GOA HEADMASTERS ASSOCIATION, GOA.

202 RAYU CHAMBERS,
PANAJI, GOA 403 001.

प्रज्ञासंवर्धनाय

GOA TALENT SEARCH EXAMINATION - 2019-20

Std. X

PAPER I - MENTAL ABILITY TEST
Q. NOS. 1 TO 100

PAPER II - SCHOLASTIC APTITUDE TEST
Q. NOS. 101 TOM 200

TIME : 10.00 a.m. to 1.00 p.m.

DATE : 2nd February 2020

THIS PAPER CONTAINS 15 PAGES.

1) A man travels 12 km west, then 3 km towards south and then 8 km towards east. How far is he from the starting point?
   (1) 23 km   (2) 20 km
   (3) 15 km   (4) 5 km

2) Lalit walks 8 km east, turns south-west and walks another 8 km. He again takes a turn towards north-west and walks another 8 km. In which direction from his starting point is he standing now?
   (1) North-East   (2) South-east
   (3) South-West   (4) East

Directions: (Questions 3 to 6): Each question consists of three different classes. Identify the figure which best represents the relationship between the three classes in each question. Choose the correct alternative and write the answer.

   (1)   (2)   (3)   (4)
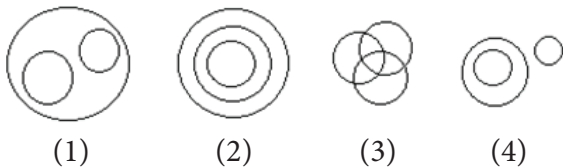
   (3) birds, sparrows, dogs
   (4) cereals, wheat, rice
   (5) eatables, fruits, grapes
   (6) artists, players, college students

Directions: (Questions 7 to 9): Each of the worships Satlaj, Bias, Krishna, Kaveri and Savitri is painted with different colours. The colours used are green, blue, white, black and red. From the information given below answer the following questions:
   **a) Satlaj is neither green nor blue.**
   b) Bias is white.
   c) Savitri is black or white.
   d) Kaveri is neither green nor black.

7) What is the colour of Satlaj?
   (1) green   (2) white
   (3) red   (4) black

8) What is the colour of Krishna?
   (1) green   (2) black
   (3) red   (4) blue

9) What is the colour of Kaveri?
   (1) red   (2) black
   (3) green   (4) blue

Directions: (Questions 10 and 11): In the question given below, the figures are in a series. Find out one figure from among the alternative figures given below the series, which occupies the blank space for the fourth figure and complete the series. Indicate your answer by the number of the answer figure chosen by you in the box against the number corresponding to the question.

10)

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

11)

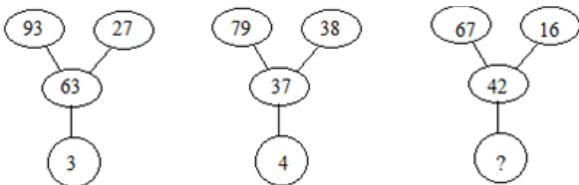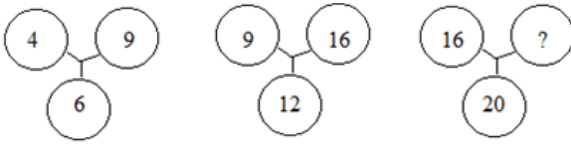   (1)   (2)   (3)   (4)
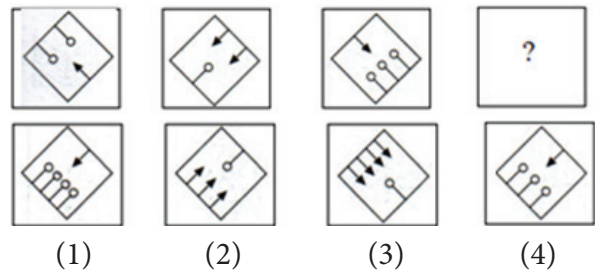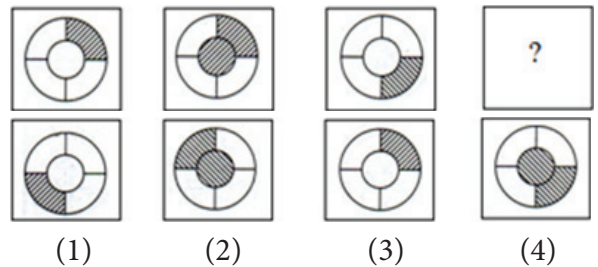
Directions: (Questions 12 to 18): In each of the following   questions, the numbers are filled according to some rules . Identify the rule and choose the missing number and write the answer.
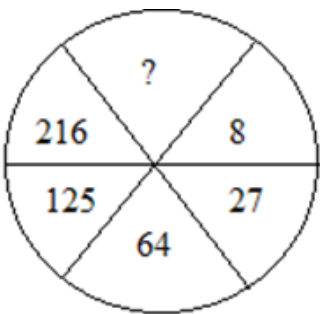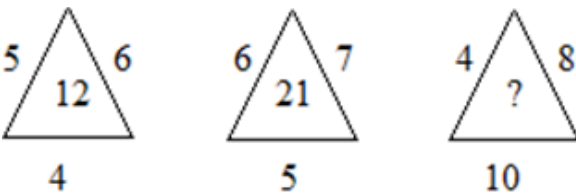
12)

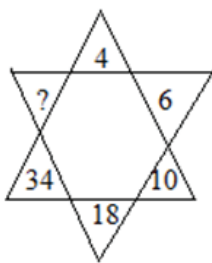| 3	5	34
5	4	41
9	3	?

