

**MAT-1****SCHOOL EDUCATION & LITERACY DEPARTMENT  
JHARKHAND, RANCHI****AND****JHARKHAND ACADEMIC COUNCIL  
RANCHI****NATIONAL TALENT SEARCH EXAMINATION (Stage-I), 2020-21****Paper – I****MENTAL ABILITY TEST****NTSE-2020/21-M-I/501**

MAT-1

Roll No. 

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**JHARKHAND ACADEMIC COUNCIL**  
**RANCHI, JHARKHAND**  
**NATIONAL TALENT SEARCH EXAMINATION (Stage-I), 2020-21**  
**PAPER – I**  
**MENTAL ABILITY TEST**

Time : 120 Minutes

Full Marks : 100

*For visually challenged candidate Time : 150 Minutes***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.**

- 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 zeroes appearing in the Roll No. 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 21198899999 will make entries in the boxes as under :

Roll No. 

2	1	1	9	8	8	9	9	9	9	9
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For all subsequent purposes your Roll No. shall remain the same as given on the admission card.

- This Question Booklet consists of 100 multiple choice questions.
- Each question carries one mark.
- A blank page has been provided for rough-work at the end of the booklet.
- Remember you have to mark your answers on a separate O.M.R. Answer-Sheet as per instruction given below.
- Answer to each question is to be indicated by darkening the circle by **blue or black ball pen** only, the number of the most suitable 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.
- O.M.R. Answer Sheet should neither be folded nor distorted. Please do not make any stray marks on the O.M.R. Answer Sheet.
- 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 not write anything except the Roll Number in the Booklet.*

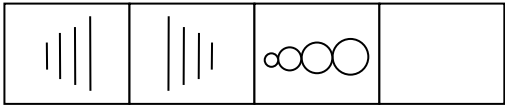
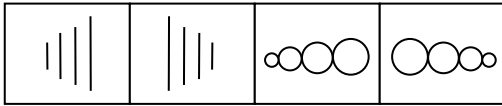
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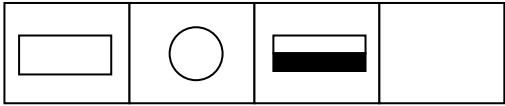
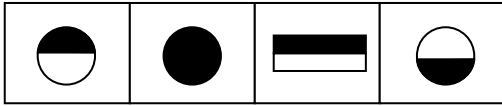
1. Choose the odd one:  
 (1) Patna (2) Shimla  
 (3) Bhopal (4) Ujjain
  
2. Which alternative replaces the question mark?  
 45,34,25,18,?  
 (1) 11 (2) 12  
 (3) 13 (4) 14
  
3. 2 \_\_\_ 13 \_\_\_ 4 \_\_\_ 3 \_\_\_ \_\_\_ 3 2 4 1 3  
 (1) 213421 (2) 421241  
 (3) 241321 (4) 123421
  
4. What will come in place of question mark(?)  
 ECA, JHF, OMK,?  
 (1) LNP (2) RPT  
 (3) QPN (4) TRP
  
5. How many meaningful two-lettered English words can be made by taking letters from the later half of the English alphabet ?  
 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
 (1) One (2) Two  
 (3) Three (4) More than three
  
6. Some letters are given with numbers 1 to 7. Choose the order of the letters by which a meaningful English word can be made:  
 S O U B R C E  
 1 2 3 4 5 6 7  
 (1) 4216573 (2) 2416537  
 (3) 2146357 (4) 2416357
  
7. Which of the following letters will come in place of question mark (?) in the Chain of letters of English alphabet ?  
 BZA DYC FXE ? JVI  
 (1) HUG (2) UHG  
 (3) HWG (4) WHG
  
8. Choose the word from the following alternatives which cannot be made with the letters of the given word:  
 COMPREHENSION  
 (1) COMPRISE (2) PENSION  
 (3) ONION (4) PREACH
  
9. Choose the alternative which will complete the following sequence:  
 ZXUQL ?  
 (1) F (2) E  
 (3) C (4) H
  
10. In a code language CENTRAL is written as LARTNEC then in that language what will be written for SEMINAR ?  
 (1) NARMES (2) MESIRAN  
 (3) RANIMES (4) NARISEM
  
11. By using the letters of the word 'AIPR' only once how many meaningful English words can be made ?  
 (1) One (2) Two  
 (3) Three (4) Four

