Study the following information to answer the given questions :

A, B, C, D, E and F are seated in a circle facing the centre. A and C are seated adjacent to each other and E and B are also seated adjacent to each other. B is to the immediate left of F. There are 2 persons between D and E. A is not seated adjacent to E.

1. how many persons are seated between F and E if we go anti-clockwise from F to E ?
   (A) 1
   (B) 2
   (C) 3
   (D) Cannot be determined
   (E) None of these

2. Who is to the immediate left of E ?
   (A) C
   (B) B
   (C) F
   (D) Cannot be determined
   (E) None of these

Four of the following five are alike in a certain way based on their seating positions in the above arrangement and so form a group. Which is the one that does not belong to the group ?

3. (A) BA   (B) BD
   (C) CF   (D) DE
   (E) FC

4. (A) BEC   (B) CAD
   (C) FDA   (D) DFB
   (E) ADF

5. (A) AC   (B) EB
   (C) CE   (D) AF
   (E) DA

Study the following information to answer the given questions :

Q, R, S, T, U and V are seated in a straight line facing North. S is second to the right of T and T is second to the right of Q. R is to the left of Q and is second to the left of V.

6. How many persons are seated between T and V ?
   (A) 1   (B) 2
   (C) 3   (D) 4
   (E) None of these

7. Four of the following five are alike in a certain way based on their seating position in the above arrangement and so form a group. Which is the one that does **not** belong to the group ?
   (A) QV   (B) VT
   (C) US   (D) UT
   (E) RQ

8. What is Q's position with respect to S ?
   (A) Third to left
   (B) Immediate Next
   (C) Second to left
   (D) Fifth to left
   (E) None of these

9. Which of the following represents persons seated at the two extremes ?
   (A) RQ   (B) US
   (C) SQ   (D) SR
   (E) None of these

10. If S : T and T : Q, then U : ?
    (A) T   (B) V
    (C) Q   (D) S
    (E) R

Study the following information to answer the given questions :

In a certain code '4 6 1' means 'where are you', '1 6 9' means 'you are good' and '8 6 5 2' means 'flower are not bad'.

11. What is the code of 'not' ?
    (A) 6   (B) 8
    (C) 2   (D) 6 or 5
    (E) None of these

12. What is the code of 'good' ?
    (A) 4   (B) 1
    (C) 6   (D) 6 or 1
    (E) None of these

13. What would be the code for 'where not are good flowers' ?
    (A) 6 8 9 5 4   (B) 4 6 5 9 8
    (C) 4 5 6 9 8   (D) 4 6 5 8 9
    (E) None of these

14. Which of the following may represent 'are you there' ?
    (A) 6 1 7   (B) 1 6 3
    (C) 6 1 8   (D) 1 6 8
    (E) 4 6 9

15. '5 9' would mean—
    (A) not good   (B) bad are
    (C) not bad   (D) are bad
    (E) None of these

Study the following information to answer the given questions :

In a certain code 'ge ji zo' means 'had horrible dream', 'lit zo pit' means 'realize your dream' and 'ge ze pat ze' means 'very very horrible experience'.

16. Which of the following is the code of 'your' ?
    (A) lit
    (B) zo
    (C) pit
    (D) Cannot be determined
    (E) None of these

17. 'ji ze pit lit' may represent—
    (A) very horrible you realize
    (B) you had realize your
    (C) had realize your very
    (D) your very realize dream
    (E) your very very had

18. 'dream had horrible experience, can be coded as—
    (A) zo ge ji ze
    (B) pat ge zo ji
    (C) zo ji ge pit
    (D) Cannot be determined
    (E) None of these

19. Which of the following is the code of 'very' ?
   (A) ge
   (B) pat
   (C) ze
   (D) Cannot be determined
   (E) None of these

20. Which of the following is the code of 'had' ?
   (A) ge
   (B) ji
   (C) zo
   (D) Cannot be determined
   (E) None of these

Directions—(Q. 21–30) In each of the questions / set of questions below are given two statements followed by two conclusions numbered I and II. You have to assume everything in the statements to be true even if they seem to be at variance from commonly known facts and then decide which of the two given conclusions logically follows from the information given in the statement. Give answer—
   (A) If only conclusion I follows.
   (B) If only conclusion II follows.
   (C) If either conclusion I or conclusion II follows.
   (D) If neither conclusion I nor conclusion II follows.
   (E) If both conclusions I and II follow.

21. **Statements :**
   Some pins are clips.
   Some clips are pens.
   Conclusions :
   I. Some pins are pens.
   II. No pin is a pen.

22. **Statements :**
   All D's are A's.
   All A's are C's.
   Conclusions :
   I. Some C's are D's.
   II. Some A's are D's.

23. **Statements :**
   All D's are A's.
   All A's are C's.
   Conclusions :
   I. All D's are C's.
   II. Some D's are not A's.

24. **Statements :**
   All D's are A's.
   All A's are C's.

Conclusions :
   I. All A's are D's.
   II. All C's are A's.

25. **Statements :**
   All doors are windows.
   Some windows are clips.
   Conclusions :
   I. Some clips are doors.
   II. Some windows are doors.

26. **Statements :**
   All doors are windows.
   Some windows are clips.
   Conclusions :
   I. Some clips, if they are doors, they are also windows.
   II. All clips which are not widows are also not doors.

27. **Statements :**
   No shoe is a chappal.
   Some chappals are sandals.
   Conclusions :
   I. Some sandals are not chappals.
   II. Sandals which are not chappals are shoes.

28. **Statements :**
   No shoe is a chappal.
   Some chappals are sandals.
   Conclusions :
   I. No sandal is a shoe.
   II. Sandals which are chappals are not shoes.