   (1) 90
   (2) 89
   (3) 84
   (4) 72

13)

(1) 5
(2) 6
(3) 8
(4) 9

14)

(1) 60
(2) 50
(3) 25
(4) 21

15)

(1) 4
(2) 343
(3) 305
(4) 729

16)

(1) 14
(2) 22
(3) 28
(4) 32

17)

(1) 82
(2) 44
(3) 55
(4) 66

18)

5	6	7
3	4	5
9	10	11
345	460	?

(1) 535
(2) 577
(3) 755
(4) 775

19) A man walks 6 km to the East and then turns to the south and walks 5 km. Again he turns to the east and walks 6 km. next he turns northward and walks 5 km. How far is he from the starting point?
(1) 15 km
(2) 16 km
(3) 12 km
(4) 12 km

20) A man drives 8 km West, then 3 km South, then 4 km East. How far is he from his starting point?
(1) 4 km
(2) 6 km
(3) 5 km
(4) 7 km

21) If the first half of the alphabet is written in the reverse order which letter will be the 10th from your right?
(1) H
(2) J
(3) D
(4) E

22) In a code 'LA PIL TA' means "Mango is sweet"; 'NA SA PIL' means "Mango and banana"; BA TA TICK means "Boy is wise". In that code language what does Sweet mean?
(1) LA
(2) PIL
(3) Sa
(4) Ba

Directions: (Questions 23 and 24):   In each of the following questions there is some relationship according to some rule between letters and the numerals given in each row. Find the rule in each case, then write the correct alternative conforming to the rule.

23) J N   28   27   G P
    C E   12   45   T U
    L R   ?   ?   M S
    (1) 34, 36   (2) 35, 35
    (3) 30, 32   (4) 30, 41

24) FJ   25   16   NS
    LZ   25   196   SX
    NQ   ?   ?   WY
    (1) 9, 4   (2) 4, 9
    (3) 8, 27   (4) 27, 8

Directions: (Questions 25 to 30): In each of the following questions, the numbers are arranged according to some rule. Identify the rule and select the alternative that will complete the series and write :

25) 35, 28, 22, 17, 13, 10, ?
    (1) 9, 8   (2) 7, 4
    (3) 7, 6   (4) 8, 7

26) 203, 304, 405, 506, ?
    (1) 504, 507   (2) 648, 646
    (3) 607, 708   (4) 702, 507

27) 6, 7, 5, ?, 4, 9
    (1) 3   (2) 7
    (3) 8   (4) 9

28) 3, 8, 11, 19, 30, 49, ?
    (1) 87   (2) 79
    (3) 77   (4) 73

29) 12, 32, 72, 152, ?, 632
    (1) 515   (2) 613
    (3) 815   (4) 312

30) 10, 34, 74, 142 ?
    (1) 290   (2) 280
    (3) 242   (4) 10

31) In a certain code language BEAT is written as YHXW; then SOUP will be coded as
    (1) SRRS   (2) PSSR
    (3) PRRS   (4) SPRS

32) In a certain code GOODNESS is written as HNPCODTR. How is TIGER written?
    (1) HQFZUODTR   (2) HQFZUMFRT
    (2) HQFZSMFRT   (4) FSDBSQDTR

33) If 'DUST' is 'AIR'; 'AIR' is 'WHITE'; 'WHITE' is 'YELLOW'; 'YELLOW' is 'WATER' and 'WATER' is 'RED'. Where do the birds fly?
    (1) Yellow   (2) White
    (3) Red   (4) Air

Directions: (Questions 34 to 36): In each question choose the correct mirror image of Fig.(x) from amongst the four alternatives given along with it :

34)

35)

36)

37) How many rectangles are there in the following figure?
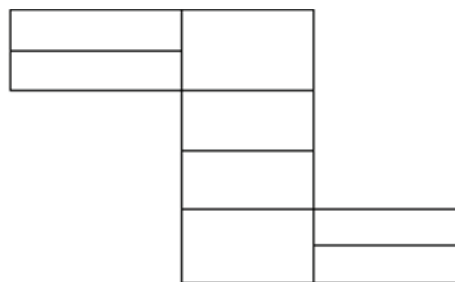
    (1) 8   (2) 17
    (3) 18   (4) 20

38) Which letter in the word APPLES (other than A) occupies the same position as it does in alphabet?
    (1) E   (2) P
    (3) L   (4) T

39) In to how many independent words can the word PERPETUAL be divided without changing the order of the letters of the word and using each letter once only?
   (1) None   (2) One
   (3) Two   (4) Three

40) What will come serially in place of the question mark?

1, 3, 4, 5, 7, 7, 10, ?, 13, 11
   (1) 12   (2) 9
   (3) 13   (4) None of these

Directions: (Questions 41 to 43): In the question given, There exists a relationship between the first two question figures. Similar relationship should exist between the third and fourth question figures. Select one of the answer figures which replaces the mark of interrogation. Write the number of the answer figure selected by you in the box against the number corresponding to the question.

41)

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

42)

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

43)