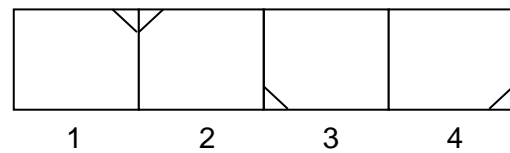
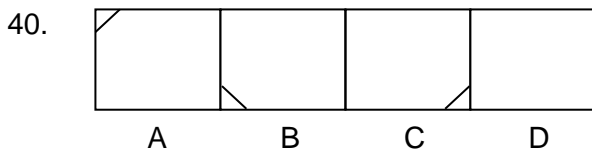
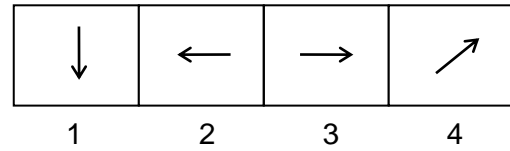
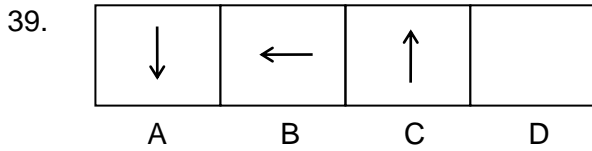
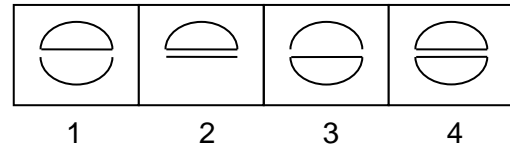
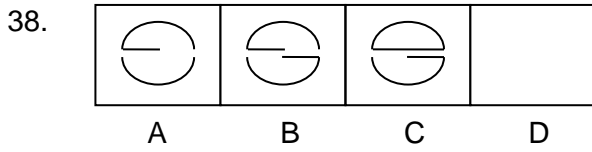
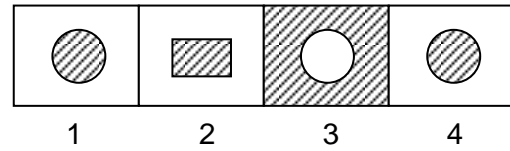
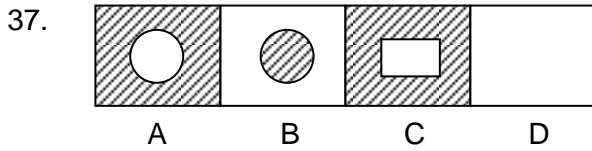
12. In the given question if the letters of the word are rearranged then comes the name of one of which of the following alternatives?  
LORAMIGD  
(1) Bird (2) Animal  
(3) Tree (4) Flower
13. By using, the letters of 'ADER only once how many meaningful English words can be made?  
(1) One (2) Two  
(3) Three (4) Four
14. If in a code language HANUMAN is written as MFSZRFS, then what will BINAY be written in that code language ?  
(1) GSNTD (2) GNSFD  
(3) GSNDT (4) GNSDT
15. If in a code language MOTHER is written as OQVJGT, then what way SISTER will be written ?  
(1) CJUVGT (2) TJTUFS  
(3) TJTUES (4) UKUVGT
16. If in a code language A is written as 2, B is written as 4 and C is written as 6, then in that language 12 10 10 8 will be written as  
(1) DEEP (2) DOOR  
(3) DEAF (4) FEED
17. In a symbolic language POCKET is written as QNDJFS, then in that language what will DEAR be written?  
(1) EDBQ (2) CFBQ  
(3) EDCQ (4) EFDQ
18. In a code language CHAIR is written as EGCHT, then in that language PROVE will be written as  
(1) NSNXD (2) RPPVG  
(3) NRNUD (4) RQQUG
19. As 'warrior' is related to 'battlefield' in the same way to what is 'Steward' related ?  
(1) Shop (2) Restaurant  
(3) Stage (4) Garage
20. As 'white pigeon' is related to 'peace', in the same way 'black colour' is related to which of the following?  
(1) Hospital (2) Power  
(3) Sorrow (4) Bravery
21. As 'Chicago' is related to America, in the same way 'Sydney' is related to  
(1) Egypt (2) Australia  
(3) India (4) England
22. As the 'Publisher' is related to 'Book, in the same way 'Film is related to  
(1) Director (2) Actor  
(3) Producer (4) Hero
23. As 'Lotus' is. related to 'India', in the same way 'Great Britain' is related to  
(1) Jasmine (2) Rose  
(3) Chrysanthemum (4) White Lily
24. Tripura: Agartala :: Mizoram:?  
(1) Aizawl (2) Imphal  
(3) Kavaratti (4) Silvassa