29. **Statements :**
   Some paints are red.
   All red which are paints are yellow.
   Conclusions :
   I. Some paints are yellow.
   II. Some yellow are red.

30. **Statements :**
   All seats are hot.
   All belts are hot.
   Conclusions :
   I. Some seats are belts
   II. All hot are either seats or belts.

Directions—(Q. 31–35) Below is given a passage followed by several possible inferences which can be drawn from the facts stated in the passage. You have to examine each inference separately in the context of the passage and decide upon its degree of truth or falsity. Mark answer—

   (A) If the inference is 'definitely true' i.e. it properly follows from the statement of facts given.
   (B) If the inference is 'probably true' though not 'definitely true' in the light of the facts given.
   (C) If the data are inadequate i.e. from the facts given you cannot say whether the inference is likely to be true or false.
   (D) If the inference is 'probably false' though not 'definitely false' in the light of the facts given.
   (E) If the inference is 'definitely false' i.e. it cannot possibly be drawn from the facts given or it contradicts the given facts.

   (**Note**—Each of the five questions has only one distinct answer i.e. no two questions can have the same answer. If you get same answer for more than one question, consider both again and decide which one of the two would more definitely be that answer and same way review others also.)

   Normally, dealings with banks involve a number of documents and other details. But that's not case when you wish to shift from BPLR to the base rate system. All the borrower has to do is approach the branch, from which he has taken the loan, and give a written application for the switch. The borrower should mention the details of existing loan therein.

31. All the borrowers are required to shift from BPLR to the base rate system.

32. There may not be a printed application form for applying for this switch.

33. The existing borrowers who wish to switch from BPLR to the base rate system are being addressed.

34. Car and Home loan borrowers are being addressed.

35. Only the very high value borrowers will mostly apply for this switch.

Directions—(Q. 36–40) Each of the questions below consists of a question and two statements numbered I and II given below it. You

have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer—

(A) If the data in statement are I alone sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

(B) If the data in statement are I alone sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

(C) If the data either in statement I alone or in statement II alone are sufficient to answer the question.

(D) If the data even in both statements I and II together are not sufficient to answer the question.

(E) If the data in both statements I and II together are necessary to answer the question.

36. Who among Meera, Jyoti, Pinki and Sadhana is the tallest ?
I. Meera is not as tall as Pinki or Sadhana
II. Jyoti is taller than Sadhana.

37. How is N related to M ?
I. O is the husband of N.
II. 'Z who is the sister of brother' M is the daughter of N.

38. B is the sister of A. How is A related to B ?
I. A is the only son of his parents.
II. A has two sisters – B and F.

39. How is X related to W ?
I. V is the husband of X.
II. W is the brother of Z and Z's mother is X.

40. Is this college co-educational ?
I. There are more female teachers than male teachers in this college.
II. A girl known to me was the topper from this college.

Directions—(Q. 41–46) In each question below is given a statement followed by two assumptions numbered I and II. An assumption is something supposed or taken for granted You have to consider the statement and the following assumptions and decide which of the assumptions is implicit in the statement. Give answer—

(A) If only assumption I is implicit.

(B) If only assumption II is implicit.

(C) If either assumption I or assumption II is implicit.

(D) If neither assumption I nor assumption II is implicit.

(E) If both assumption I and II are implicit.

41. Statement : Job rotation helps employees get an overview of the organisation.
Assumptions :
I. Job rotation is the only method to get an overview of the organisation.
II. It is required to have an overview of the organisation.

42. Statement : Let us appoint Ms. X as the CEO of our Company so that the Company's products are also perceived to be geniune.
Assumptions :
I. CEO can change the perception of products.
II. Perception is same as the actual reality.

43. Statement : An advertisement— The new model has been launched with K-series engine.
Assumptions :
I. People know about K-series engine.
II. Engine type/series is important for buyers.

44. Statement : Mohan tells Nita, "Let us meet over lunch tomorrow".
Assumptions :
I. Lunch timings are known to both.
II. Both are aware of the venue for lunch.

45. Statement : You need to be talented to identify talent.
Assumptions :
I. Talent is acquired and developed.
II. Talent is hereditary.

46. Statement : The movie is a super-duper hit and has broken all the records.
Assumptions :
I. There is no authentic criterion to judge a hit or a flop.
II. The performance of earlier movies is known.

Directions—(Q 47–51) Study the following information to answer the given questions :

V, U and T are seated in a circle facing the centre. A, B and C are also seated in the same circle but two of them are not facing the centre (facing opposite direction of the centre). V is second to the left of C. U is second to the right of A. B is third to the left of T. C is second to the right of T. A is seated next to V.

47. Which of the following are not facing the centre ?
(A) BA
(B) CA
(C) BC
(D) Cannot be determined
(E) None of these

48. Which of the following is T's position with respect to B ?
(A) Third to the right
(B) Second to the right
(C) Third to the left
(D) Third either to the right or to the left
(E) None of these

49. Which of the following is V's position with respect to C ?
(A) Second to the right
(B) Third to the left
(C) Fourth to the right
(D) Fourth to the left
(E) Cannot be determined

50. Which of the following is true regarding the seating arrangement ?
(A) A, B and C are seated adjacent
(B) V, U and T are seated adjacent
(C) There are two persons whose seating arrangement cannot be ascertained
(D) Those not facing the centre are seated adjcent
(E) There are only two persons seated between V and T

51. Which of the following is A's position with respect to U ?
   (A) Second to the left
   (B) Second to the right
   (C) Third to the right
   (D) Cannot be determined
   (E) None of these

Directions—(Q. 52–53) Study the following information to answer the given questions :

'FLOP' is related to 'OPFL' and 'SECOND' is related to 'ONDSEC'.