   (1)   (2)   (3)   (4)
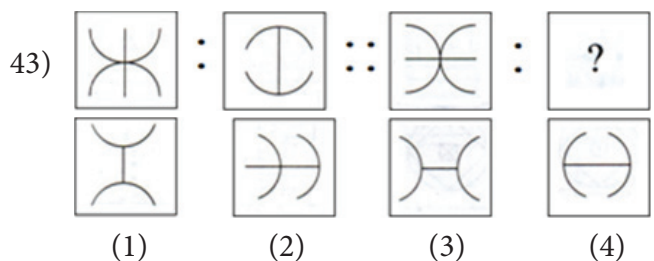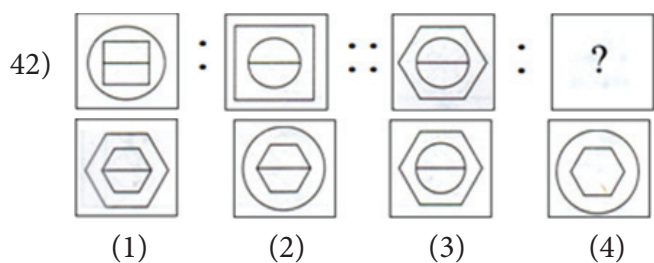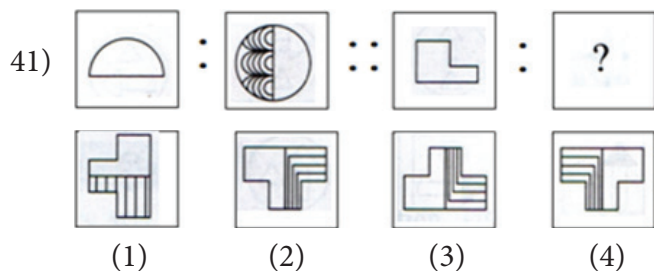
Directions: (Questions 44 to 48): One of the items given in each of the following questions does not belong to the same group. Find the wrong option and write the answer.

44) (1) Feud   (2) Fight
    (3) Rivalry   (4) Quarrel

45) (1) CGNX   (2) IMTD
    (3) JNUE   (4) ORYJ

46) (1) ANCPER   (2) IVKXMA
    (3) KXMZOB   (4) FSHUJW

47) (1) 6   (2) 18
    (3) 12   (4) 7

48) (1) 11, 3, 3, 17   (2) 41, 5, 3, 47
    (3) 71, 7, 3, 17   (4) 37, 14, 19, 7

49) Pointing to a man in group Reena said "He is the brother of the daughter of the wife of my husband." How is the man in group related to Reena?
    (1) Son   (2) Husband
    (3) Cousin   (4) Nephew

Directions: If A + B means A is the son of B; 'A – B' means A is the wife of B; A × B means A is the brother of B; A ÷ B means A is the mother of B and A = B means A is the sister of B:

50) What does P = R + Q mean?
    (1) P is the aunt of Q
    (2) P is the daughter of Q
    (3) P is niece of Q
    (4) P is the sister of Q

Directions: The following question is followed by two arguments – one from the positive and the other from the negative side. Mark
    (1) If only argument I is strong.
    (2) If only argument II is strong.
    (3) If both arguments I and II are strong.
    (4) If neither argument I nor II is forceful.

51) Should smoking be prohibited at public places in India?
  I.   Yes, because smoking – passive or active causes cancer.
  II. No, because thousands of the workers will be rendered unemployed.

52) Which of the following rules should be applied to get the set of element :
  2, 7, 23, 47, 119
  Rules:
  (1) Multiply prime number by 11 and subtract 3 from it.
  (2) Square prime number and double it.
  (3) Square prime number and subtract 2 from it.
 (4) Multiply prime number by 2 and add half of the number.

53) Find the odd one out in the question.
  (1) 1025   (2) 7225   (3) 5625   (4) 11025

54) Find the odd term in the question.
  (1) $\dfrac{A}{Y}$ (2) $\dfrac{C}{W}$
  (3) $\dfrac{F}{V}$ (4) $\dfrac{I}{Q}$

55) Shabana was standing with her back towards her house. To her right is east. If she turns to her left, then in which direction would her right hand be?
  (1) North   (2) East
  (3) West   (4) South

Directions: (Questions 56 and 57): In the question given below, four figures (1), (2), (3) and (4) have been given in each question. Out of these four figures, three figures are similar in some way and all figure is different. Identify the odd figure and write the answer.

56)

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

57)

  (1)   (2)   (3)   (4)
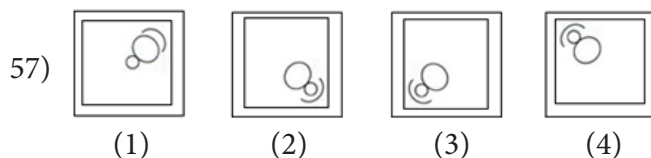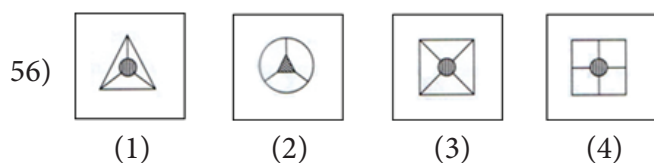
Directions: (Questions 58 and 59): A part of the figure marked X is missing. The missing part is given among the four alternatives. Select and write the correct answer.

58)

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

59)

  X   (1)   (2)   (3)   (4)
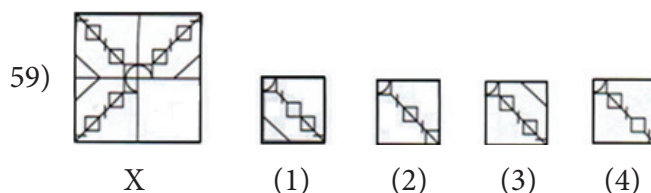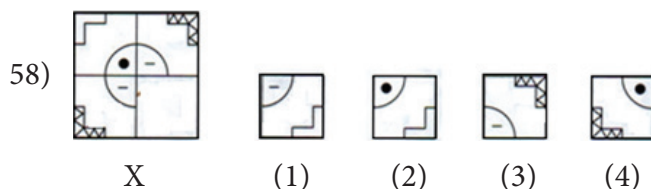
60) Ramesh is 5 years older than his wife who is 5 times as old as her daughter. Three years ago her daughter's age was 4 years. What is the present age of Ramesh?
  (1) 22 years   (2) 25 years
  (3) 42 years   (4) 40 years

Directions: (Questions 61 to 68): In the following questions, There is some relationship between the first two terms. The same relation exists between the last two terms. Find out the proper term in place of a question mark from the alternatives given below.