25. Rohu : Fish:: Bat: ?  
 (1) Amphibian (2) Reptile  
 (3) Mamma (4) Aquatic
26. Thermometer : Temperature :: Lactometer: ?  
 (1) Purity of curd (2) Purity of milk  
 (3) Purity of water (4) Atmospheric pressure
27. Shyam is son of Ram and maternal brother of Jadu, then how is Ram related to Jadu ?  
 (1) Paternal uncle (2) Maternal uncle  
 (3) Father (D) Maternal grandfather
28. In a marriage reception, pointing to a lady a man said, 'That lady is the only daughter of the father-in-law of my eldest paternal brother'. What is the relation of that man with the lady ?  
 (1) Husband's younger brother (2) Brother  
 (3) Nephew (4) Father
29. Second : Time :: Pascal: ?  
 (1) Resistance (2) Illumination  
 (3) Potential (4) Pressure
30. B is the sister of A and C is the mother of B. How is C related to A ?  
 (1) Mother (2) Father  
 (3) Maternal aunt (4) Maternal grandfather
31. Following the pattern of the following letter series fill in the blank. Space:  
 ak, eo, is, ..... qa, ue  
 (1) lv (2) mw  
 (3) nx (4) oe
32. What will come next in series?  
 D, H, L, P,.....  
 (1) Q (2) S  
 (3) U (4) T
33. 10J, 13M, 17Q, 20T, .....  
 (1) 24X (2) 25Y  
 (3) 26Z (4) 23V
34. Telephone: Graham Bell : : Electric Bulb : ?  
 (1) J.L. Baird (2) Thomas Alva Edison  
 (3) James Watt (D) G. Marconi

**Q: 35-40** In each of the following questions a group of three pictures are gives you have to find out the fourth picture. You have to select the answer from 1, 2, 3 or 4

35.  

36.  



41. If in a code language LPPHGLDWH is written as IMMEDIATE then WRSVHFUHW will be written as  
 (1) YUVKIXKY (2) FAITHFUL  
 (3) TOPSBRASS (4) TOPSECRET
42. If TOM = 48 and DICK = 27 then HARRY will mean  
 (1) 50 (2) 60  
 (c) 70 (4) 80
43. If in a code language SISTER is written as 535301, UNCLE is written as 84670 and BOY is written as 129 then in that language SON will be written as  
 (1) 923 (2) 524  
 (3) 342 (4) 872
44. If in a code language 5234 is written for RING and 6109 for FAST, then in that language 095234 will be written for  
 (1) STRING (2) NGRIST  
 (3) STRING (4) STRIGN
45. Rita is taller than Neeta but shorter than Sita. Sita is shorter than Gita then who is the tallest among them?  
 (1) Rita (2) Neeta  
 (3) Sita (4) Gita
46. If in a code language FIRE is written as DGPC, then in that code language SHOT will be written as  
 (1) FQMR (2) QMFR  
 (3) QFMR (4) QREM
47. In the way 'horse' is related to 'run' in the same way 'bird' is related to  
 (1) move (2) run  
 (3) crawl (4) fly

