating the field at ₹ 367.20 per square metre is ₹ 27,540, then what is the perimeter of the rectangle?
    (a) 47m   (b) 39m
    (c) 52m   (d) 40m
    (e) None of these

15. If the fractions $\frac{8}{5}, \frac{7}{2}, \frac{9}{5}, \frac{5}{4}, \frac{4}{5}$ are arranged in descending order of their values, which one will be the fourth?

    (a) $\frac{4}{5}$ (b) $\frac{5}{4}$

    (c) $\frac{9}{5}$ (d) $\frac{8}{5}$

    (e) $\frac{7}{2}$

DIRECTIONS (Qs. 16-20): In each of these questions, a number series is given. In each series, only one number is wrong. Find out the wrong number.

16. 3601 3602 1803 604 154 36 12
    (a) 3602   (b) 1803
    (c) 604   (d) 154
    (e) 36

17. 4 12 42 196 1005 6066 42511
    (a) 12   (b) 42
    (c) 1005   (d) 196
    (e) 6066

18. 2 8 12 20 30 42 56
    (a) 8   (b) 42
    (c) 30   (d) 20
    (e) 12

19. 32 16 24 65 210 945 5197.5
    (a) 945   (b) 16
    (c) 24   (d) 210
    (e) 65

20. 7 13 25 49 97 194 385
    (a) 13   (b) 49
    (c) 97   (d) 194
    (e) 25

21. A 240 m long train crosses a 300 m long plate form in 27 s. What is the speed of the train in km/h?
    (a) 66   (b) 60
    (c) 76   (d) 64
    (e) None of these

22. Vandana sells an article for ₹ 3240 and earns a profit of 20%. What is the cost price of the article?
    (a) ₹2800   (b) ₹2820
    (c) ₹2750   (d) ₹2700
    (e) None of these

23. Mr. Sharma invested an amount of ₹25000 in fixed deposit @ compound interest 8% per annum for two years. What amount Mr. Sharma will get on maturity?
    (a) ₹28540   (b) ₹29160
    (c) ₹29240   (d) ₹28240
    (e) None of these

24. Four-seventh of a number is equal to 40% of another number. What is the ratio between the first number and second number respectively?
    (a) 5 : 4   (b) 4 : 5
    (c) 10 : 7   (d) 7 : 10
    (e) None of these

25. Cost of 6 dozen apples and 8 dozen bananas is ₹ 1400. What will be the cost of 15 dozen apples and 20 dozen bananas?
    (a) ₹3200   (b) ₹3500
    (c) ₹3600   (d) ₹4200
    (e) None of these

26. Beena and Meena started a boutique investing amounts of ₹ 35000 and ₹ 56000 respectively. If Beena's share in the profit earned by them is ₹ 45000, what is the total profit earned?
    (a) ₹81000   (b) ₹127000
    (c) ₹72000   (d) ₹117000
    (e) None of the above

27. Nandkishore gives 35% of the money he had to his wife and gave 50% of the money he had to his sons. Remaining amount of ₹ 11250 he kept for himself. What was the total amount of money Nandkishore had?
    (a) ₹63750   (b) ₹75000
    (c) ₹73650   (d) ₹72450
    (e) None of these

28. Simple interest accured on an amount in eight years @ 11% per annum is ₹ 57200. What was the principal amount?
    (a) ₹72000   (b) ₹82000
    (c) ₹75000   (d) ₹65000
    (e) None of these

29. Four-fifth of a number is 10 more than two-third of the same number. What is the number?
    (a) 70   (b) 75
    (c) 69   (d) 85
    (e) None of these

30. A shopkeeper purchased 200 bulbs for ₹ 10 each. However, 5 bulbs were fused and had to be thrown away. The remaining were sold at ₹ 12 each. What will be the percentage profit?
    (a) 25   (b) 15
    (c) 13   (d) 17
    (e) None of these

31. The average monthly income of a family of four earning members was ₹15,130. One of the daughter in the family got married and left home, so the average monthly income of the family came down to ₹ 14,660. What is the monthly income of the married daughter?

(a) ₹15,350   (b) ₹12,000

(c) ₹16,540   (d) Cannot be determined

(e) None of these

32. On a test consisting of 250 questions, Jassi answered 40% of the first 125 questions correctly. What percent of the other 125 question does she need to answer correctly for her grade on the entire exam to be 60%?

    (a) 75   (b) 80

    (c) 60   (d) Cannot be determined

    (e) None of these

33. Swapnil, Aakash and Vinay begin to jog around a circular stadium. They complete their revolutions in 36 seconds, 48 seconds and 42 seconds respectively. After how many seconds will they be together at the starting point.

    (a) 504 seconds   (b) 940 seconds

    (c) 1008 seconds   (d) 470 seconds

    (e) None of these

34. Excluding the stoppages, the speed of a bus is 64 km/hr and including the stoppage the speed of he bus is 48 km/hr. For how many minutes does the bus stop per hour?