61) Exit : Entrance : : Outlet : ?
  (1) Passage   (2) Inlet
  (3) Courtyard   (4) Avenue

62) Player : Team : : Judge : ?
  (1) Court   (2) Judgement
  (3) Law   (4) Jury

63) NET : 13227 : : YAM : ?
  (1) 25113   (2) 22614
  (3) 14520   (4) 25614

64) DULC : EVMD :: ? : GXOF
    (1) HNWE   (2) HWNE
    (3) FUEN   (4) FWNE

65) LOGIC : BHFNK :: CLERK : ?
    (1) OBKJA   (2) LPRTU
    (3) XVRPA   (4) JQDKB

66) LOSE : MQVI :: GAIN : ?
    (1) CCLR   (2) HCLR
    (3) HCLS   (4) HLCR

67) Dog : kennel :: ? : dove coat
    (1) eagle   (2) pigeon
    (3) crow   (4) sparrow

68) Horse : Jockey :: Car : ?
    (1) Mechanic   (2) Chauffer
    (3) Steering   (4) Wheels

69) Robert is the only son of my mother's mother, what would be the relation between Robert and my mother?
    (1) Aunt – nephew   (2) Brother – sister
    (3) Uncle – aunt   (4) Uncle – nephew

70) Two statements A and B are followed by a conclusion, write the alternative that support the conclusion?
   A) Today is 30th of April
    B) Two days ago, it was Tuesday.
    Conclusion: Today it is Thursday, the 30th April.
    (1) Statement A alone supports the conclusion
    (2) Statement B alone supports the conclusion
    (3) Statement A and B together supports the conclusion.
    (4) Neither statement supports the conclusion.

Directions: (Questions 71 and 72): In the questions given below, one part of a geometrical figure (triangle, circle, square) is on the left hand side of question figure and the other one is among the four answer figures (1), (2), (3), (4) on the right hand side. Find the figure on the right hand side that complete the geometrical figure and write the answer.

71)

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

72)

    X   (1)   (2)   (3)   (4)
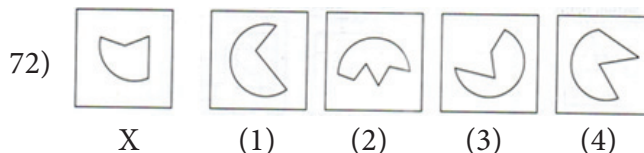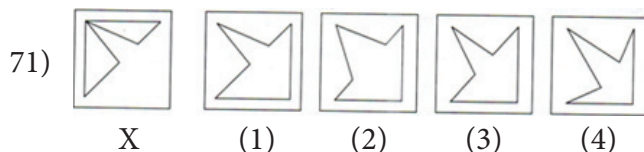
Directions: (Questions 73 to 75): A solid cube (3 × 3 × 3)units is painted red on two adjacent sides, orange on the sides opposite to red surfaces and the blue on the remaining two sides. It is then cut into 27 smaller cubes of equal sizes. With reference to this, answer the following questions.

73) How many smaller cubes will have only three surfaces painted?.
    (1) 8   (2) 6
    (3) 10   (4) 12

74) How many smaller cubes will have two of their surfaces painted red?
    (1) 4   (2) 6
    (3) 2   (4) 3

75) How many smaller cubes will have two of their surfaces painted blue?
    (1) 0   (2) 1
    (3) 2   (4) 4

Directions: (Questions 76 to 79): In the adjoining figure, letters C to Z are arranged according to a certain rule. Identify the rule and answer the following questions.
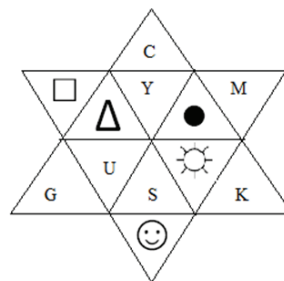
76) Which letter will come in place of Δ ?
   (1) D   (2) X
   (3) W   (4) N

77) Which letter will come in place of ● ?
   (1) N   (2) O
   (3) P   (4) Z

78) Which letter will come in place of □ ?
   (1) D   (2) B
   (3) F   (4) E

79) Which letter will come in place of ☺ ?
   (1) H   (2) N
   (3) T   (4) I

80) Sixteen girls standing in a straight line with a distance of 4 m. between two adjoining girls. What is the distance between the third and the seventh girl?
   (1) 20 m   (2) 16 m
   (3) 12 m   (4) 24 m

Directions: (Questions 81 to 83): In the questions given below, a question figure is given on the left hand side and four answer figures marked (1), (2), (3), (4) are given on the right hand side. Select the answer figure in which the problem figure is hidden/embedded and write your answer.

81)

82)

83)
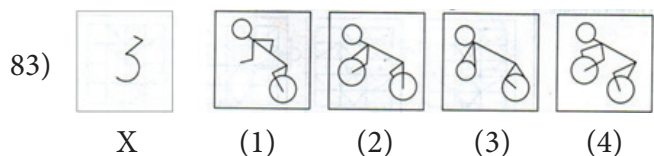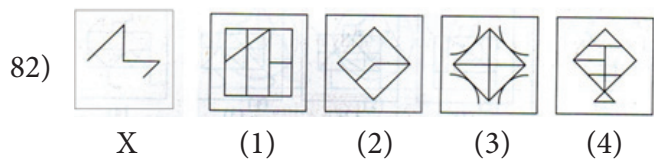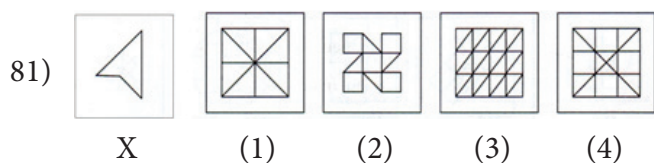
84) Refer the given sequence of numbers:
   5 1 6 5 8 6 7 3 9 9 4 8 7 4 8 5 8 6 9 4
   How many adjacent pairs are there in the given sequence of numbers whose sum is 13?
   (1) 3   (2) 5
   (3) 2   (4) 4