52. 'MIXTURE' is related to—
   (A) TUREMIX
   (B) UREMIXT
   (C) URETMIX
   (D) Cannot be determined
   (E) None of these

53. 'EXTREMES' is related to—
   (A) EMESEXTR
   (B) MESREEXT
   (C) ESMETREX
   (D) Cannot be determined
   (E) None of these

Directions—(Q. 54–60) Study the following information to answer the given questions :

A word and number arrangement machine when given an input line of words and numbers rearranges them following a particular rule. The following is an illustration of input and rearrangement.

Input : mix 12 in form 35 are 20 with 47 given

Step I : are form mix 12 in 35 20 with 47 given

Step II : are form given in mix with 12 35 20 with 47

Step III : are form given in mix with 12 35 20 47

Step IV : are form are given in mix with 47 35 12 20

Step V : are form given in mix with 47 35 20 12

and step V is the last Step of the arrangement of the above input as the intended arrangement is obtained.

As per the rules followed in the above steps, find out in each of the following questions the appropriate steps for the given input :

Input for the questions

Input : When 11 given fine 37 provide zero 90 over 45 is 29 team 89

54. Which of the following would be the Step I ?
   (A) Fine given when 11 37 provide zero 90 over 45 is 29 team 89
   (B) Fine when 11 given 37 provide zero 90 over 45 is 29 team 89
   (C) Zero when 11 given fine 37 provide 90 over 45 is 29 team 89
   (D) Fine given when 90 89 11 37 provide zero over 45 is 29 team
   (E) None of these

55. Which of the following would be on 4th position (from left) in Step II ?
   (A) given   (B) is
   (C) when   (D) 11
   (E) None of these

56. How many steps would be needed to complete the arrangement ?
   (A) V   (B) VI
   (C) VII   (D) VIII
   (E) None of these

57. In Step IV, which of the following word/number would be on 8th position (from left) ?
   (A) zero   (B) when
   (C) 11   (D) provide
   (E) None of these

58. Which step number would be the following output ?
   Fine given is over provide team when 11 37 zero 90 45 29 89
   (A) IV   (B) III
   (C) II   (D) V
   (E) None of these

59. Which of the following would be Step V ?
   (A) Fine given is over provide team when zero 90 89 45 37 11 29
   (B) Fine given is over provide team when zero 11 37 90 45 29 89
   (C) Fine given is over provide team when 11 37 zero 90 45 29 89
   (D) Fine given is over provide team when zero 11 29 37 45 89 90
   (E) None of these

60. Which of the following would be the final arrangement ?

(A) Zero when team provide over is given five 90 89 45 37 11 29
(B) Fine given is over provide team when zero 90 89 45 37 29 11
(C) Fine given is over provide team when zero 90 89 45 37 11 29
(D) Fine given is over provide team when zero 11 29 37 45 89 90
(E) None of these

Directions—(Q. 61–65) In these questions, relationship between different elements is shown in the statements. These statements are followed by two conclusions. Mark answer—
   (A) If only conclusion I follows.
   (B) If only conclusion II follows.
   (C) If either conclusion I or II follows.
   (D) If neither conclusion I nor II follows.
   (E) If both conclusions I and II follow.

61. **Statements :**
   $A = B \geq C < D = E \leq F$
   Conclusions :
   I. $F > B$
   II. $B \geq D$

62. **Statements :**
   $P > M > Q, Q > Z > N$
   Conclusions :
   I. $M \geq Z$
   II. $N < P$

63. **Statements :**
   $X > Y, Y \leq Z, Z = V, V < W$
   Conclusions :
   I. $Y = V$
   II. $Y > V$

64. **Statements :**
   $D > B, C > K, K \leq N, B < C, N < B$
   Conclusions :
   I. $D > N$
   II. $C \geq K$

65. **Statements :**
   $B < C, D > B, C > K, K \leq N, N < B$
   Conclusions :
   I. $C > N$
   II. $B > K$

Directions—(Q. 66–70) Study the following information to anwer the given questions :

In a group of 5, each person has an exclusive and different preference

(has/likes) for a pen, a watch and a car. Pen preferences are Parker, Lamy, Pointer, Lexi and Cello. Car preferences are WagonR, Swift, Santro, Mica and City. Watch preferences are Timex, Titan, Fastrack, Samay and Citizen.

Suman has Mica and Parker but does not prefer among watches—Titan or Fastrack. The one who has Swift, likes Fastrack. Mrudula has preference for City, Cello and Citizen. Amit has preference for Lamy and Timex. Veena prefers WagonR and Lexi. Harsh's preference for a watch is not Titan.

66. Which watch is Suman's preference ?
    (A) Titan
    (B) Fastrack
    (C) Samay
    (D) Cannot be determined
    (E) None of these

67. Which pen is Harsh's preference ?
    (A) Lamy
    (B) Pointer
    (C) Lexi
    (D) Cannot be determined
    (E) None of these

68. Which watch is Harsh's preference ?
    (A) Samay
    (B) Fastrack
    (C) Timex
    (D) Cannot be determined
    (E) None of these

69. Who's preference is Swift ?
    (A) Harsh
    (B) Amit
    (C) Veena
    (D) Cannot be determined
    (E) None of these

70. Which watch is Veena's preference ?
    (A) Samay
    (B) Fastrack
    (C) Titan
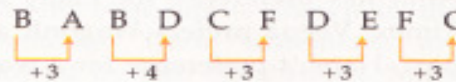   (D) Cannot be determined
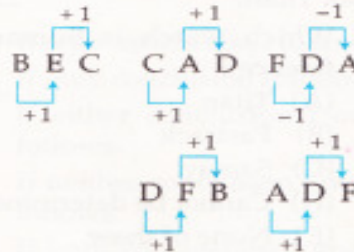   (E) None of these