    (a) 12.5 minutes   (b) 15 minutes

    (c) 10 minutes   (d) 18 minutes

    (e) None of these

35. A, B, C, D and E are five consecutive odd numbers. The sum of A and C is 146. What is the value of E?

    (a) 75   (b) 81

    (c) 71   (d) 79

    (e) None of these

DIRECTIONS (Qs. 36-38): Study the table carefully to answer the questions that follow:

Total number of employees in different departments of an organization and (of these) percentage of females and males

Department	Total Number of Employees	Percentage of Females	Percentage of Males
IT	840	45	55
Accounts	220	35	65
Production	900	23	77
HR	360	65	35
Marketing	450	44	56
Customer Service	540	40	60

36. What is the total number of employees in all the departments together?

    (a) 3260   (b) 3310

    (c) 3140   (d) 3020

    (e) None of these

37. The total number of employees in the HR department forms approximately what percent of the total number of employees in the Accounts department?

    (a) 149   (b) 178   (c) 157   (d) 164   (e) 137

38. What is the total number of males in the IT and Customer Service departments together?

    (a) 687   (b) 678

    (c) 768   (d) 876

    (e) None of these

DIRECTIONS (Qs. 39 & 40): Seven companies A, B, C, D, E, F and G are engaged in production of two items I and II. The comparative data about production of these items by the seven companies is given in the following pie-chart and the table. Study them carefully and answer the questions given below.

Percentage of the total production produced by the seven companies
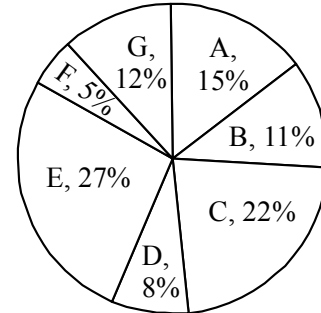
Cost of the total production (both items together) by seven companies. = ₹ 25 crores

Ratio of production between items I and II and the per cent profit earned for tshe two items.

Company	Ratio of Production		Per cent profit earned	
	Item I	Item II	Item I	Item II
A	2	3	25	20
B	3	2	32	35
C	4	1	20	22
D	3	5	15	25
E	5	3	28	30
F	1	4	35	25
G	1	2	30	24

39. What is the total cost of the production of item 'I' by companies A and C together in ₹ crore?

    (a) 9.25   (b) 5.9

    (c) 4.1625   (d) 4.9

    (e) None of these

40. What is the amount of profit eared by company 'D' on item 'II'?

    (a) ₹ 3.125 crores   (b) ₹ 31.25 crores

    (c) ₹ 3.125 lakhs   (d) ₹ 31.25 lakhs

    (e) None of these

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 know facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

41. Statement :
A. Some boys are rains.
B. All rains are clouds.
C. Some clouds are cars.

Conclusions :
I. Some clouds are boys.
II. Some cars are boys.
III. Some cars are rains.
IV. Some rains are boys.

(a) Only II follows
(b) Only IV follows
(c) Only I follows
(d) Both I and IV follow
(e) None of these

42. Statement :
A. All bricks are flowers.
B. Some houses are flowers.
C. All pens are houses.

Conclusions :
I. Some houses are bricks.
II. Some pens are flowers.
III. Some flowers are bricks.
IV. No pen is flower.

(a) Only either II or IV and III follow
(b) Only either II or IV and I follow
(c) Only either I or II and IV follow
(d) Either II or IV follow
(e) None of these

43. Statement :
A. All lions are ducks.
B. No duck is a horse.
C. All horses are fruits.

Conclusions :
I. No lion is a horse.
II. Some fruits are horses.
III. Some ducks are lions.
IV. Some lions are horses.

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

44. Statements :
A. Some stones are bricks.
B. All plants are stones.
C. No flower is a plant.

Conclusions :
I. No flower is a stone.
II. Some bricks are plants.
III. No bricks are plants.

(a) Only I follows
(b) Only II follows
(c) Only III follows
(d) Either II or III follows
(e) None of these

45. Statements :
A. All tigers are jungles.
B. No jungle is a bird.
C. Some birds are rains.

Conclusions :
I. No rain is a jungle.
II. Some rains are jungles.
III. No bird is a tiger.

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

DIRECTIONS (Qs. 46-50) : Study the following information carefully to answer the questions that follow.

(I) M, N, P, Q, S and T are six members of a group in which there are three female members. Females work in three departments – Accounts, Administration and Personnel and sit in three different floors – 1st, 2nd and 3rd. Persons working in the same department are not on the same floor. On each floor, two persons work.

(II) No two ladies, work in the same department or on the same floor. N and S work in the same department but not in personnel. Q works in Administration. S and M are on the 1st and 3rd floors respectively and work in the same department. Q, a lady, does not work on 2nd floor. P, a man, works on the Ist floor.