85) In the given series how many times is Z preceeding X but X being followed by Y.
   ZXYWWZXYWYXWYWXYWZYZXYWY
   (1) 4 times   (2) 2 times
   (3) 3 times   (4) 1 time

86) Which letter has appeared maximum number of times in the following words?
   FACE, TAPE, ANT, ART, CART
   (1) E   (2) T
   (3) P   (4) A

87) Find out the word from the alternatives that matches with the given set of three words.
   Bangles, armlet, earring
   (1) gold   (2) ornament
   (3) jewellery   (4) necklace

88) How many pebbles will be required to form a square if we place 11 pebbles equidistant on each side?
   (1) 44   (2) 48
   (3) 36   (4) 40

Directions: (Questions 89 and 90). Two statements are followed by two conclusions. Mark: 1) if only inference I follows, 2) if only inference II follows, 3) if both of them follows and 4) if neither I nor II follows.

89) Statements: A) some birds are clouds.
                 B) Horses are birds.
    Inferences: I) some clouds are birds.
                 II) horses are clouds

90) Statements: A) all humans beings are animals.
                 B) all animals are four - footed.
    Inferences: I) all human beings are four - footed.
                 II) some four – footed are human beings

Directions: (Questions 91 and 92) Two statements are followed by four conclusions. Select and mark the correct answer from the given alternatives.

91) Statements:
    I) all stars are planets.
    II) all planets are trees.
    Inferences:
    a) all planets are stars.
    b) all stars are trees.
    c) all trees are planets.
    d) some trees are stars.
    Alternatives:
    1) Only a, b and d follows.
    2) Only a and c follows
    3) Only b and d follows
    4) None follows

92) Statements:
    I) no tan is pan.
    II) all cans are tanks.
    Inferences:
    a) no pan is can.
    b) all tanks are cans.
    c) some tanks are pans.
    d) some pans are not tanks.
    Alternatives:
    (1) Only a follows.
    (2) Only c and d follows
    (3) Only a and c follows
    (4) Only b and d follows

93) A wall clock strikes 6 in 30 seconds. How many seconds will be required to strike 12?
    (1) 66   (2) 72
    (3) 60   (4) 78

94) How many zeroes will be there in the multiplication problem:
    $5 \times 20 \times 15 \times 20 \times 25 \times 4$
    (1) 5   (2) 6
    (3) 4   (4) 3

95) In a certain code language, If Rate is 6, FATE is 18, MATE is 11, then CEAT is
    (1) 12   (2) 13
    (3) 14   (4) 15

96) It was Wednesday, the 3rd July 2010. What date was it three days after the second Saturday next month?
    (1) 13   (2) 14
    (3) 15   (4) 12

Directions: (Questions 97 and 98) In the questions given below , select the answer figure which can be formed by the cut pieces given in the figure X and write the answer.

97)
    X   (1)   (2)   (3)   (4)

98)
    X   (1)   (2)   (3)   (4)
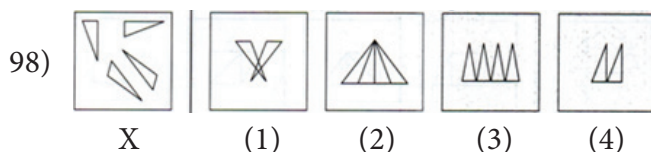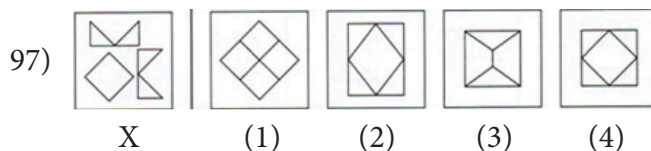
Direction: (Questions 99 and 100)
In the questions given below, a question figure is given on the left hand side marked as X and four answer figures marked (1), (2), (3), (4) are given on the right hand side. Select the answer figure which is exactly the same as the question figure and write your answer.

99)
    X   (1)   (2)   (3)   (4)

100)
    X   (1)   (2)   (3)   (4)
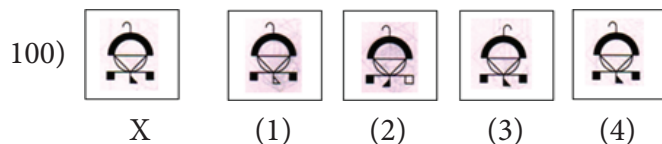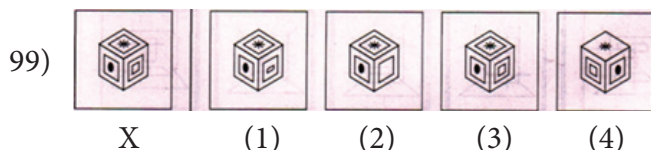
101). What responsibility did the newly drafted Constitution in 1795 give to the Directory in France?
    1) Judicial   2) Social
    3) Executive   4) Economical

102) The establishment of political supremacy by the European Monarchs was possible due to the support of_____ .
    1) Nobles   2) Feudal Lords
    3) Middle Class   4) Missionaries

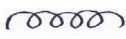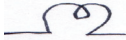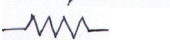103) What did the working class in Germany demand in 1848?
    1) Constitutional government
    2) Concession in Trade
    3) Improved social status
    4) Economic Security

104) The Concept that Sovereignty lies with the people was introduced in _____ .
1) Germany
2) Italy
3) America
4) France