48. In the way 'voltmeter' is related to 'potential difference, in the same way 'Ammeter is related to  
 (1) Rain (2) Earthquake  
 (3) Electric current (4) Temperature
49. In the way 'Indonesia' is related to 'Jakarta' in the same way 'Nepal' is related to  
 (1) Melbourne (2) Dhaka  
 (3) Kathmandu (4) Islamabad
50. In the way India is related to Ashok Chakra, the same way Sri Lanka is related to  
 (1) Lily (2) Lion and sword  
 (3) Moon and star (4) Red star
51. In the way 'Hockey' is related to 'India' in the same way 'Spain' is related to  
 (1) Baseball (2) Bull fight  
 (3) Football (4) Ice hockey
52. In the way 'Santhal' is related to 'India', in the same way 'Negro' is related to  
 (1) Japan (2) Germany  
 (3) Africa, America (4) Nepal
53. In the way 'Red Fort' is related to 'Delhi', in the same way 'Pyramid' is related to  
 (1) New York (2) Egypt  
 (3) London (4) Berlin
54. In the way poet is related to poem, in the same way ornaments are related to  
 (1) Goldsmith (2) Cobbler  
 (3) Carpenter (4) Dance director
55. In the way 'area' is related to 'hectare', the same way 'radian' is related to  
 (1) Heat (2) Potential  
 (3) Resistance (4) Angle
56. The relation that exists between ABC and ZXY, the same relation will exist – between CBA and  
 (1) ZXY (2) BCA  
 (3) XYZ (4) XZY
57. In the way 28 is related to 82 in the same 36 is related to  
 (1) 56 (2) 32  
 (3) 63 (4) 56
58. Statue of Liberty : USA :: Eiffel tower : ?  
 (1) New Zealand (2) France  
 (3) Indonesia (4) Japan
59. In the way Palaeontology is related to fossil in the same way pedology is related to  
 (1) Blood (2) Plants  
 (3) Soil (4) Tissue
60. In the way white Pigeon is related to peace, the same way Swastik is related to  
 (1) Good luck (2) Prosperity  
 (3) Civilization and culture (4) Danger
61. Regarding Ajit, Neelam tells to her friend that 'He is the only son of grandfather of my own brother', then how is Neelam related to Ajit ?  
 (1) Maternal aunt (2) Sister  
 (3) Daughter (4) Paternal aunt

62. Navin, the son of a photographer who is a resident of Nagpur says to Urmila that Prabhat, who is staying in Delhi, is the eldest son of the father of Samir. If mother of Samir is the wife of Navin, then what is the relation Prabhat has with Navin ?  
 (1) Son (2) Brother  
 (3) Nephew (sister's son) (4) Nephew (brother 's son)
63. A man walks 12 km towards north. After this he walks 5 km towards west then how far is he now from, his starting point ?  
 (1) 22 km (2) 17 km  
 (3) 5 km (4) 13 km
64. Pointing to a lady Vijay says that "She is the only sister of my brother – in – law". How is the lady related to Vijay ?  
 (1) Daughter (2) Wife  
 (3) Sister (4) Sister – in law
65. Pointing to a man in a picture a woman said, "The father of this brother is the only son of my mother". How is the man related to that woman ?  
 (1) Grandson (2) Nephew (Brother's son)  
 (3) Son (4) Brother
66. At the time of sunrise a boy was doing exercise by keeping his head down and legs up in the ground. If his left hand is towards east, then in which direction is his face ?  
 (1) North (2) South  
 (3) West (4) None of these
67. Facing towards north Rana walked 30 m. Then he turned left and walked 50 m. Again he turned left and walked 30 m. Now how far is Rana from his starting place  
 (1) 80 m (2) 60 m  
 (3) 20 m (4) 50 m
68. Bablu started to walk from a point A. After moving 12 m towards north he turned right and moved 10 m. Again he turned right and walked 12 m, then turning left walked 5 m. So far what distance has he travelled and in which direction is he ?  
 (1) 40 m, west (2) 29 m, south  
 (3) 39 m, east (4) 35 m, north
69. One day before sunset Vandana and Chandan were talking with each other face to face standing in a chawk. If the shadow of Vandana falls on the right side of her then in which direction was Chandan facing ?  
 (1) South – east (2) South  
 (3) North (4) West
70. One morning after sunrise Atul and Rashmi was talking with each other standing face to face. If the shadow of Rashmi falls on left side of Atul then in which direction Atul was facing ?  
 (1) North (2) South  
 (3) East (4) West
71. Harish is taller than Sameer but shorter than Ambuj. Sumit is shorter than Vishal. Ambuj is shorter than Sumit. If all of them are made standing increasing order (ascending order) of their heights, then who will stand at the end ?  
 (1) Harish (2) Ambuj  
 (3) Sumit (4) Vishal

Q. 72-74 According to the information given below answer the following three questions :

Four girls A , B, C and D and three boys E, F and G are sitting simultaneously in such a way that any two boys or any two girls will not sit together.