46. Which of the following groups of persons is females ?
(a) SQT
(b) QMT
(c) QPT
(d) Data inadequate
(e) None of these

47. T works in which department ?
(a) Accounts
(b) Administration
(c) Personnel
(d) Accounts or Personnel
(e) None of these

48. Which of the following pairs of persons work on IInd floor?
(a) PT
(b) SM
(c) QN
(d) Data inadequate
(e) None of these

49. If T is transferred to Accounts and S is transferred to Administration, who is to be transferred to Personnel to maintain the original distribution of females on each floor ?
(a) P
(b) N
(c) Q
(d) Data inadequate
(e) None of these

50. Which of the following pairs of persons works in Administration ?
(a) QP
(b) QN
(c) SP
(d) Data inadequate
(e) None of these

DIRECTIONS (Qs. 51-55) : In each of these questions a group of letters is given followed by four combinations of numbers codes lettered (a), (b), (c) and (d). The group of letters is to be coded with the numbers codes and the condition given below. The 'serial number of the number combination'. Which correctly represents the letter group, is your answer.

Letters	D	J	K	Q	H	V	N	E	B	A
Numbers Codes	3	9	7	6	4	8	2	1	5	0

Conditions : If the first or the last letter or both in the letter group is /are a vowel then the same is/are to be coded by symbol #.

51. EHNDJV
(a) #42389
(b) 142398
(c) #42398
(d) 14239#
(e) None of these

52. KQDJNH
(a) 763942
(b) 736924
(c) #36924
(d) #63924
(e) None of these

53. AJNVQE
(a) #9286#
(b) 09286#
(c) #92861
(d) 092861
(e) None of these

54. QHJVND
(a) 648923
(b) 649823
(c) #49823
(d) 64892#
(e) None of these

55. JKEDHA
(a) 97#34#
(b) 971340
(c) 971430
(d) 97134#
(e) None of these

DIRECTIONS : (Qs. 56-60): In the questions given below, certain symbols are used with the following meaning:

A @ B means A is greater than B.

A + B means A is either greater than or equal to B.

A † B means A is smaller than B

A ⊗ B meansA is either smaller than or equal to B.

A $ B means A is equal to B

Now in each of the following questions assuming the given statements to be true find which of the two conclusions I and II given below them is /are definitely **true.** Give answer

(a)   if only conclusion I is true.

(b)   if only conclusion II is true.

(c)   if either I or II is true.

(d)   if neither I nor II are true.

(e)   if both I and II are true.

56.   **Statements :**   T $ G, K @ P, M † T, P + M

   Conclusions: I. K @ M **II.** G$P

57.   **Statements :**   R + N, S ⊗ B, A @ N, B$A

   Conclusions: I. S $ N   **II.** A @N

58.   **Statements :**   G $ K, F @ J. K + Q, Q + F

   Conclusions: I. K $ F   **II.** F † K

59.   **Statements :**   W @ S, K ⊗ Z, U + W, S $ K

   Conclusions: I. U @ K **II.** Z @ S

60.   **Statements :**   G $ E, D † K, E † S, K ⊗ G

   Conclusions: I. S @ D   **II.** D † E

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

Eight friends P, Q, R, S, T, V, W and Y are sitting around a square table in such a way that four of them sit at four corners of the square while four sit in the middle of each of the four sides. The ones who sit at the four corners face the centre while those who sit in the middle of the sides face outside.

   P, who faces the centre, sits third to the right of V. T, who faces the centre, is not an immediate neighbour of V. Only one person sits between V and W. S sits second to right of Q. Q faces the centre. R is not an immediate neighbour of P.

61.   Who sits second to the left of Q?

   (a)   V   (b)   P

   (c)   T   (d)   Y

   (e)   Cannot be determined

62.   What is the position of T with respect to V ?

   (a)   Fourth to the left   (b)   Second to the left

   (c)   Third to the left   (d)   Third to the right

   (e)   Second to the right

63.   Four of the following five are alike in a certain way and so form a group. Which is the one that does not belong to the group?

   (a)   R   (b)   W

   (c)   V   (d)   S

   (e)   Y

64.   Which of the following will come in place of the question mark based upon the given seating arrangement ?

   WP TR QW RS   ?

   (a)   YT   (b)   VY

   (c)   VQ   (d)   PY

   (e)   QV

65.   Which of the following is true regarding R ?
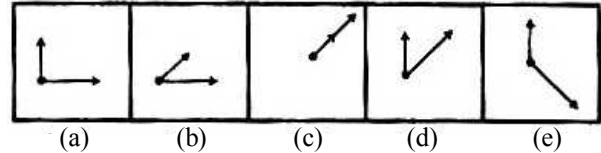
   (a)   R is an immediate neighbour of V

   (b)   R faces the centre

   (c)   R sits exactly between T and S

   (d)   Q sits third to left of R

   (e)   None of these

DIRECTIONS (Qs. 66-70) : In each of the questions given below which one of the five answers figures should come after the problem figures, if the sequence were continued?
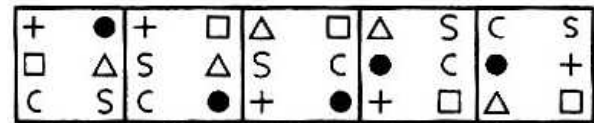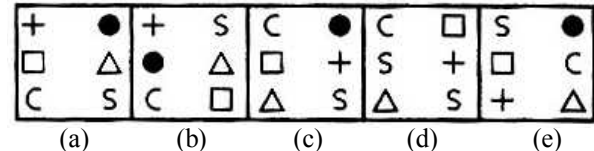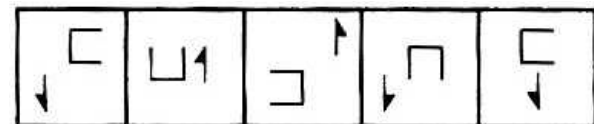
66.   **Problem figures**

