JHARKHAND ACADEMIC COUNCIL
RANCHI, JHARKHAND
NATIONAL TALENT SEARCH EXAN{INATION (Stage-I), 2018-19
Class X
MENTAL ABILITY TEST

Time : 120 Minutes   *Max. Marks : 100*

INSTRUCTIONS TO CANDIDATES

Read the following instructions carefully before you answer the questions. Answers are to be given on a separate **O.M.R.** Answer-Sheet.

1. Please write your Roll No. very carefully (only one digit in one Box) as given on your admission card. Please see that no Box is left unfilled and even zeros appearing in the Roll N. are correctly transferred to the appropriate Box on the booklet and on the answer- sheet. For example, a student appearing from Ranchi and Roll Number ………………… will make in the boxes as under:

Roll NO | | | | | | | | | | |

    For all subsequent purposes your Roll No. shall remain the same as given on the admission card.

2. This Question Paper consists of 100 questions.

3. All questions carry one mark each.

4. A blank page has been provided for rough-work at the end of the booklet.

5.   Remember you have to mark your answers on a separate O.M.R. Answer-Sheet as per instructions given below

6.   Answer to each question is to be indicated by darkening the circle by blue or black ball pen only, the number of the correct alternative in the answer-sheet from amongst the ones given for the corresponding question in the test booklet. The use of pencil is not allowed.

7.   **In case of any dispute arising out of the variation in translation, English version of the question paper will be considered as final.**

N.B.*: Do no write anything except the Roll Number in the Booklet.*

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MENTAL ABILITY TEST

1. Complete the series.
   Z1A, X2D, V6G, T21J, T21J, R88M, P445P,?
   (1) N22676S   (2) N2676T   (3) T2670N   (4) T2676N

2. Which of the following can replace the missing number in place of question mark ?

 | 1 | 2 | 3 |
   |---|---|---|
   | 6 | 7 | 8 |
   | 12 | 14 | ? |

   (1) 12   (2) 22   (3) 23   (4) 24

Q(3-5) Read the following information and answer the questions based on it.
   There were five teachers in a school. 'A' and 'B' taught Hindi and English both. 'C' and 'B' taught English and Geography both. 'D' and 'A' taught Math and Hindi both. 'E' and B' were the teachers of History and French.

3. Which teacher taught the maximum subjects.
   (1) A   (2) B   (3) C   (4) E

4. Which subject was taught by more than two teachers.
   (1) French   (2) Hindi   (3) History   (4) Geography

5. Among the teachers who taught less than two subjects.
   (1) A   (2) B   (3) D   (D) None

6. Shyam travel 5 km . in the East direction and then turns left and travels is 3 km . He again turns right and travels 4 km. After that he turns back direction. Now in which direction is he travelling.
   (1) East   (2) West   (3) North   (4) South

7. In the following Questions. There are four figures A, B, C and D called analogous figures. A and B are related in the same way as C and D are related. Which figure out of four given options will come in place of figure D ?
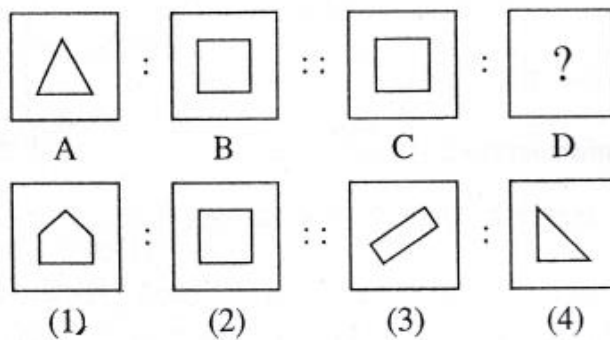
Q 8-10 Study the following diagram to answer the following questions.
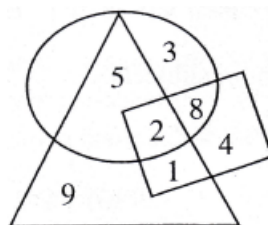
8. Find out the number that lies inside all the figure.
   (1) 2   (2) 5   (3) 9   (4) None

9. What are the numbers that lies inside any two figures ?
   (1) 2,1   (2) 5,1   (3) 5,9   (4) 9,1

10. Find out the number that lies only inside the triangle figure.
    (1) 1   (2) 2   (3) 5   (4) 9

11. Which letters replaces the Question mark ?
    AZ, GT, MN, ?, YB
    (1) JH   (2) SH   (3) SK   (4) TS

Q 12-13 Identify the missing number in the following sequence?