105) Who was successful in discovering a machine that could spin eight threads at a time?
1) James Hargreaves
2) Samuen crompton
3) John K
4) Eli Whitney

106) The strength of American Colonists against the British in American war of Independence was evident at _____ .
1) Lexington
2) Bunker Hill
3) Yorktown
4) Concord

107) In the Indian politics, the year 1905 marked the emergence of _____ ideology.
1) Gandhian
2) Extremist
3) Revolutionary
4) Vioueruie

108) In Goa, the Swayam Seval Dal was organized by _____ .
1) Gomantak Praja Mandal
2) Rashtra Sevak Dal
3) Gomantakiya Tarun Sangh
4) Goa Seva Sangh

109) The economic transformation in the second half of the 18 century was first witnessed in England and then it spread throughout _____ .
1) Northern Europe
2) Southern Europe
3) Eastern Europe
4) Western Europe

110) During the Quit India Movement Parallel Governments were set up at places like _____ .
1) Satara
2) Dandi
3) Ahmednagar
4) Lahore

111) The process of German Unification was completed through _____ .
1) Negotiations
2) Wars
3) Petitions
4) Raids

112) Which Indian leader quit the Indian National Congress in the year 1939?
1) Lala Lajpat Rai
2) Subhash Chandra Bose
3) Ram Manohar Lohia
4) Maulana Azad

113) In the post - industrialized period, the reading habit of the people was revolutionized by _____ technology.
1) Printing
2) Binding
3) Writing
4) Drafting

114) A revolt was staged in 1860 against King Francis II of Naples by the people of _____ .
1) Sicily
2) Lombardy
3) Tuscany
4) Venetia

115) The roots of the American Revolution can be traced to the year _____ .
1) 1753
2) 1763
3) 1773
4) 1783

116) In case of vacancy in any Urban Local Bodies, bye-election is held within _____ .
1) Six months
2) Eight months
3) Ten months
4) Twelve months

117) Each Criminal Court at Taluka Level has an officer, representing the state called _____ .
1) Additional Sub Judge
2) First Class Magistrate
3) Nayab Tehsildar
4) Assistant Public Prosecutor

118) The Contingency Fund of the State is placed at the disposal of _____ .
1) President
2) Chief Minister
3) Governor
4) Prime Minister

119) Immunity against controversies is granted to Judges by _____ .
1) Parliament
2) Chief Justice of India
3) Constitution
4) President

120) How many members can the President nominate to the Lok Sabha from the Anglo Indian Community_____ .
1) 4
2) 3
3) 2
4) 1

121) How many species of plants were included for the first time in the protected Species list in 1991?
1) Six
2) Ten
3) Thirteen
4) Eighteen

122) Organic farming is much in demand today because _____ .
1) It consumes less water resource
2) It is cheap method of production
3) It does not use chemicals
4) It uses modern farming techniques

123) To improve the productivity and quality of Jute, National Jute Policy was formulated in _____ .
1) 2000
2) 2002
3) 2005
4) 2009

124) The largest number of newspapers published in India is in _____ .
1) English
2) Hindi
3) Telugu
4) Urdu

125) About 27 per cent of the area in India is the region of _____ .
1) Plains
2) Plateau
3) Mountains
4) Islands

126) In the region of Rajasthan the tanks are connected to the sloping roofs of the houses through _____ .
1) Buckets
2) Jars
3) Pipes
4) Bottles

127) The principal lignite Reserves in Tamil Nadu are in _____ .
1) Nellore
2) Balaghat
3) Khetri
4) Neyveli

128) Which of the following is the rain-fed millet crop?
1) Ragi
2) Maize
3) Jowar
4) Bajra

129) An industry is considered as a large scale industry if its investment crosses _____ .
1) 75 Lakh
2) 1 Crore
3) 2 Crore
4) 5 Crore

130) The bad lands in the Chambal basin are called _____ .
1) Duars
2) Kapkars
3) Ravines
4) Chos

131) Sesame is a rabi crop in _____ .
1) West India
2) South India
3) North India
4) East India

132) Which is the largest Bauxite producing state in India?
1) Madhya Pradesh
2) Maharashtra
3) Orissa
4) Karnataka

133) Dams have triggered floods due to _____ .
1) Sedimentation
2) Bifurcation
3) Denudation
4) Erosion

134) Which is the Indian state having largest area under permanent forests?
1) Haryana
2) Madhya Pradesh
3) Orissa
4) Andhra Pradesh

135) The sedimentary minerals like Gypsum and potash salt are formed as a result of _____ .
1) Solidification
2) Deposition
3) Compression
4) Evaporation

136) Indian government after independence put barriers on foreign trade to _____ .
1) Increase the Indian production of goods
2) Protect the Indian producers from foreign competition
3) Avoid international enmity
4) To increase the export of Indian goods

137) The total income of the country divided by its total population is called _____ .
1) Average Country Income
2) Net Income
3) Per Person Income
4) Per Capita Income

138) More than half of the workers in the country are working mainly in the field of _____ .
1) Fishing   2) Mining
3) Weaving   4) Agriculture

139) Banks are willing to lend Self Help Groups loan even if they have no collateral because _____ .
1) Group is responsible for repaying the loan
2) Groups are allowed to take huge credit
3) Government has instructed the banks to do so
4) Only half of the loan should be repaid

140) In India, barriers were put on foreign trade and investment _____ .
1) After first general elections
2) Before India became a Republic
3) After India achieved independence
4) Before Indian independence

141) If eye lens becomes thinner the focal length will _____
1) Increase   3) remain unchanged
2) Decrease
4) decrease to some extent and then increase after that

142) When viewed near the horizon, the apparent position of a star will be _____
1) below the actual position
2) on the left of the actual position
3) above the actual position
4) on the right of the actual position