   Answer figures

   (a)   (b)   (c)   (d)   (e)
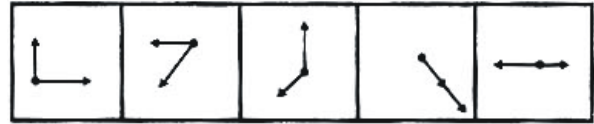
67.   **Problem figures**

   Answer figures

   (a)   (b)   (c)   (d)   (e)

68.   **Problem figures**

   Answer figures

   (a)   (b)   (c)   (d)   (e)

69.   Four the following five are alike in a certain way and so form a group. Which is the one that does not belong to the group?

   (a)   Horse   (b)   Dog

   (c)   Camel   (d)   Cow

   (e)   Fox

70.   In a certain code RUST is written as QVRU. How is LINE written in that code?

   (a)   KJMF   (b)   KJLI

   (c)   KMJF   (d)   KJME

   (e)   None of these

DIRECTIONS (Qs. 71-75) : Study the following information carefully and answer the given questions.

P, Q, R, S, T, V, W and X are captains of eight different cricket teams, namely Australia, New Zealand, India, Pakistan, Sri Lanka, England, West Indies and South Africa, but not necessarily in the same order. All of them are seated around a circular table and are facing the centre.

P sits third to the left of the Sri Lankan captain. Only two people sit between T and W. Neither T nor W is an immediate neighbour of P. Neither T and W is the captain of Sri lanka. The captain of South Africa sits second to the right of S. S is not an immediate neighbour of P. S. is not the Sri Lankan captain and P is not the captain of South Africa. The Australian captain sits third to the left of V. The Australian and Sri Lankan captains are not immediate neighbours. Only one person sits between S and the Indian captain. Captains of Pakistan and New Zealand are immediate neighbours. S is not the captain of New Zealand's team. Only one person sits between Q and the captain of England. The captain of England is an immediate neighbour of X. W and Q are not immediate neighbours.

71. How many people sit between T and the captain of England when counted in clockwise direction from T?
(a) None
(b) One
(c) Two
(d) Four
(e) Five

72. Who is the captain of the Australian team?
(a) P
(b) V
(c) W
(d) T
(e) Q

73. Which of the following would come in place of question mark based upon the given seating arrangement?
VS XR TV RP ?
(a) SW
(b) WX
(c) QW
(d) QX
(e) VR

74. Which of the following is **true** with respect to the given arrangement?
(a) R is the captain of South Africa
(b) W is an immediate neighbour of V.
(c) The captain of Australia and England are immediate neighbours.
(d) Four people sit between W and Q.
(e) X sits second to the left of S.

75. Who is the Indian captain?
(a) Q
(b) V
(c) X
(d) T
(e) Cannot be determined

DIRECTIONS (Qs. 76-78) : Study the given information carefully and answer the given questions.

Among six people - A, B, C, D, E and F each of a different age, A is younger than only D. Only three people are younger than C. F is younger than E. F is not the youngest.

76. Who amongst the following is the youngest?
(a) B
(b) A
(c) E
(d) C
(e) None of these

77. If E's age 16 years, then which of the following may be B's age?
(a) 19 years
(b) 22 years
(c) 18 years
(d) 17 years
(e) 12 years

78. How many people are younger than E?
(a) One
(b) Two
(c) Three
(d) Four
(e) More than four

DIRECTIONS (Qs. 79 & 80): Study the given information carefully and answer the given questions.

Twenty students are standing in a straight line facing north. Rina is standing sixth from the left end. There are only three students between Rina and Shweta. Radha is standing exactly between Shweta and Rina. Tina is standing sixth to the right of Radha. Anita is standing fourth from the right end of the line. There are more than four students between Rina and Tina.

79. How many people are standing between Anita and Tina.
(a) One
(b) Two
(c) Three
(d) None
(e) More than three

80. What is Shweta's position with respect to Anita?
(a) Sixth to the left
(b) Eighth to the left
(c) Seventh to the left
(d) Ninth to the left
(e) None of these

HINTS & EXPLANATIONS

1. (b) $? = 72.42 + 385.66 + 4976.38$
$\Rightarrow ? = 5434.46$

2. (d) $? = 8\frac{5}{9} \times 4\frac{3}{5} - 6\frac{1}{3}$
$\Rightarrow ? = \frac{77}{9} \times \frac{23}{5} - \frac{19}{3}$
$\Rightarrow ? = \frac{1771 - 285}{45}$
$\Rightarrow ? = \frac{1486}{45} = 33\frac{1}{45}$