12. 13, 32, 24, 43, 35, ?, 46, 65, 57, 76
    (1) 45   (2) 52   (3) 54   (4) 55

13. 2, 8, 18, 32, 50
    (1) 72,   (2) 100   (3) 98   (4) 96

14. If Handker CHIEF is coded as FEIHCRHANDKE then PERMEABILITY is coded as ?
    (1) BILITYPERMEA   (2) YTILIBAEMREP   (3) BILITYAEMERP   (4) YTILIBPERMEA

15. 'O' is smaller than 'P' but bigger than 'Q' . 'R' is smaller than 'S' but bigger than 'T' 'Q' is bigger than 'S'. Who is the biggest among thme?
    (1) Q   (2) T   (3) P   (4) R

16. 'x+y' means 'x' is the mother of 'y' , 'x−y' is the brother of 'y', 'x÷y' means 'x' is the father of 'y', 'x×y' means 'x' is the sister of 'y'. Then which of the following given options means 'A' is the uncle of 'B'
   (1) A−M+N÷B   (2) B÷M+N×A   (3) A+M−N×B   (4) A−M×N÷B

17. Find the missing number of the dice given below.
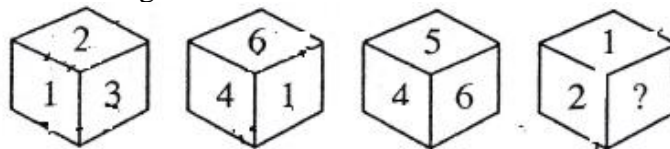
    (1) 4   (2) 6   (3) 5   (4) None of these

18. If 841 = 3, 633=5, 425=7, then 217=?
    (1) 6   (2) 7   (3) 8   (D) 9

19. Three words are given in this question which have something in common among themselves. Out of the four given alternatives, choose the most appropriate description about these three words.
    DELHI: AGRA: MATHTURA
    (1) They have been the Capitals of the Country.
    (2) They have exquisite temples.
    (3) They have religious background.
    (4) They are situated on the bank of river Jamuna.

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20. In the given question, four pairs of words are given out of which three pairs of words bears a certain relationship. Choose the pair in which the words are differently related?
    (1) Shoe : Leather   (2) Iron : Axe
    (3) Table : Wood   (4) Shirt : Fabric

21-23 In each of the following questions, four group of words/letters are given. Three of them are alike in some manner, while one is different. Find the odd-one-out and mark it on your answer-sheet as directed.

21. (1) Medium   (2) Average   (3) Mediocre   (4) Terrible

22. (1) ZGPKU   (2) FRGSP   (3) NEXFL   (4) LANCP

23. (1) FLRXD   (2) ECGSY   (3) JPVBH   (4) NTZFL

24-28 Read the following information carefully and answer the question given below,
    (i) A, B, C, D, E, F and G are sitting around a circle and facing at the centre.
    (ii) 'G' is second to the left of 'C' , who is to the immediate left of 'F'
    (iii) 'A' is third to the left of 'E'
    (iv) 'B' is between 'D' and 'E'

24. Which is the following is false?
    (1) 'A' is fourth to the right of 'E'
    (2) 'G' is to the immediate right of 'D' .
    (3) 'F' is fourth to the right of 'D' .
    (4) 'B' is to the immediate left of 'D' .

25. Which of the following is true?
    (1) 'C' is fourth to the right of 'B'.
    (2) 'A' is to the immediate right of 'G'.
    (3) 'D' is second to the left of 'E' .
    (4) 'B' is to the immediate left of 'D'

26. Which of the following pairs is the first person sitting to the immediate left of the second person?
    (1) BE   (2) CA   (3) GD   (4) DG

27. Which of the following has the middle person sitting between the remaining two?
    (1) FCE   (2) EFB   (3) DEB   (4) None of these

28. Which of the following is the position of 'F' ?
    (1) Fourth to the right of 'D'
    (2) To the immediate left of 'C'
    (3) Between 'A' and 'E'
    (4) None of these

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29-30. Select a suitable figure from the answer figure that would replace the question mark (?)

Problem Figures

Answer Figures

(1) (2) (3) (4)

30.