143) Violet light has_____
1) longer wavelength and greater frequency than that of red light
2) Shorter wavelength and greater frequency than that of red light
3) Longer wavelength and shorter frequency than that of red light
4) Shorter wavelength and shorter frequency than that of red light

144) A concave lens of focal length 15 cm is held close to a sheet of paper for a long time on a bright sunny day. The paper will_____
1) catch fire when it is held within 15 cm away from the lens
2) not catch fire at all
3) catch fire when it is held at 15 cm from the lens
4) catch fire when it is held beyond 15 cm from the lens

145) According to the Cartesian sign convention the height of real image formed behind the mirror is _____
1) always positive   3) always negative
2) Zero
4) depends on distance of the object

146) If a ray of light strikes a plane mirror at an angle of 40^0 then the angle of incidence and angle of reflection will be_____
1) 40^0 and 50^0 2) 50^0 and 40^0
2) 50^0 and 50^0 4) 20^0 and 25^0

147) The minimum resistance that can be obtained using three 5 ohm resistors is_____
1) $5\,\Omega$ 2) $1.67\,\Omega$
3) $15\,\Omega$ 4) 1Ω

148) As more and more lamps are connected in a parallel circuit, the overall current drawn from the battery _____
1) Increases   2) decreases
3) remains the same
4) fluctuates between maximum and minimum

149) The correct symbol for showing electric bulb in an electric circuit is_____

1)
2)
3)
4)

150) The instrument used for measuring small currents due to changing magnetic field is _____

1) rheostat
2) battery
3) split rings
4) galvanometer

151) In India, the potential difference between live wire and neutral wire is_____

1) 260 V
2) 220 V
3) 240 V
4) OV

152) A current carrying conductor when placed perpendicular to the direction of magnetic field_____

1) Experiences maximum force
2) Experience no force
3) Experience minimum force
4) None of these

153) The element used in making solar cells is _____

1) Germanium
2) Silicon
3) Carbon
4) Aluminium

154) Hydro power plants utilize the potential energy of water stored at a height by_____

1) Changing potential energy to heat energy of water and then converting it to electrical energy.
2) Changing potential energy to gravitational energy of water and then converting it to electrical energy
3) There is no interchange of energy taking place
4) Changing potential energy to kinetic energy of flowing (falling) water and then converting it to electrical energy.

155) The minimum speed of wind that is required in a particular area to run a windmill is_____

1) 10 Kmph
2) 15 Kmph
3) 20 kmph
4) 25 kmph

156) The formation of sodium bicarbonate from Sodium Carbonate and water is an example of _____

1) Combination reaction
2) Double displacement reaction
3) Decomposition reaction
4) Displacement reaction

157) Pick which of the following chemical equation is balanced

1) $H_2 + Cl_2 \longrightarrow 2HCl$
2) $H_2 + O_2 \longrightarrow 2H_2O$
3) $2Na + Cl_2 \longrightarrow NaCl$
4) $Cu + O_2 \longrightarrow 2CuO$

158) Combustion reactions are_____

1) always endothermic
2) neither endothermic nor exothermic
3) always exothermic
4) endothermic or exothermic depending upon the nature of reactant

159) When a base is dissolved in water, the concentration of hydroxide ions per unit volume.

1) increases
2) decreases
3) remain same
4) increases on increasing temperature

160) The indicator which produces a pink colour in an alkaline solution is_____

1) methyl orange
2) turmeric paper
3) litmus paper
4) phenolphthalein

161) The salt which will give an acidic solution on dissolving in water is_____

1) CH_3COONa
2) NH_4Cl
3) KCl
4) Na_2CO_3

162) The formula of bleaching powder is _____

1) $CaOCl_2$
2) $CaCl_2\ 2H_2O$
3) $NaHCO_3$
4) Na_2CO_3

163) A non-metal used to preserve food material is
_____
1) Carbon   3) Phosphorus
2) Sulphur   4) Nitrogen

164) The correct decreasing order of reactivity of Al, Mg, Zn and Fe is _____
1) Al > Fe > Zn > Mg
2) Mg > Al > Zn > Fe
3) Zn > Al > Fe > Mg
4) Fe > Zn > Al > Mg

165) Na_2O and K_2O are _____
1) acidic oxidies   3) neutral oxides
2) basic oxides   4) anphoteric oxides

166) The atomic number of an element X is 19. The number of electrons in it's ion X^+ will be_____
1) 18   2) 19
3) 20   4) 21

167) The form of carbon which is known as black lead is _____
1) Coal   3) Diamond
2) Petroleum   4) Graphite

168) A group of organic compounds having similar structures and similar chemical properties in which the successive members differ by CH_2 group is called as_____
1) Reactivity series
2) Analogous series
3) Homologous Series
4) Isomers

169) Alkynes are represented by the general formula
1) $Cn\ H_{2n}$ 3) $Cn\ H_{2n-2}$
2) $Cn\ H_{2n+2}$ 4) $Cn\ H_{2n-1}$

170) The reaction of Carboxylic acid with an alcohol to form an ester is called_____
1) Saponification
3) Polymerization
2) Hydrogenation
4) Esterification

171) Blood corpuscles which help in the clotting of blood at the site of injury are called_____
1) Red blood corpuscles
2) White blood corpuscles
3) platelets
4) pleura

172) Pancreatic juice contains enzymes which digest_____
1) proteins and carbohydrates only
2) proteins and fats only
3) fats and carbohydrates only
4) proteins, fat and carbohydrates

173) The organism which can survive without oxygen is _____
1) Amoeba   2) Earthworm
3) Yeast   4) Leech

174) The number of pair of nerves which arise from the spinal cord is _____
1) 21   2) 31
3) 41   4) 51