3. (a) $? = \frac{17 \times 4 + 4^2 \times 2}{90 \div 5 \times 12}$

$\Rightarrow ? = \frac{68 + 16 \times 2}{18 \times 12}$

$\Rightarrow ? = \frac{68 + 32}{216}$

$\Rightarrow ? = \frac{100}{216} = \frac{25}{54}$

4. (e) $? = 16\% \text{ of } 250 + 115\% \text{ of } 480$

$\Rightarrow ? = \frac{16}{100} \times 250 + \frac{115}{100} \times 480$

$\Rightarrow ? = \frac{4000}{100} + \frac{55200}{100}$

$\Rightarrow ? = 40 + 552 = 592$

5. (a) 55% of $860 + ?\%$ of $450 = 581$

$\Rightarrow \dfrac{55}{100} \times 860 + \dfrac{?}{100} \times 450 = 581$

$\Rightarrow 473 + \dfrac{?}{100} \times 450 = 581$

$\Rightarrow \dfrac{?}{100} \times 450 = 581 - 473 = 108$

$\Rightarrow ? = \dfrac{108 \times 100}{450} = 24$

6. (c) $? = 16.45 \times 2.8 + 4.5 \times 1.6$

$\Rightarrow ? = 46.06 + 7.20$

$\Rightarrow ? = 53.26$

7. (d) $8\dfrac{2}{5} \times 5\dfrac{2}{3} + ? = 50\dfrac{1}{5}$

$\Rightarrow \dfrac{42}{5} \times \dfrac{17}{3} + ? = \dfrac{251}{5}$

$\Rightarrow \dfrac{238}{5} + ? = \dfrac{251}{5}$

$\Rightarrow ? = \dfrac{251}{5} - \dfrac{238}{5}$

$\Rightarrow ? = \dfrac{13}{5} = 2\dfrac{3}{5}$

8. (c) $? = 2520 \div 14 \div 9$

$\Rightarrow ? = 180 \div 9 = 20$

9. (a) $? = \dfrac{5}{9}$ of $504 + \dfrac{3}{8}$ of 640

$\Rightarrow ? = \dfrac{5}{9} \times 504 + \dfrac{3}{8} \times 640$

$\Rightarrow ? = 280 + 240$

$\Rightarrow ? = 520$

10. (d) $? = 3.2\%$ of $250 + 1.8\%$ of 400

$\Rightarrow ? = \dfrac{3.2}{100} \times 250 + \dfrac{1.8}{100} \times 400$

$\Rightarrow ? = \dfrac{800}{100} + \dfrac{720}{100}$

$\Rightarrow ? = 8 + 7.2 = 15.2$

11. (c) Let ten's digit $= x$ and units digit $= x + 5$

Then, $x + 5 = 6x$

$x = 1$

$\therefore$ units digit $= x + 5 = 1 + 5 = 6$

So required number $= 16$

12. (a) Let the population of village X and Y be $5p$ and $7p$ respectively.

If population of village Y, increases by 25000

the new ratios $\rightarrow \dfrac{5p}{7p + 25000} = \dfrac{25}{36}$

$\Rightarrow 180p = 175p + 625000$

$\Rightarrow 5p = 625000$

13. (a) Saving percentage $= (100 - 55)\% = 45\%$

If the income of Ajay be ₹ x, then,

$\dfrac{45 \times x}{100} = 27000$

$\Rightarrow x = \dfrac{27000 \times 100}{45} = ₹60000$

14. (d) Let the breadth of the rectangle be x metre.

$\therefore$ Length $= 3x$ metre

$\therefore 3x \times x = \dfrac{27540}{367.20} = 75$

$\Rightarrow x^2 = 25$

$\Rightarrow x = 5$

$\therefore$ Perimeter of the rectangle

$= 2(3x + x) = 8x$

$= 8 \times 5 = 40$ metre

15. (b) Decimal equivalent of each fraction :

$\dfrac{8}{5} = 1.6; \quad \dfrac{7}{2} = 3.5$

$\dfrac{9}{5} = 1.8; \quad \dfrac{5}{4} = 1.25$

$\dfrac{4}{5} = 0.8$

Clearly, $\dfrac{7}{2} > \dfrac{9}{5} > \dfrac{8}{5} > \dfrac{5}{4} > \dfrac{4}{5}$

16. (d)

3601	3602	1803	604	**155** / 154	36	12
$\div 1 + 1$	$\div 2 + 2$	$\div 3 + 3$	$\div 4 + 4$	$\div 5 + 5$	$\div 6 + 6$	

154 is written in place of 155.

17. (b)

4	12	**45** / 42	196	1005	6066	42511
$\times 2 + (2)^2$	$\times 3 + (3)^2$	$\times 4 + (4)^2$	$\times 5 + (5)^2$	$\times 6 + (6)^2$	$\times 7 + (7)^2$	

42 is written in place of 45.

18. (a)

2	**6** / 8	12	20	30	42	56
$+4$	$+6$	$+8$	$+10$	$+12$	$+14$	

8 is written in place of 6.