Problem Figures

Answer Figures

(1) (2) (3) (4)
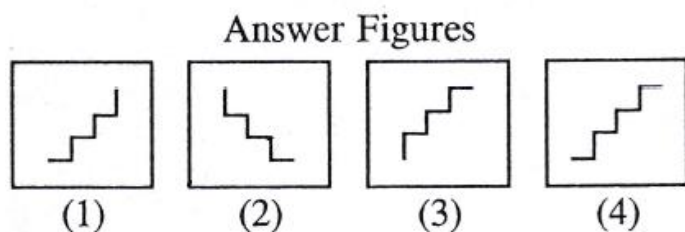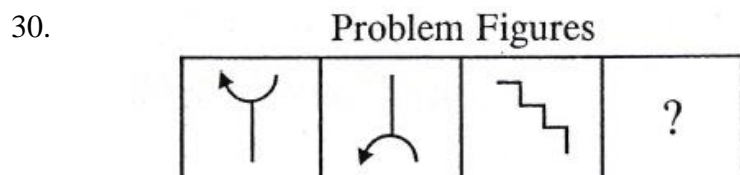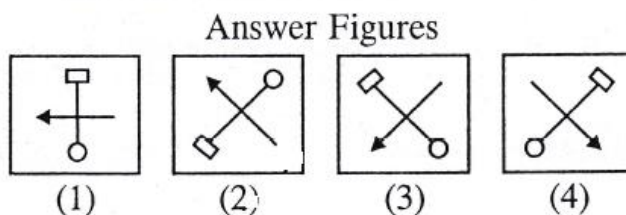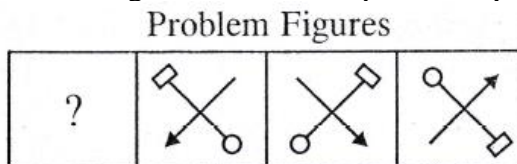
31. There are 39 students in a class. In sitting arrangement, the position of Suresh is Seventh position before Ashok. If position of Ashok is 17th from the last. Then what is the position of Suresh from the beginning.
(1) 14th (2) 15th (3) 16th (4) 24th

32. Five years ago a man was seven times as old as his son. Five years hence, the father will be three times as old as his son. Find their present ages.
(1) 10 yrs., 45yrs.   (2) 10yrs., 40yrs.   (3) 12yrs., 40yrs   (4) 12yrs., 45yrs.

33-38 in the following questions, arrange the given in the sequence in which they occur in the dictionary and then choose sequence and mark it on your answer sheet as directed.

33. A   Cresentic   B Creeper
     C   Credulous   D Crepuscular
     (1) CBDEA   (2) AEDBC   (3) EADBC   (4) DBCAE

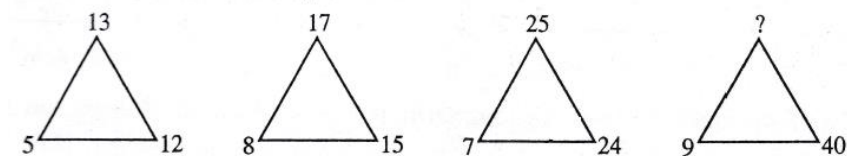34. A   Genitive   B Geneticist
     C   Gemini   D Gendrame
     E   Geniality
     (1) ADBCE   (2) DBCEA   (3) BCDAE   (4) AEBCD

35. A   Intransitive   B Intolerable
     C   Intramundane   D Intramural
     E   Introvert
     (1) BCCEA   (2 EADCB   (3) BCDAE   (4) AEBCD

36. A   Louver   B   Lounge
      C   Lumpish   D   Lunation
      E   Luculent

(1) ABDEC   (2) EDBAC   (3) DEBAC   (4) BAECD

37. A   Misadvantage   B   Miscellany
      C   Misbegotten   D   Misalliance
      E   Misdemeanor

(1) ADCBE   (2) ACDBE   (3) ABCDE   (4) CDABE

38. A   Genuine   B   Genesis
      C   Gender   D   Gentle
      E   General

(1) DECBA   (2) BFCAD   (3) CEBDA   (4) AEDCB

39. If 'R' means 'I' , 'U' means 'R' , 'E' means 'T' 'S' means 'P' , 'P' means 'U' , 'T' means 'S' and 'I' means 'E'. Then how would you write 'PERSUIT'?