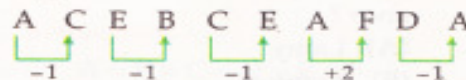**Answers with Hints**

For Q. 1 to 5 :
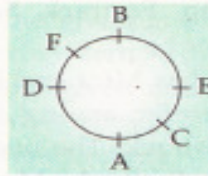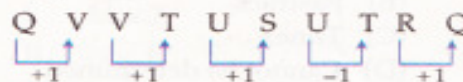
1. (C)   2. (A)

3. (B)

4. (C)

5. (D)

For Q. 6 to 10 :

6. (E)

7. (D)

8. (E)   9. (D)

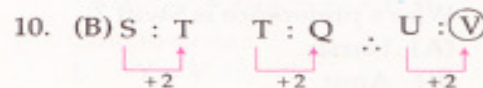10. (B) S : T   T : Q   ∴   U : (V)

11. (E) 461 →Where are you   ...(1)
    169 → You are good   ...(2)
    and   8652 → Flowers are not bad
                                      ...(3)

    From (1) and (2),
      16 → you are
    From (1) and (3),   } 1 → you
      6 → are

12. (E) Code for good → 9

13. (C) Where not are good flowers
             → 4 5 6 9 8

14. (A) Are you there → 617

15. (A)

For Q. 16 to 20 :

ge ji zo → had horrible dream   ...(1)

lit zo pit → realize your dream
...(2)

ge ze patze → very very horrible
experience ...(3)

From (1) to (2),
zo → dream → ji → had
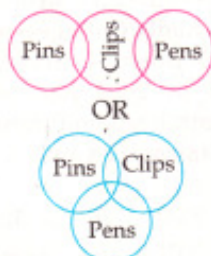
From (1) to (3),
ge → horrible and ze → very

16. (D) your → lit or pit

17. (A) ji ze pit lit → had realize your very.

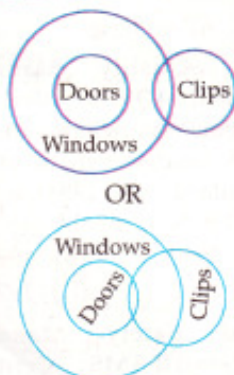18. (B) dream had horrible experi-ence → bat ge zo ji.

19. (C) 20. (B)
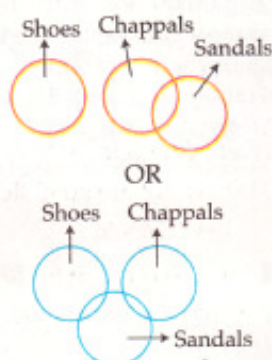
21. (C)

OR

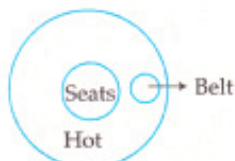**For Q. 22 to 24 :**

22. (E) 23. (A) 24. (D)

For Q. 25 and 26 :

OR

25. (B) 26. (E)

For Q. 27 and 28 :

OR

27. (A) 28. (B)
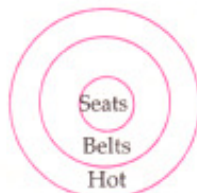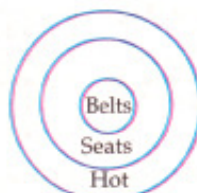29. (E)

30. (A)

OR

OR

31. (A) As mentioned in the passage 'Normally dealings ... base rate system'. Hence to avoid such problem, all the borrowers are required to shift from BPLR to the base rate system.

32. (C) Nothing is metioned about it, in the passage.

33. (A) This inference is definitely true because it is mentioned in the passage 'when you wish to shift from BPLR to the base rate system'.

34. (C) Nothing is mentioned about it, in the passage.

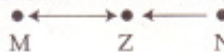35. (C) Nothing is mentioned about it, in the passage.

36. (D)
From I, Pinki, Sadhana > Meera
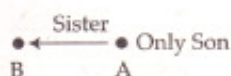From II, Jyoti > Sadhana

37. (E) From I,   Husband
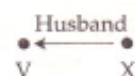O ← N

From II, Brother Sister Daughters

M   Z   N
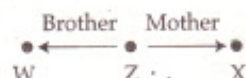
∴ From I and II together N is the mother of M.

38. (E)

Sister

B   A

∴ From I and II together A is the brother of B.

39. (B) From I,   Husband

V   X

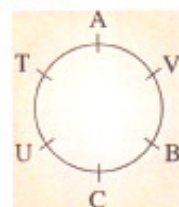From II,   Brother Mother

W   Z ∴; X

∴ From II X is the mother of W.

40. (D) 41. (D) 42. (A) 43. (E) 44. (E)
45. (A) 46. (B)

For Q. 47 to 51 :

47. (C) 48. (D) 49. (C) 50. (D) 51. (A)

For Q. 52 and 53 :

$$\begin{array}{ccc} F L O P & \to & O P F L \\ 1\,2\,3\,4 & & 3\,4\,1\,2 \end{array}$$

and

$$\begin{array}{ccc} S E C O N D & \to & O N D S E C \\ 1\,2\,3\,4\,5\,6 & & 4\,5\,6\,1\,2\,3 \end{array}$$

52. (C)
$$\begin{array}{ccc} M I X T U R E & \to & U R E T M I X \\ 1\,2\,3\,4\,5\,6\,7 & & 5\,6\,7\,4\,1\,2\,3 \end{array}$$

53. (A)
$$\begin{array}{ccc} E X T R E M E S & \to & E M E S E X T R \\ 1\,2\,3\,4\,5\,6\,7\,8 & & 5\,6\,7\,8\,1\,2\,3\,4 \end{array}$$

For Q. 54 to 60 :

Input	When 11 given fine 37 provide zero 90 over 45 is 29 team 89.
Step I	Fine given when 11 37 provide zero 90 over 45 is 29 team 89.
Step II	Fine given is over when 11 37 provide zero 90 45 29 team 89.
Step III	Fine given is over provide team when 11 37 zero 90 45 29 89.
Step IV	Fine given is over provide team when zero 11 37 90 45 29 89.
Step V	Fine given is over provide team when zero 90 89 11 37 45 29.
Step VI	Fine given is over provide team when zero 90 89 45 37 11 29.
Step VII	Fine given is over provide team when zero 90 89 45 37 29 11.