19. (e)

32	16	24	**60** / 65	210	945	5197.5
$\times 0.5$	$\times 1.5$	$\times 2.5$	$\times 3.5$	$\times 4.5$	$\times 5.5$	

65 is written in place of 60.

20. (d)

7 ⎦—⎦ 13 ⎦——⎦ 25 ⎦——⎦ 49 ⎦——⎦ 97 ⎦——⎦ 193/194 ⎦——⎦ 385
   + 6   + 12   + 24   + 48   + 96   + 192
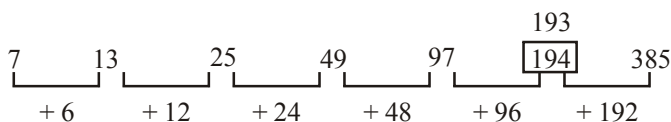
   194 is written in place of 193

21. (e) Total length (distance) $= 240 + 300 = 540\ m$

    $\therefore$ Speed of train $= \dfrac{540}{27} = 20\ m/s = 20 \times \dfrac{18}{5} = 72$ km/h

22. (d) Cost prize of the article

    $= 3240 \times \dfrac{100}{(100+20)} = 3240 \times \dfrac{100}{120} = ₹2700$

23. (b) Required amount $= 25000\left(1+\dfrac{8}{100}\right)^2$

    $= 25000 \times \dfrac{27}{25} \times \dfrac{27}{25} = ₹29160$

24. (d) Let first number $= x$
    and second number $= y$

    Then, $\dfrac{4}{7}$ of $x = 40\%$ of y

    $\Rightarrow \dfrac{4}{7} \times x = \dfrac{40}{100} \times y$

    $\Rightarrow \dfrac{4}{7} \times x = \dfrac{2}{5} \times y$

    $\Rightarrow 10x = 7y$

    $\Rightarrow \dfrac{x}{y} = \dfrac{7}{10} = 7:10$

25. (b) $\because$ Cost prize of (6 dozen apples + 8 dozen bananas) $= ₹1400$

    $\therefore$ Cost prize of (15 dozen apples + 20 dozen bananas) $= 1400 \times 2.5 = ₹3500$

26. (d) Amount ratio between Beena and Meena
    $= 35000 : 56000 = 5 : 8$
    Let the share of Beena and Meena amount be $5x$ and $8x$ respectively.
    Then, $5x = 45000$

    $\Rightarrow x = \dfrac{45000}{5} = ₹9000$

    $\therefore$ Amount (profit) of Meena $= 8x = 8 \times 9000 = ₹72000$
    So, total earned profit $= 45000 + 72000 = ₹117000$

27. (b) Let Nand Kishore's total money was $= ₹x$
    After giving some amount to his wife and his sons, remaining amount

    $= x - \left(x \times \dfrac{35}{100} + x \times \dfrac{50}{100}\right) = x - \dfrac{85x}{100} = ₹\dfrac{15x}{100}$

    Then, $\dfrac{15x}{100} = ₹11250$

    $\Rightarrow x = \dfrac{11250 \times 100}{15} = ₹75000$

28. (d) Let principal amount $= x$

    Then, $57200 = \dfrac{x \times 11 \times 8}{100}$

    $\Rightarrow x = \dfrac{57200 \times 100}{11 \times 8} = ₹65000$

29. (b) Let the number be x.

    $\therefore \dfrac{4x}{5} = \dfrac{2}{3}x + 10$

    $\Rightarrow \dfrac{4x}{5} - \dfrac{2x}{3} = 10$

    $\Rightarrow \dfrac{12x - 10x}{15} = 10$

    $\Rightarrow x = \dfrac{10 \times 15}{2} = 75$

30. (d) Total cost price $= 200 \times 10 = ₹2000$
    Total selling price $= 12 \times 195 = ₹2340$

    $\therefore$ Profit per cent $= \dfrac{2340 - 2000}{2000} \times 100 = 17\%$

31. (c) $\Rightarrow$ Total income of the four-membered family
    $= 4 \times 15430 = ₹60520$
    $\Rightarrow$ Total income of three family members
    $= 3 \times 14660 = ₹43980$
    $\Rightarrow$ Monthly income of the married daughter
    $= 60520 - 43980 = ₹16540$

32. (b) Total correct questions for getting 60% grade

    $= 250 \times \dfrac{60}{100} = 150$

    40% of 125 = 50 questions
    $\therefore$ x% of 125 = 150 – 50 = 100 questions

    $\Rightarrow x = \dfrac{100 \times 100}{125} = 80$

    Required percentage = 80%
    Note: This can be solved by alligation method quickly. Try it.

33. (c) LCM of 36 sec, 48 sec and 42 sec = 1008 sec
    $\therefore$ After 1008 seconds, they will be together at the starting point.