(1) UITPRES   (2) UTIPRES   (3) UTPPERS   (4) UIIPRES

40. Choose the correct water- image of the given words from amongst the alternatives

UNITED

(1) ∩∩IΓED   (2) ∩NIΓED   (3) ∩NITED   (4) UNITED

41. REFLECTION

(1) ERFECLION   (2) ЯEFΓECΓION   (3) ЯEΓƆ∃CΓION   (4) ЯEFΓCΓION

42. A geometrical design has been drawn below. Find out the total number of triangle

(1) 12   (2) 18   (3) 22   (4) 26

43-52 Complete the series

43. Q, N, K,?, E

(1) H   (2) I   (3) J   (4) D

44. CG, DI, ?, IP, MU

(1) HS   (2) IK   (3) FL   (4) EL

45. 1725, 15X4, 13VR, ?, 9RI

(1) 12SR   (2) 11T2   (3) 12TQ   (4) 14EL

46. AB, BA, ABD, DBA, PQRS, ?

(1) SRTQ   (2) SRQP   (3) TQRS   (4) ELGC

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47. FLP, INS, LPV, ?
    (1) ORY   (2) QPS   (3) QRS   (4) PGC

48. Find the number in the position of '?'

   (1) 40   (2) 45   (3) 41   (4) 54

49. Find the next number in the sequence 6, 24, 60, 120,…………
    (1) 140   (2) 210   (3) 240   (4) 180

50. Find the missing number in the series 2, 10, 26, …………,242
    (1) 80   (2) 81   (3) 82   (4) 83

51. 3, 6, 24, 30, 63, 72, ?, 132
    (1) 120   (2) 110   (3) 105   (4) 115

52. 25, 49, 89, 145, 217, ?
    (1) 310   (2) 240   (3) 305   (4) 311

53-55 In each of the following questions, choose the correct mirror- image of the figure (x) from amongst the alternatives 1, 2, 3 & 4 given along with it.

53.

54.

55.
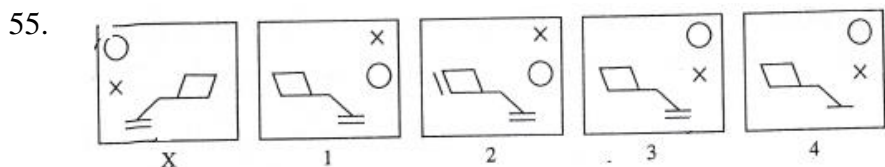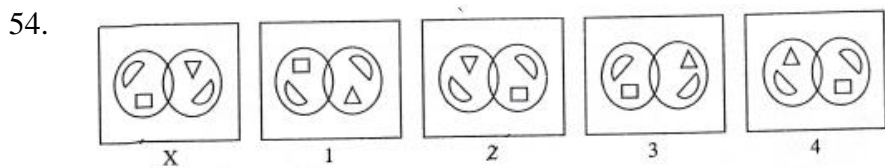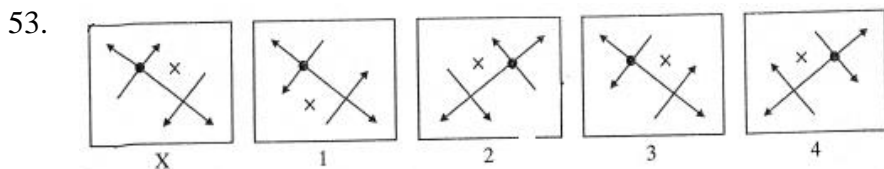
56. In a class Rani ranks 7th from the top, Sarita is 7 ranks ahead of Mohena and 3 ranks behind Rani. Vidisha who is 4th from the bottom, is 32 ranks behind Mohena. How many students are there in the class?
    (1) 52   (2) 49   (3) 50   (4) 54

57-63 Read the following information carefully and answer the questions given below:
    (i) In a class of boys and girls, Amar's rank is 12th and Meeta's rank is 8th.
    (ii) Amar's rank among the boys is 6th and Meeta's rank among girls is 3rd.
    (iii) In the class Meeta's rank is 52nd from the other end.
    (iv) From the other end, Amar's rank among the boys is 26th.

57. How many boys are there in the class?
    (1) 31 (2) 28 (3) 29 (4) 30

58. Which of the following is Meeta's rank among the girls from the other end?
    (1) 23rd (2) 28th (3) 26th (4) 22nd

59. How many boys are there before Meeta?
    (1) 4 (2) 5 (3) 3 (4) 6

60. How many boys are there between Amar and last rank, (assuming it is a girl) in the class?
    (1) 25 (2) 47 (3) 22 (4) 35

61. How many boys are there between Amar and Meeta?
    (1) 1 (2) 2 (3) 3 (4) None of these

62. How many girls are there before Amar?
    (1) 6 (2) 6 (3) 7 (4) 9

63. How many girls are there between Meeta and Amar?
    (1) 1 (2) 2 (3) 3 (4) 4

64-65 In each of the following question, there are given a combination of letters, followed by four alternatives (1,2,3 & 4). Choose the alternative which most closely resembles the mirror image of the given combination.