54. (A) 55. (E) 56. (C) 57. (A) 58. (B)

Quantitative Aptitude

Directions—(Q. 1–5) What will come in place of question-mark (?) in the following questions ?

1. $\sqrt{8^2 \times 7 \times (5)^2 - 175} = ?$
   - (A) 105
   - (B) 95
   - (C) 115
   - (D) 125
   - (E) None of these

2. $(0 \cdot 125)^3 \div (0 \cdot 25)^2 \times (0 \cdot 5)^2 = (0 \cdot 5)^{?-3}$
   - (A) 12
   - (B) 18
   - (C) 14
   - (D) 10
   - (E) None of these

3. $64 \cdot 5\%$ of $800 + 36 \cdot 4\%$ of $1500 = (?)^2 + 38$
   - (A) 32
   - (B) 38
   - (C) 42
   - (D) 48
   - (E) 34

4. $567 - 4824 \div 134 = ? \times 9$
   - (A) 33
   - (B) 59
   - (C) 37
   - (D) 57
   - (E) None of these

5. $4\frac{5}{6} - 5\frac{5}{9} = ? - 2\frac{1}{3} + \frac{11}{18}$
   - (A) $\frac{3}{4}$
   - (B) $2\frac{1}{18}$
   - (C) $1\frac{7}{9}$
   - (D) $1\frac{11}{18}$
   - (E) None of these

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

6. $(41 \cdot 33)^2 + (7 \cdot 96)^2 - (22 \cdot 02)^2 = ?$
   - (A) 1280
   - (B) 1440
   - (C) 1580
   - (D) 1540
   - (E) 1380

7. 41% of $601 - 250 \cdot 17 = ? - 77\%$ of 910
   - (A) 800
   - (B) 500
   - (C) 700
   - (D) 650
   - (E) 550

8. $52001 \div 61 \times 29 = ? \times 41$
   - (A) 700
   - (B) 600
   - (C) 500
   - (D) 550
   - (E) 680

9. $\frac{701}{52} \div \frac{11}{699} \times \frac{112}{107} = ?$
   - (A) 700
   - (B) 850
   - (C) 900
   - (D) 800
   - (E) 650

10. $\sqrt{5378} \times \sqrt{3330} \div \sqrt{360} = ?$
    - (A) 200
    - (B) 250
    - (C) 300
    - (D) 225
    - (E) 325

Directions—(Q. 11–15) What will come in place of question mark (?) in the following number series ?

11. 117 389 525 593 627 (?)
    - (A) 654
    - (B) 640
    - (C) 634
    - (D) 630
    - (E) None of these

12. 7 11 23 51 103 (?)
    - (A) 186
    - (B) 188
    - (C) 185
    - (D) 187
    - (E) None of these

13. 18 27 49 84 132 (?)
    - (A) 190
    - (B) 183
    - (C) 180
    - (D) 193
    - (E) None of these

14. 33 43 65 99 145 (?)
    - (A) 201
    - (B) 203
    - (C) 205
    - (D) 211
    - (E) None of these

15. 655 439 314 250 223 (?)
    - (A) 205
    - (B) 210
    - (C) 195
    - (D) 190
    - (E) None of these

Directions—(Q. 16–20) In the following questions two equations numbered I and II are given. You have to solve both the equations and give answer, if—
   - (A) $x > y$
   - (B) $x \geq y$
   - (C) $x < y$
   - (D) $x \leq y$
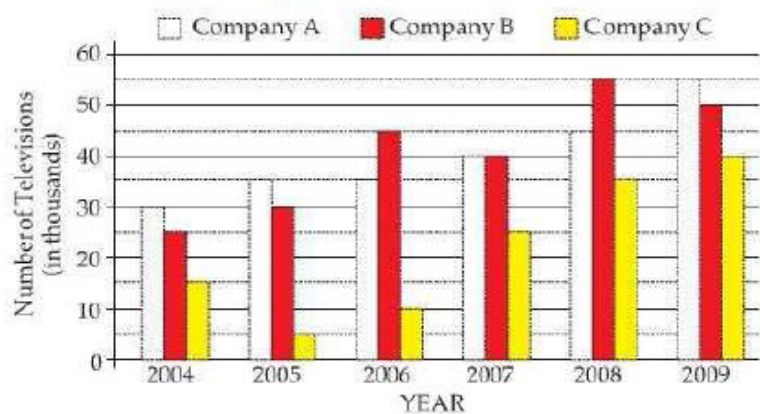   - (E) $x = y$ or the relationship cannot be established

16. I. $\sqrt{289x} + \sqrt{25} = 0$
    II. $\sqrt{676y} + 10 = 0$

17. I. $8x^2 - 78x + 169 = 0$
    II. $20y^2 - 117y + 169 = 0$

18. I. $\frac{15}{\sqrt{x}} + \frac{9}{\sqrt{x}} = 11\sqrt{x}$
    II. $\frac{\sqrt{y}}{4} + \frac{5\sqrt{y}}{12} = \frac{1}{\sqrt{y}}$