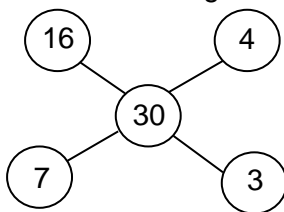
72. Who will sit after B ?  
 (1) F (2) B  
 (3) D (4) C
73. Who will sit between C and D ?  
 (1) A (2) D  
 (3) G (4) C
74. Who will sit exactly in the middle?  
 (1) F (2) G  
 (3) C (4) B
75. If the age of Manohar is greater than that of Ankit and the age of Saroj is not greater than Ankit then whose age among the three is greatest ?  
 (1) Saroj (2) Ankit  
 (3) Manohar (4) Cannot be decided
- Q. 76-80 Based on the following information answer the following questions :
- (A) In a school classes of different subjects – Commerce, Mathematics, English, Hindi, Urdu and Sanskrit are held in weekdays and Sunday is a holiday.  
 (B) Commerce class is on Friday and English is taught on Monday. Urdu class is after Hindi. Sanskrit is taught on Thursday after Urdu.  
 (C) Mathematics class is on one day before holiday.
76. Which subject is taught on Wednesday?  
 (1) Hindi (2) Urdu  
 (3) English (4) Sanskrit
77. Which subject is taught before Hindi?  
 (1) English (2) Urdu  
 (3) Sanskrit (4) Mathematics
78. The difference of how many days is there between Urdu and Commerce classes?  
 (1) 4 (2) 3  
 (3) 2 (4) 1
79. Mathematics class is just after which subject?  
 (1) Hindi (2) Mathematics  
 (3) Sanskrit (4) Commerce
80. The classes start with which subject?  
 (1) English (2) Hindi  
 (3) Commerce (4) Sanskrit
81. On a table the books of Physics, Mathematics, English and Hindi are arrange in such a way that the book of Hindi is just above the book of English and book of Mathematics is just below that book of Physics. If the book of Physics just kept below the book of English then which book is kept bottommost?  
 (1) Physics (2) English  
 (3) Mathematics (4) Hindi
- Q. 82-84 Akram, Vikas, Karan and Dinesh are seated on chairs around a round table. It is seen that  
 A. Akram is seated in front of Vikas  
 B. Dinesh is seated in front of Karan  
 C. Dinesh is seated at the left of Akram

82. Who is seated at the left of Vikas?  
 (1) Dinesh (2) Akram  
 (3) Karan (4) Cannot be decided
83. Who is not seated at either right or left of Dinesh?  
 (1) Vikas (2) Akram  
 (3) Akram or Vikas (4) Karan
84. Which statement is not correct?  
 (1) Karan is seated in front of Dinesh  
 (2) Akram is seated at the left of Karan  
 (3) Vikas is not seated in front of Akram  
 (4) Vikas is seated at the left of Dinesh
85. Which of the following names will come second in the telephone directory?  
 (1) Raman (2) Rana  
 (3) Rahul (4) Rajan

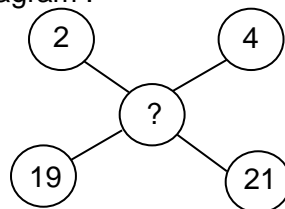
Q. 86-90 Six books are kept one after the other. History book is just above Civics book, which is just above the Mathematics book. Computer book is not at the topmost. There are four books in between English and Physics books. English book is at topmost and Computer book is just below the English book.

86. Which book is in between Civics and Computer books?  
 (1) Mathematics (2) English  
 (3) History (4) Physics
87. How many books are above Physics book?  
 (1) 1 (2) 2  
 (3) 3 (4) 5
88. Which book is at bottommost?  
 (1) Computer (2) History  
 (3) Civics (4) Physics
89. Which book is just below the History book?  
 (1) Civics (2) Mathematics  
 (3) Physics (4) Computer
90. How many books are there in between Computer and Physics books?  
 (1) 1 (2) 2  
 (3) 3 (4) 4