64. COLONIAL

    (1) LAIONLOC (2) ЛIANOLOƆ (3) ᒋⱯIᴎÓᒋOC (4) ᒍAIᴎOᒍOƆ

65. EMANATE

    (1) ƎMⱯИⱯ⊥Ǝ (2) Ǝ⊥ⱯИⱯMƎ (3) ETANAME (4) ETAEMAN

66. Ramesh can cover a distance in 1 hr 24 min by covering $2/3^{rd}$ of the distance at 4 mkph and the rest at 5 kmph, the total distance is?
    (1) 6km. (2) 7 km. (3) 8 km. (4) 5 km.

67. If air is called water, water is called green, green is called dust, dust is called yellow and yellow is called cloud in which of the following does fish live in?
    (1) Air (2) Water (3) Green (4) Dust

68. Choose the correct arrangement of mathematical signs at the place of * for equating the given equation.
    5* 5*53*10
    (1) x + = x (2) + ÷ x = (3) + − x = (4) + ÷ = x

69. If 'M' means '−', 'Y' means 'x', 'P' means '÷' and 'R' means '+' then
    60 P 2 R 10 Y 5 M 20 = ?
    (1) 60 (2) 100 (3) 50 (4) 40

70. If 'A' means '−', 'B' means 'x', 'C' means '÷' and 'D' means '+' then
    80 C 4 B 13 A 5 B 6 D 15 C 5 = ?
    (1) 263 (2) 200 (3) 233 (4) 333

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71-75 In the figure below, circle represents employed people, rectangle represents intelligent, square represents hardworking and triangle represents rural people. Study the figure and match the letters with the questions that follow.
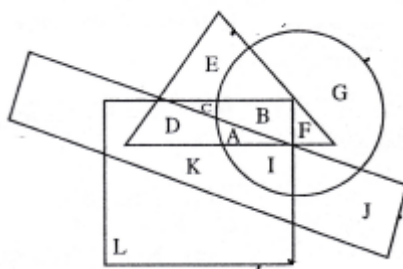

71. Which letter represents the non rural, employed, hardworking and intelligent people?
    (1) I   (2) A   (3) C   (4) F

72. Which letter represent the non rural employed people who are neither intelligent nor hardworking?
    (1) A   (2) G   (3) C   (4) I

73. Which letter represents the hardworking non rural people who are neither employed nor intelligent?
    (1) D   (2) K   (3) L   (4) J

74. Which letter represents employed, hardworking and intelligent rural people ?
    (1) K   (2) D   (3) C   (4) A

75. Which letter represents the rural hardworking people who are neither employed not intelligent?
    (1) A   (2) F   (3) E   (4) C

76-78   In each of these questions, four words/numbers are given. Three of them are alike in some manner and one is odd. Find the odd-one from the alternatives given and mark the correct alternatives on the answer sheet.

76. (1) Plateau   (2) Influenza   (3) Scurvy   (4) Night blindness

77. (1) 8110   (2) 1234   (3) 1189   (4) 1234

78. (1) (42,14)   (2) (69,23)   (3) (108,36)   (4) (56,19)

79. If every third letter is removed from English Alphabet from left then which letter will be the ninth letter in new alphabet?
    (1) K   (2) L   (3) M   (4) N

80. Choose series of letters in series, which makes one sensible word
                    T M H R E O
    (1) 025314   (2) 504231   (3) 315402   (4) 405312

81. A car travels 432 km. on 48 litres of petrol. How far it travels on 20 litres of petrol.
    (1) 160 km   (2) 180 km.   (3) 200 km   (4) 240 km

82. Gopal goes 2 km. straight north from his school, then turns right and goes 1 km, again he turns right and goes 1 km. to his house, then in which direction is his school from his hous?
    (1) North-East   (2) South-East   (3) North-West   (4) South-West

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83. Satish reached a meeting place 20 minutes before 8:50 and came to know he came 30 minutes ahead of the person who is late by 40 minute to the meeting, what is the time of meeting?
(1) 8:20   (2) 8:10   (3) 8:05   (4) 8:30

84. 12 years old Mahesh is 3 times elder than his brother Ramesh. What will be the age of Mahesh when he will be double the age of Ramesh?
(1) 14   (2) 20   (3) 18   (4) 16

85. A is 3 times older than B. Four years back, age of C was twice the age of A. In four years A will be of 31 years, then what is the age of B and C?
(1) 10, 48   (2) 9, 46   (3) 9,50   (4) 10, 46