19. I. $\frac{8}{\sqrt{x}} + \frac{6}{\sqrt{x}} = \sqrt{x}$
    II. $y^3 - \frac{(14)^{\frac{7}{2}}}{\sqrt{y}} = 0$

20. I. $x^2 - 208 = 233$
    II. $y^2 - 47 + 371 = 0$

21. Train-A crosses a pole in 25 seconds and another Train-B crosses a pole in 1 minute and 15 seconds. Length of train-A is half length of train-B. What is the respective ratio between the speed of Train-A and Train-B ?
    - (A) 3 : 2
    - (B) 3 : 4
    - (C) 4 : 3
    - (D) Cannot be determined
    - (E) None of these

22. Veena's monthly income is equal to the cost of 34 kg of nuts. Cost of 10 kg of nuts is equal to the cost of 20 kg of apples. If cost of 12 kg of aples is ₹ 1500. What is Veena's annual salary ? (At some places annual income and in some place monthly income is given)
    - (A) ₹ 1 lac 20 thousand
    - (B) ₹ 1 lac 2 thousand
    - (C) ₹ 2 lacs 20 thousand
    - (D) Cannot be determined
    - (E) None of these

23. Rohit has some 50 paisa coins, some 2 rupee coins, some 1 rupee coins and some 5 rupee coins. The value of all the coins is ₹ 50. Number of 2 rupee coins is 5

more than the 5 rupee coins. 50 paisa coins are double in number than 1 rupee coin. Value of 50 paisa coins and 1 rupee coins is ₹ 26. How many 2 rupee coins does he have ?

(A) 4

(B) 2

(C) 7

(D) Cannot be determined

(E) None of these

24. Puneet scored 175 marks in a test and failed by 35 marks. If the passing percentage of the test is 35 per cent, what are the **maximum** marks of the test ?

(A) 650   (B) 700

(C) 750   (D) 600

(E) None of these

25. The length of a rectangle is twice the diameter of a circle. The circumference of the circle is equal to the area of a square of side 22 cm. What is the breadth of the rectangle if its perimeter is 668 cm ?

(A) 24 cm

(B) 26 cm

(C) 52 cm

(D) Cannot be determined

(E) None of these

26. 4 girls can do a piece of work in 8 days, 3 boys can do the same piece of work in 9 days, 7 men do the same piece of work in 2 days and 5 women can do the same piece of work in 4 days. Who is least efficient ?

(A) Boys   (B) Girls

(C) Women   (D) Men

(E) Boys and Men both

27. The sum of eight consecutive numbers of set-A is 376. What is the sum of different set of five consecutive numbers whose lowest number is 15 more than the mean of set-A ?

(A) 296   (B) 320

(C) 324   (D) 284

(E) None of these

28. The ratio between the adjacent angles of a parallelogram is 2 : 3 respectively. Half the smaller angle of the parallelogram is equal to the smallest angle of a quadrilateral. Largest angle of quadrilateral is four times its smallest angle. What is the sum of largest angle of quadrilateral and the smaller angle of parallelogram ?

(A) 252°   (B) 226°

(C) 144°   (D) 180°

(E) None of these

29. Raju purchases 550 ml of milk every day. If cost of one liter of milk is ₹ 44. How much amount will he pay in 45 days ?

(A) ₹ 1,098   (B) ₹ 1,079

(C) ₹ 1,099   (D) ₹ 1,088

(E) None of these

30. In a school there are 2000 students out of whom 36 per cent are girls. Each boy's monthly fee is ₹ 480 and each girl's monthly fee is 25 per cent less than a boy. What is the total of the monthly fees of girls and boys together ?

(A) ₹ 8,73,400   (B) ₹ 8,67,300

(C) ₹ 8,76,300   (D) ₹ 8,73,600

(E) None of these

Directions—(Q. 31–35) Study the following graph carefully to answer the questions that follow—

Number of Televisions (in thousands) Manufactured by Three Different Companies in Six Different Years

31. If 25 per cent of the number of televisions manufactured by Company A over all the years together were black and white, then what was the number of coloured televisions manufactured by Company-A over all the years together ?

(A) 1·4 lacs   (B) 14,000

(C) 1·8 lacs   (D) 18,000

(E) 1·5 lacs

32. If the cost of manufacturing one television in the year 2008 was ₹ 12,000, then what was the total expenditure of Company C for manufacturing all the Televisions in the same year ?

(A) ₹ 40 crore

(B) ₹ 52 crore

(C) ₹ 5·2 crore

(D) ₹ 4 crore

(E) ₹ 42 crore

33. What was percentage increase in the number of televisions manufactured by Company-C in year 2008 as compared to the previous year ?

(A) 40   (B) 45

(C) 30   (D) 35

(E) None of these

34. What was the **approximate** average number of televisions manufactured by Company B over all the years together ?

(A) 30677   (B) 30566

(C) 40566   (D) 40834

(E) 43055

35. What was the respective ratio between the number of televisions manufactured by Company-B in year 2006 and the number of televisions manufactured by Company-A in year 2005 ?