91. Find the missing number in the diagram :



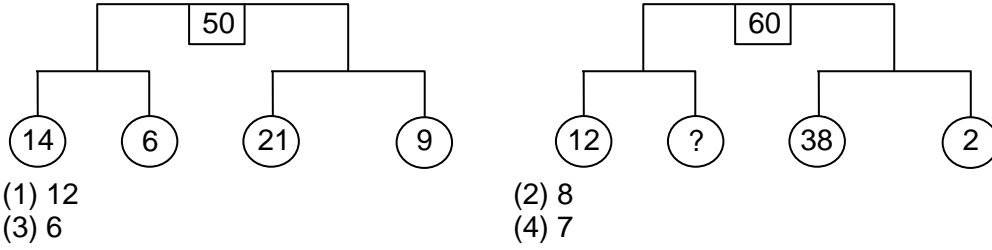
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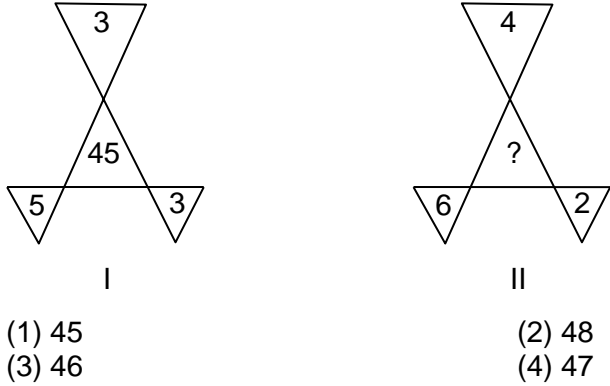
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- (1) 46 (2) 47  
 (3) 48 (4) 45

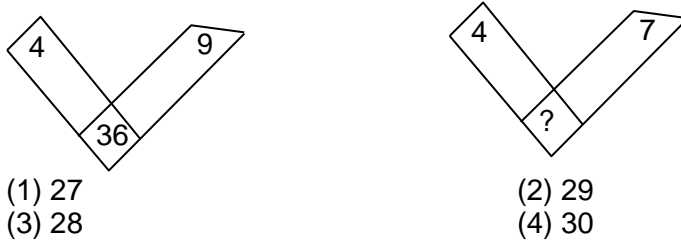
92. Find the missing number in the diagram:



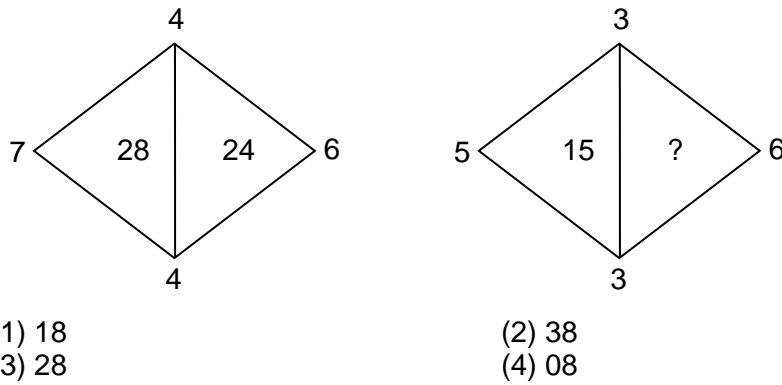
93. Find the missing number in the diagram :



94. Find the missing number in the diagram :



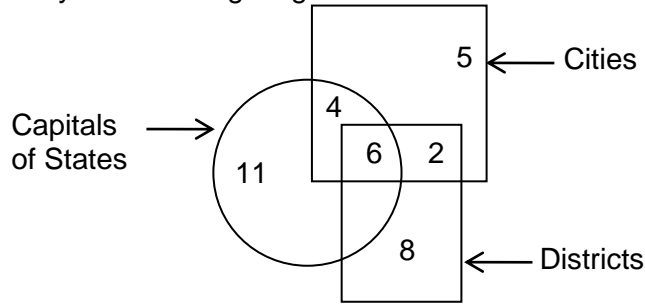
95. Find the missing number in the diagram :



96. Which diagram will represent the relationship between Bihar, Jharkhand and Patna?



97-100. Study the following diagram and choose the correct alternatives given under each question :



97. How many such cities are there which are neither capitals of states nor districts?  
 (1) 6 (2) 5  
 (3) 4 (4) 7
98. How many such cities are there which are also capitals of states?  
 (1) 4 (2) 8  
 (3) 6 (4) 11
99. How many such districts are there which are cities as well as capitals of states?  
 (1) 11 (2) 8  
 (3) 7 (4) 6
100. How many such cities are there which are also districts?  
 (1) 8 (2) 1  
 (3) 3 (4) 2