86. If '+' stands for multiplication, 'x' stands for addition , '−' stands for division and '÷' for substraction, which of the following equation is right
(1) $20 - 5x\ 60 + 7 = 425$ (2) $18 - 9x100 + 7 = 701$
(3) $64 - 8x\ 121 - 11 = 19$ (4) $121 - 10\ x\ 80 - 4 = 30$

87. Select the vein diagram which represents the relationship between the following group?
Player, Cricketer, Batsman
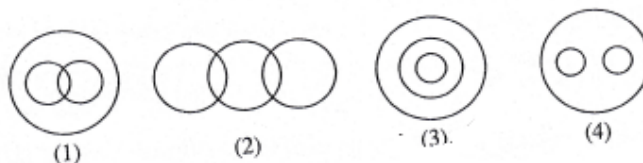
88. In this number series how many '4' are there who have even numbers after them and odd numbers before them?

7 3 4 5 1 2 4 3 5 4 8 1 7 5 4 6 1 4 7 2 6 7 8 5 2

(1) 2   (2) 5   (3) 3   (4) 4

89-90 In the following questions, a series of number is given which follow certain rules. One of the numbers is missing. Choose the missing number from the alternatives given below and mark it on your answer-sheet as directed.

89. 25 – K – 8 , 23- I – 11, 21 – G – 14, 19- E- 17,………………..?
(1) 17 – F-19   (2) 19 – C- 17   (3) 17 – C – 20   (4) 20 – D - 17

90. 2, 9, 28,………………………?
(1) 65   (2) 60   (3) 39   (4) 37

91-92 In the given questions one word is given with the four alternative words. Out of the four alternative words only one word can be made from the given question, find the correct alternative

91. REPUTATION
(1) TUTOR   (2) PONDER   (3) REQUIRE   (4) RETIRE

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92. ARISTOCRATIC
    (1) CREATION   (2) STATIC   (3) SECRET   (4) ARREST

93. If 'A' is brother of 'B' , 'C' is mother of 'A' , 'D' is father of 'C' and 'E' is son of 'B' , then what is relation of 'E' to 'A' ?
    (A) Cousin   (2) Nephew   (3) Uncle   (4) Grandson

94. If code for 'FAMILY' is 316459 and code for 'SISTER' is 747820 then what is the code for ' MISTRESS'
    (1) 64870277   (2) 64708277   (3) 64782077   (4) 64780277

95. In the given question, four pairs of words are given out of which three pairs of words bears a certain relationship. Choose the pair in which the words are differently related ?
    (1) Forest – Elephant   (2) River – Crocodile   (3) Passenger- Luggage   (4) Class - Student

96-100 Please read the paragraph and answer the questions given below –
    A and B play cricket and tennis, B and E play' hockey, A and C play volleyball, C and D play hockey and tennis, C and E play football.

96. Who don't play tennis ?
    (1) B   (2) D   (3) E   (4) C

97. Who play cricket, tennis as well as volleyball?
    (1) C   (2) D   (3) E   (4) A

98. Who play hockey, cricket as well as tennis?
    (1) A   (2) B   (3) C   (4) D

99. Who play only hockey and tennis?
    (1) A   (2) C   (3) D   (4) E

100. Who play volleyball, hockey, tennis and football?
    (1) A   (2) C   (3) D   (4) B

ANSWER – KEY

Que	Ans	Que	Ans	Que	Ans	Que	Ans
1	1	26	4	51	3	76	1
2	1	27	4	52	3	77	3
3	2	28	1	53	2	78	4
4	2	29	2	54	2	79	3
5	4	30	1	55	3	80	4
6	2	31	3	56	1	81	2
7	1	32	2	57	1	82	4
8	1	33	1	58	3	83	1
9	2	34	3	59	2	84	4
10	4	35	3	60	1	85	3
11	2	36	4	61	4	86	3
12	3	37	1	62	2	87	3
13	1	38	3	63	3	88	3
14	4	39	2	64	4	89	3
15	3	40	1	65	2	90	1
16	4	41	2	66	1	91	1
17	2	42	2	67	3	92	2
18	4	43	1	68	1	93	2
19	4	44	3	69	1	94	4
20	2	45	2	70	3	95	3
21	4	46	2	71	1	96	3
22	3	47	1	72	2	97	4
23	2	48	3	73	3	98	2
24	4	49	2	74	4	99	3
25	1	50	3	75	4	100	2