(A) 5 : 4

(B) 9 : 5

(C) 4 : 3

(D) 9 : 7

(E) None of these

Number of Trees Planted (in Hundreds) by Five Different NGOs in Six Different Years in Two Different States										
NGO →	A		B		C		D		E	
Year	State-A	State-B	State-A	State-B	State-A	State-B	State-A	State-B	State-A	State-B
2005	14·2	8·5	14·2	4·4	4·5	4·4	4·5	2·1	9·4	3·5
2006	21·6	5·4	7·9	7·2	6·9	4·4	5·4	4·3	7·2	4·7
2007	13·5	8·8	7·7	4·8	5·4	3·8	6·3	6·3	7·4	8·2
2008	12·4	9·6	10·4	6·4	7·2	8·2	9·6	4·4	5·6	4·2
2009	10·8	12·4	12·6	6·2	8·6	6·4	8·4	5·2	6·9	3·8
2010	12·2	14·2	7·5	4·2	11·3	9·3	6·3	5·4	12·8	6·4

36. What was the respective ratio between the number of trees planted by NGO-A in the year 2006 in state-A and the number of trees planted by NGO-E in the year 2008 in state-B ?

(A) 36 : 11   (B) 36 : 7
(C) 11 : 7   (D) 14 : 9
(E) None of these

37. What was the average number of trees planted by NGO-B in the state-A over all the years together ?

(A) 1005   (B) 1050
(C) 1015   (D) 1205
(E) None of these

38. What was the **approximate** percentage decrease in the number of trees planted by NGO-C in state B in the year 2009 as compared to the previous year ?

(A) 28   (B) 22
(C) 26   (D) 16
(E) 20

39. Which NGO planted the second lowest number of trees in both the states together in the year 2009 ?

(A) A   (B) B
(C) C   (D) D
(E) E

40. Number of trees planted by NGO-D in the state-B in the year 2007 was **approximately** what percentage of the number of trees planted by NGO-A in the state-A in the year 2009 ?

(A) 46   (B) 52
(C) 70   (D) 58
(E) 64

Number of Flights Cancelled by Five Different Airlines in Six Different Years					
Year	Airlines				
	P	Q	R	S	T
2005	240	450	305	365	640
2006	420	600	470	446	258
2007	600	680	546	430	610
2008	160	208	708	550	586
2009	140	640	656	250	654
2010	290	363	880	195	483

41. What was the difference between the highest number of flights cancelled by airlines-Q and the lowest number of flights cancelled by airlines-T out of all the six years ?

(A) 446   (B) 456
(C) 432   (D) 442
(E) None of these

42. What was the **approximate** per cent increase in number of flights cancelled by airlines S in the year 2008 as compared to previous year ?

(A) 127   (B) 27
(C) 150   (D) 45
(E) 117

43. What was the average number of flights cancelled by the airlines P, R, S and T in the year 2008 ?

(A) 551·5   (B) 501
(C) 405   (D) 442·4
(E) None of these

44. If 40 per cent of flights in the year 2010 by airlines-R were cancelled due to bad weather conditions and rest were cancelled due to technical fault.

What was the number of flights cancelled due to technical fault ?

(A) 528   (B) 568
(C) 468   (D) 548
(E) None of these

45. Number of flights cancelled by airlines P and R together in the year 2007 was **approximately** what percentage of number of flights cancelled by airlines-S in the year 2005 ?

(A) 356   (B) 280
(C) 265   (D) 340
(E) 314

In a sports event there are 5 sports viz. Hockey, Cricket, Tennis, Badminton and Baseball. There is a total number of 800 players in the sports event. The ratio between female and male players is 1 : 3 respectively. Twenty five per cent of the total players are in Cricket. There are 110 badminton players. 10 per cent of the total players are in Tennis. Hockey players are double the number of badminton players. Remaining players are in Baseball. 30 per cent of cricket players are female. Half the female cricketers are equal to female badminton players. 10 per cent of total hockey players are equal to the number of female players in Tennis. There are equal numbers of females in Hockey and Baseball.

46. What is the respective ratio between the female players in Hockey and the male players in Badminton ?

(A) 20 : 13   (B) 11 : 20
(C) 13 : 20   (D) 11 : 23
(E) None of these

47. What is the total number of males in Hockey, Cricket and Baseball together?
(A) 464   (B) 454
(C) 462   (D) 432
(E) None of these

48. Number of female players in Baseball is what percentage of male players in Hockey?
(A) 25   (B) 34
(C) 24   (D) 15
(E) None of these

49. What is the difference between the male players in Baseball and total number of players in Tennis?
(A) 58   (B) 76
(C) 56   (D) 68
(E) None of these

50. In which sports female players are **maximum** and male players are **minimum** respectively?
(A) Cricket and Badminton
(B) Cricket and Hockey
(C) Baseball and Cricket
(D) Cricket and Tennis
(E) Tennis and Hockey

Answers with Hints

1. (A)   2. (D)   3. (A)   4. (B)   5. (E)
6. (A)   7. (C)   8. (B)   9. (C)   10. (D)
11. (E)

117   389   525   593   627   (644)
+272   +136   +68   +34   +17

12. (D)

7   11   23   51   103   ? = 187
+4   +12   +28   +52   +84
+8   +16   +24   +32

$\therefore ? = 103 + 84 = 187$

13. (D)

18   27   49   84   132   ? = 193
+9   +22   +35   +48   +61
+13   +13   +13   +13

$\therefore ? = 132 + 61 = 193$

14. (B)

33   43   65   99   145   ? = 203
+10   +22   +34   +46   +58
+12   +12   +12   +12

$\therefore ? = 145 + 58 = 203$

15. (E)

655   439   314   250   223   (215)
$-(6)^3$ $-(5)^3$ $-(4)^3$ $-(3)^3$ $-(2)^3$

16. (C)   17. (B)   18. (A)   19. (E)   20. (E)

21. (A) Let the speeds of the trains A and B be x m/sec and y m/sec respectively.