34. (b) Stoppage time per hour

    $= \dfrac{64 - 48}{64} = \dfrac{1}{4} \times 60 = \dfrac{1}{4}$ hr = 15 minutes

35. (d) Let the numbers A, B, C, D and E be x, x + 2, x + 4, x + 6 and x + 8 respectively.
    Now, A + C = 146
    $\Rightarrow x + x + 4 = 146$
    $\Rightarrow 2x = 142 \Rightarrow x = 71$
    $\therefore$ Value of E = 71 + 8 = 79

36. (b) Total no. of employees
    $= (840 + 220 + 900 + 360 + 450 + 540) = 3310$

37. (d) Required % $= \dfrac{360}{220} \times 100 \approx 164\%$

38. (e) Total no. of male employees in IT and Customer Service

    $= 840 \times \dfrac{55}{100} + 540 \times \dfrac{60}{100} = 462 + 324 = 786$

39. (b) Cost of production of both items for

    Company A $= \dfrac{15}{100} \times 25 = 3.7$ crores

    Company C $= \dfrac{22}{100} \times 25 = ₹5.5$ crores

These costs will be divided in the ratio of production of items I and II.

Cost of production of item I for

Company A = $\dfrac{2}{2+3} \times 3.75 = ₹\,1.5$ crores

Company C = $\dfrac{4}{4+1} \times 5.5 = ₹\,4.4$ crores

∴ Total cost of production of item 1 by companies A and C together

= ₹ (1.5 + 4.4) crores = ₹ 5.9 crores

40. (d) Cost of production of both items for company D

$= \dfrac{81}{100} \times 25 = ₹\,2$ crores
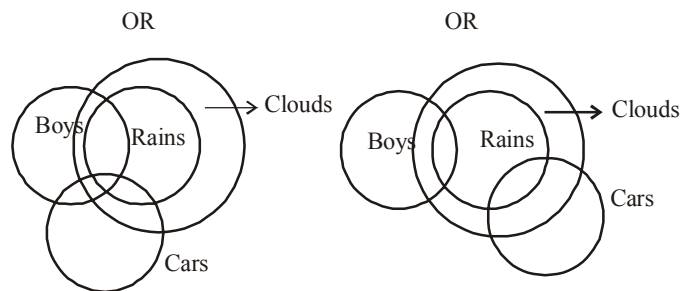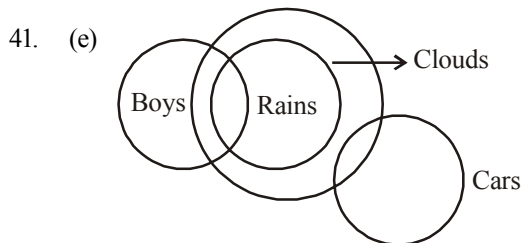
Cost of production of item II for company D

$= \dfrac{5}{3+5} \times 2 = ₹\,\dfrac{5}{4}$ crores
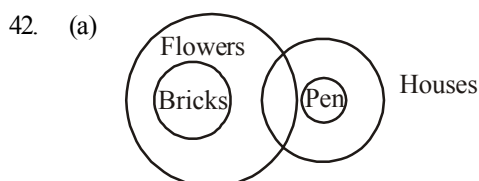
% profit earned by company D on item II = 25%

∴ Amount of profit earned by company D on item II.

$= \dfrac{25}{100} \times \dfrac{5}{4} = ₹\,\dfrac{5}{16}$ crores

$= ₹\,\dfrac{5}{16} \times 100$ lakhs = ₹ 31.25 lakhs

41. (e)

OR

Conclusion - I. ✓
II. ✓
III. ✓
IV. ✓ (Conversion of I Statement)

42. (a)

Conclusion - I. ×
II. ×
III. ✓ ⎤ Either
IV. × ⎦

43. (c)
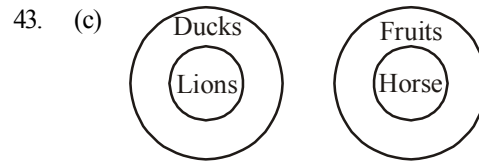
Conclusion - I. ✓ ⎤
II. ✓ ⎥ Either
III. ✓ ⎥
IV. ✓ ⎦

44. (d) Statements : Some stones are bricks.
Conclusions : Some bricks are stone. (conversion)
Statements : All plants are stones.
Conclusions : Some plants are stones. (Implication)
Some stones are plants. (conversion)
Statements : No flower is plant.
Conclusions : Some flowers are not plant.
(Implication)
No plant is flower. (Conversion)
Statements : No flower is plant.
All plants are stones.
Conclusions : Some stones are not flower.
(E + A = O* type)
Since, II and III form a complementary I-E pair, either of two must follow.

45. (c) Statements : All tigers are jungles.
Conclusions : Some tigers are jungles. (Implication)
Some jungles are tigers. (conversion)
Statements : No jungle is bird.
Conclusions : Some jungle are not bird.
(Implication)
No bird is jungle. (conversion)
Statements : Some birds are rains.
Conclusions : Some rains are birds. (conversion)
Statements : All tigers are jungles.

No jungle is bird.
Conclusions : No tiger is bird. (A + E = E-type)
No bird is tiger. (conversion)
Hence III follows.
Statements : No jungle is bird.
Some birds are rains.
Conclusions : Some rains are not jungle.
(E + I = O* type)
Since I and II form a complementary E-I pair, either of two must follow.

For (Qs. 46-50) :

The given information can be summarized as follows.