175) The contraction of eye pupil due to presence of bright light is an example of _____
1) Adrenal reflex   2) voluntary reflex
3) spinal reflex   4) Cerebral reflex

176) The unicellular organism which reproduces by budding is_____
1) Spirogyra   2) Hydra
3) Planaria   4) Paramecium

177) Which of the following statements hold true for flowers?
i. Flowers are always bisexual
ii. Flowers contain sexual reproductive organs
iii. Flowers are produced in all groups of plants
iv. Flowers after fertilization give rise to fruits
1) ii and iv   2) ii and iii
3) i and iii   4) i and iv

178) The offspring produced due to crossing of two parents are called as _____
1) test cross   2) F2 generation
3) recessives   4) F1 generation

179) The organism which is not a consumer is _____
1) ant
2) algae
3) crocodile
4) deer

180) The importance of khadins in Rajasthan is _____
1) trap wild animals
2) promote soil erosion
3) recharge groundwater
4) hold water for irrigation

181) 8 girls and 12 boys can finish work in 10 days while 6 girls and 8 boys can finish it in 14 days. Find the time taken by the one girl alone that by one boy alone to finish the work.
(1) 120, 130
(2) 140,280
(3) 240,280
(4) 100,120

182) The abscissa of the point of interaction of the 'less than type' and of the 'more than type' cumulative frequency curve of grouped data gives
1) Mode
2) Median
3) Mean
4) All of the above

183) Cards, marked with numbers 7 to 21, are placed in a box and mixed thoroughly. A card is drawn from the box at random. The probability that the number on the taken out card is prime number.
1) $\frac{6}{28}$
2) $\frac{1}{3}$
3) 1
4) 0

184) The roots of the Quadratic Equation
$\frac{2}{5} x^2 + x - \frac{3}{5} = 0$
1) -3 & $\frac{1}{2}$
2) -3 & $\frac{-1}{2}$
3) 3 & $\frac{1}{2}$
4) 3 & $\frac{-1}{2}$

185) The Decimal Expansion of $\frac{241}{4000}$ is
1) 0.0241
2) 0.06025
3) 0.6025
4) 0.625

186) For what Value of K, will the expression $11x^2 - Kx^2 - 8x - 21$ is divisible by $x - \frac{k}{2}$
1) 6
2) -6
3) 3
4) 0

187) Consider circle C of radius 6 cm with Centre O. The difference in the area of the circle C and the area of sector of the circle C subtending an angle 80^0 at O is_____
1) 26π cm^2
2) 28π cm^2
3) 16π cm^2
4) 30π cm^2

188) The square root of
$\frac{(x^6 + 1)}{x + 1} - x^5 + x^4 - 3x^3 + x + 2$ is
1) $x^2 + x + 1$
2) $x^2 - x + 1$
3) $x^2 - x - 1$
4) $x^2 + x - 1$

189) Four Solid Spheres of the same size are made by melting cone of the base Diameter 2 cm and height 16 cm. The diameter of each Sphere is
1) 1 cm
2) 2 cm
3) 4 cm
4) 6 cm

190) In the given Figure ΔPQR is circumscribing a circle. The length of PR is _____ .
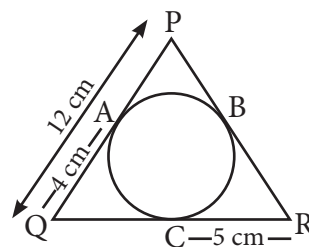
1) 17 cm
2) 13 cm
3) 9 cm
4) 21 cm

191) The perimeter of a square is 56 cm. A rectangle has the same width as the square. The length of the rectangle is double its width. The area, in square cm of the rectangle is_____
1) 196
2) 392
3) 588
4) 784

192) A train leaves a station at 6: 14 a. m. and reaches its destination after 13 hours 48 minutes. The time at the destination is _____
1) 8: 02 p. m.
2) 8: 12 p. m.
3) 7: 12 p. m.
4) 7: 02 p. m.

193) If a hemispherical tank has inner diameter 5.6m ,its capacity will be equal to_____
1) 45995 litres
2) 45996 litres
3) 45885 litres
4) None of these

194) On dividing the polynomial $27x^3 + y^3$ by $9x^2 - 3xy + y^2$, the remainder is _
1) 3x+y
2) 3x-y
3) Zero
4) None of these

195) Centroid of triangle whose vertices are A(−4,6), B(2, −2) and C(2, 5) is ._____
1) (0, 2)
2) (0, 3)
3) (1, 3)
4) (1, 2)

196) The sum of the 4th and 8th terms of an AP is 24 and the sum of the 6th and 10th terms is 44. The first three terms of the AP is_____
1) -13, -18, -23
2) 13, 18, 23
3) 57, 62, 67
4) -57, -62, -67

197) Pipe A can fill the tank in 45 hours and pipe B can fill it in 36 hours. If both the pipes are opened in the empty tank. Then the ime required to fill the tank is _____ .
1) 20 hours
2) 15 hours
3) 12 hours
4) 10 hours

198) Three numbers are in the ratio 2 : 3 : 4. The sum of their cubes is 33957. The second number is _____ .
1) 14
2) 21
3) 28
4) 99

199) If α and β are the roots of the equation $x^2 - px + q = 0$ then $\alpha^2 \beta^2$ is _____ .
1) $p^2 - 2q$
2) $p^2 + 2q$
3) $p^2 - q^2$
4) none of the these

200) $\triangle ABC \sim \triangle PQR$ and $\dfrac{AB}{PQ} = \dfrac{17}{15}$ then _____.
1) Area of $\triangle ABC$ is bigger
2) Area of $\triangle PQR$ is bigger
3) Both triangles have equal area
4) Cannot be decided