$\therefore$ Length of A $= x \times 25$ m

and   Length of B $= 75y$ m

$\because$ $25x = \dfrac{1}{2} \times 75y$

$\therefore$ $\dfrac{x}{y} = \dfrac{1}{2} \times \dfrac{75}{25} = 3 : 2$

22. (B) Monthly income of Veena

$= ₹\, 34 \times \dfrac{20}{10} \times \dfrac{1500}{12}$

$\therefore$ Annual income of Veena

$= ₹\, 12 \times 34 \times 2 \times \dfrac{1500}{12}$

$= ₹\, 1$ lac 2 thousand.

23. (C) Let the number of 2 rupee coins be x.

$\Rightarrow$ No. of 5 rupee coins $= (x - 5)$

$\Rightarrow$ No. of 1 rupee coins $= 13$

and No. of 50 paisa coins $= 26$

$\because$ $2x + 5(x - 5) + 13 + \dfrac{26}{2} = 50$

$\Rightarrow$ $7x = 49$

$\therefore$ $x = 7$

24. (D) Maximum marks of the test

$= \dfrac{100}{35} \times (175 + 35)$

$= \dfrac{100 \times 210}{35} = 600$

25. (B) Circumference of the circle

$= 22 \times 22 = 484$ cm

$\therefore$ Diameter of the circle

$= 484 \times \dfrac{7}{22} = 154$ cm

$\therefore$ Length of the rectangle

$= 152 \times 2 = 308$ cm

and breadth of the rectangle

$= \dfrac{1}{2} \times 668 - 308$

$= 334 - 308 = 26$ cm

26. (B)

$\because$ Work of a girl for 1 day $= \dfrac{1}{32}$

Work of a boy for 1 day $= \dfrac{1}{27}$

Work of a man for 1 day $= \dfrac{1}{14}$

and work of a woman for 1 day

$= \dfrac{1}{20}$

$\therefore$ The least efficient is girl.

27. (B) Average of the set A

$= \dfrac{376}{8} = 47$

$\therefore$ Least number of other set

$= 47 + 15 = 62$

$\therefore$ Sum of the 5 consecutive numbers other set

$= 62 + 63 + 64 + 65$
$+ 66 = 320.$

28. (E) The smallest angle of parallelogram

$= \dfrac{2 \times 180}{(2 + 3)} = 72°$

and the smallest angle of quadrilateral

$= \dfrac{1}{2} \times 72° = 36°$

and the largest angle of quadrilateral

$= 4 \times 36° = 144°$

$\therefore$ Reqd. sum

$= 144° + 72° = 216°$

29. (E) Reqd. amount

$= \dfrac{550}{1000} \times 44 \times 45$

$= ₹\, 1089$

30. (C) No. of boys in the school

$= 2000 \times \dfrac{64}{100} = 1280$

and no. of girls in the school

$= 2000 \times \dfrac{36}{100} = 720$

Monthly fee of each girl

$= ₹\, 480 \times \dfrac{75}{100} = ₹\, 360$

$\therefore$ Reqd. sum

$= 1280 \times 480 + 720 \times 360$

$= 614400 + 259200$

$= ₹\, 873600$

31. (C)   Reqd. number

$= (30 + 35 + 35 + 40 + 45 + 55)$
$\times 1000 \times \dfrac{75}{100}$

$= 240000 \times \dfrac{75}{100}$

$= 180000 = 1.8$ lacs.

32. (E) Reqd. expenditure

$= ₹\, 35 \times 1000 \times 12000$

$= ₹\, 42$ crore.

33. (A) Reqd. % increase

$= \dfrac{35 - 25}{25} \times 100\% = 40\%$

34. (D) Average number

$= \dfrac{25 + 30 + 45 + 40 + 55 + 50}{6}$ thousand

$= \dfrac{245000}{6} = 40834$ (App.)

35. (D) Reqd. ratio = 45 : 35 = 9 : 7

36. (B) Ratio = 21·6 : 4·2 = 36 : 7

37. (A) Average number

$$= (14·2 + 7·9 + 7·7 + 10·4 \\ + 12·6 + 7·5) \times \frac{100}{6}$$

$$= \frac{6030}{6} = 1005$$

38. (B) % decrease

$$= \frac{(8·2 - 6·4) \times 100}{8·2}\%$$

$$= 21·95\%$$

$$= 22\% \text{ (App.)}$$

39. (D) A = 23·2, B = 18·8,

C = 15·0, $\boxed{D = 13·6}$

E = 10·7

40. (D) Reqd. % $= \frac{6·3 \times 100}{10·8}\%$

$$= 58·33\%$$

$$\simeq 58\% \text{ (App.)}$$

41. (E)

Reqd. difference = 680 ~ 258

$$= 422$$

42. (B) Reqd. % increase

$$= \frac{550 - 430}{430} \times 100\%$$

$$= 27·9\%$$

$$= 27 \text{ (App.)}$$

43. (B) Average number

$$= \frac{160 + 708 + 550 + 586}{4}$$

$$= \frac{2004}{4} = 501$$

44. (A) Reqd. number $= \frac{880 \times 60}{100}$

$$= 528$$

45. (B)

Reqd. % $= \frac{(600 + 546) \times 100}{365}\%$

$$= 313·97\%$$

$$\simeq 314\% \text{ (App.)}$$

For Q. 46 to 50 :

No. of male players = 600 and
No. of female players = 200

Game	Female Players	Male Players
Hockey	44	176
Cricket	60	140
Tennis	22	58
Badminton	30	80
Baseball	44	146

46. (B) Reqd. ratio = 44 : 80

$$= 11 : 20$$

47. (C) Reqd. number

$$= 176 + 140 + 146$$

$$= 462$$

48. (A) Reqd. % $= \frac{44 \times 100}{176} = 25\%$

49. (E) Reqd. difference

$$= 146 \sim (22 + 58)$$

$$= 146 \sim 80 = 66$$

50. (D) Cricket and Tennis
(60)   (58)