	Floors					
	I		II		III	
Member	P	S	N	T	M	Q
Department	Not clear	Acc	Acc	Per-sonnel	Acct.	Adm.
Sex	M	F	M	F	M	F

46. (a) From the analysis of table constructed above, SQT is the group of females.

47. (c) Clearly, T works in personnel.
48. (e) N and T work on the second floor.
49. (c) To maintain the original distribution of females on each floor, Q must be transferred to personnel.
50. (d) Data is inadequate to determine the department of P. From the information provided only we can say that Q works in administration.

51. (c)

Letter	E	H	N	D	J	V
Code	#	4	2	3	9	8

Condition is applied.

52. (e)

Letter	K	Q	D	J	N	H
Code	7	6	3	9	2	4

53. (a)

Letter	A	J	N	V	Q	E
Code	#	9	2	8	6	#

Condition is applied.

54. (b)

Letter	Q	H	J	V	N	D
Code	6	4	9	8	2	3

55. (d)

Letter	J	K	E	D	H	A
Code	9	7	1	3	4	#

Condition is applied.

56. (a) $T = G$, $K > P$, $M < T$, $P \geq M$
$K > P \geq M < T = G$
Conclusions: I. $K > M$ (✓)
                      II. $G = P$ (×)
Hence, only conclusion I is true.

57. (b) $R \geq N$, $S \leq B$, $A > N$, $B = A$
$S \leq B = A > N \leq R$
Conclusions :   I. $S = N$ (×)
                      II. $A > N$ (✓)
Hence, only conclusion II is true.

58. (c) $G = K$, $F > J$, $K \geq Q$, $Q \leq F$
$G = K \geq Q \geq F > J$
Conclusions :   I. $K = K$ (✓)
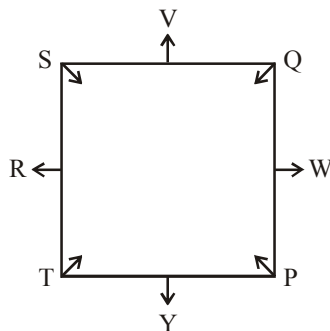   II. $F < K$ (✓) Either
Hence, either I or II is true.

59. (e) $W > S$, $K \leq Z$, $U \geq W$, $S = K$
$U \geq W > S = K \leq Z$
Conclusions :   I. $U > K$ (✓)
                      II. $Z > S$ (✓)

60. (e) $G = E$ ....(i), $D < K$ ...(ii), $E < S$ .....(iii), $K \leq G = E < S$.
Clearly, both conclusions I and II follow.

(61-65):
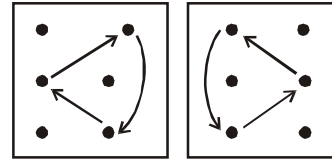

61. (b)   62. (c)
63. (d) Others sit at the middle of the sides.

64. (a) Move $1\frac{1}{2}$, 2, $2\frac{1}{2}$, 3...... sides clockwise on the square.

65. (c)

66. (d) The smaller arrow moves through 90° and 45° anticlockwise respectively while the bigger one moves through 135° in each subsequent figure clockwise.

67. (c) The movement of design is as follows:
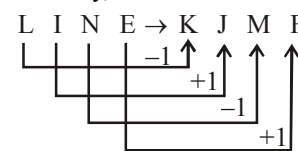

Problem fig. 1 to 2   Problem fig. 2 to 3
Problem fig. 3 to 4   Problem fig. 4 to 5
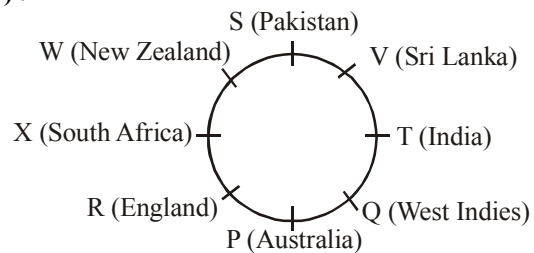Problem fig. 5 to answer fig. 6

68. (b) In each subsequent figure the design ⊏ moves through 90° anticlockwise and shifts diagonally halfway while the arrow shifts halfway diagonally and is each time inverted.

69. (e) Except fox, all others are domenstic animals.

70. (a)

Similarly,

(71-75) :

71. (c)
72. (a)
73. (b) There is pattern of going from second member of a pair to the first member of the next pair: +2, +3, +4 ... CW.
74. (c)
75. (d)

(Qs. 76-78). According to given information

$D > A > — > — > —$ A is younger than only D
⇓
$D > A > C > — > — > — > —$ Only three are younger than C
⇓
$D > A > C > E > F > B$
F is younger than E, F is not the youngest

76. (a)
77. (e) (B is younger than E)
78. (b) (Only two F and B)

(Qs. 79-80).
According to information given
Final arrangement is as follows
1 2 3 4 5 Rina 7 Radha 9 Shweta 11 12 13 Tina 15 16 Anita 18 19 20.
79. (b) Two person are between Anita and Tina.
80. (c) Anita is at 17th position and Shweta at 10th position.