

GENERAL INTELLIGENCE AND REASONING

1. In the following question, select the related word from the given alternatives :
Smoke : Pollution :: Fire : ?
(1) Death (2) Sound
(3) Ash (4) Cold
2. In the following question, select the related word pair from the given alternatives :
Players : Team :: ? : ?
(1) Car : Group
(2) Ship : Fleet
(3) Airplane : Flight
(4) Pen : Heap
3. In the following question, select the related letters from the given alternatives :
GLOR : FJLN :: TWQK : ?
(1) SUNG (2) SUMG
(3) SUGN (4) SUGM
4. In the following question, select the related letters from the given alternatives :
GHI : DFH :: LMN : ?
(1) IMK (2) JLM
(3) ILM (4) IKM
5. In the following question, select the related number from the given alternatives :
8 : 512 :: 6 : ?
(1) 216 (2) 312
(3) 408 (4) 512
6. In the following question, select the related number from the given alternatives :
122 : 145 :: 226 : ?
(1) 255 (2) 256
(3) 257 (4) 259
7. In the following question, select the odd word from the given alternatives :
(1) Skin (2) Lungs
(3) Heart (4) Kidneys
8. In the following question, select the odd word pair from the given alternatives :
(1) Ink : Inkpot
(2) Bottle : Wine

- (3) Tea : Cup
(4) Water : Jug
9. In the following question, select the odd letters from the given alternatives :
(1) GJM (2) PSV
(3) MPR (4) KNQ
10. In the following question, select the odd letters from the given alternatives :
(1) MT (2) CJ
(3) SZ (4) FN
11. In the following question, select the odd number pair from the given alternatives :
(1) 11 - 44 (2) 12 - 72
(3) 13 - 52 (4) 14 - 48
12. In the following question, select the odd number pair from the given alternatives :
(1) 5 - 30
(2) 12 - 84
(3) 11 - 66
(4) 8 - 48
13. Arrange the given words in the sequence in which they occur in the dictionary :
1. Rangle 2. Regal
3. Royal 4. Room
5. Rested
(1) 15432 (2) 45312
(3) 12543 (4) 13542
14. Arrange the given words in the sequence in which they occur in the dictionary :
1. Soul 2. Strain
3. Syrup 4. Sand
5. Strained
(1) 41253 (2) 42153
(3) 54312 (4) 45312
15. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series :
GD, DI, AP, XY, ?
(1) UH (2) IU
(3) ST (4) UJ
16. A series is given with one term missing. Select the correct alternative from the given ones that will complete the series :

- WVU, TSR, QPO, ?
(1) NML (2) LMN
(3) LMK (4) KLM
17. In the following question, select the missing number from the given series :
1, 1, 3, 4, 5, 9, 7, 16, 9, 25, 11, ?
(1) 17 (2) 36
(3) 49 (4) 37
 18. In the following question, select the missing number from the given series :
?, 5, 15, 45, 113
(1) 1 (2) 2
(3) 3 (4) 4
 19. Six people are sitting in a row. A is sitting towards immediate left of B and immediate right of C. C is sitting to immediate right of F. D is immediate right of E who is to the left of F, then which two people are sitting in the centre?
(1) D and B (2) A and B
(3) F and C (4) E and D
 20. Sunil's position from the left in a row of boys is 20th and Deepak's position from the right is 36th. After interchanging their position, Sunil becomes 28th from the left. How many boys are there in the row?
(1) 52 (2) 63
(3) 59 (4) 48
 21. Vikram started from point R and walked straight 7 km west, then turned left and walked 2 km and again turned left and walked straight 4 km. In which direction is he from R?
(1) North-East
(2) South-West
(3) South-East
(4) North-West
 22. In the following question, select the word which cannot be formed using the letters of the given word.
LIBERATION
(1) RATIO (2) AION
(3) BEAR (4) LIBERAL

23. In the following question, select the word which cannot be formed using the letters of the given word.

DELIBERATE

- (1) DILATE (2) TAIL
(3) BETRAY (4) ELATED

24. In a certain code language, "SATURN" is written as "JVQXWW" and "URANUS" is written as "OYJENY". How is "JUITER" written in that code language?

- (1) NIPMQN (2) NIPMYF
(3) NQMPIN (4) FYLMPI

25. In a certain code language, "CAGES" is written as "NADYB" and "SILVER" is written as "LZRIGR". How is "WATER" written in that code language?

- (1) MAQYV (2) SGWEB
(3) QCPVR (4) VYQAM

26. If "B" denotes "multiplied by", "C" denotes "subtracted from", "A" denotes "added to" and "D" denotes "divided by", then which of the following equation is true?

- (1) $24 D 12 B 3 A 12 = 18$
(2) $36 D 6 B 3 A 2 = 74$
(3) $42 A 7 B 2 D 2 = 35$
(4) $56 D 14 B 2 C 4 = 12$

27. If "-" denotes "divided by", "+" denotes "subtracted from", "x" denotes "added to" and "÷" denotes "multiplied by", then $4 \div 16 \times 5 + 4 - 2 = ?$

- (1) 2 (2) 43
(3) 22 (4) 67

28. If $38 \# 49 = 24$ and $96 \# 51 = 21$, then $87 \# 78 = ?$

- (1) 26 (2) 21
(3) 28 (4) 30

29. If $27 * 4 = 77$ and $31 * 9 = 239$, then $21 * 6 = ?$

- (1) 94 (2) 107
(3) 99 (4) 106

30. In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives :

12	3	8	4	8	6
4	2	1	9	3	?

- (1) 1 (2) 2
(3) 4 (4) 12

31. In the following question, select the number which can be placed at the sign of question mark (?) from the given alternatives :

1	4	2	13
3	6	5	95
2	4	3	?

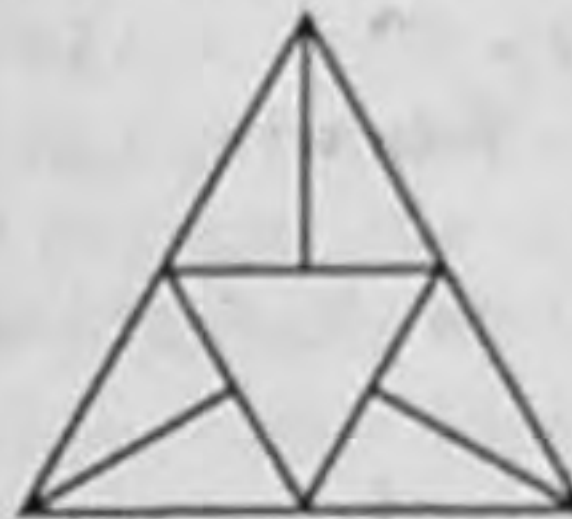
- (1) 12 (2) 24
(3) 26 (4) 29

32. How many triangles are there in the given figure?



- (1) 6 (2) 7
(3) 8 (4) 10

33. How many triangles are there in the given figure?



- (1) 10 (2) 11
(3) 12 (4) 14

34. In each of the following question below are given some statements followed by some Conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the Conclusions and then decide which of the given Conclusions logically follows the given statements.

Statements :

- I. No cup is plate.
II. All plates are spoons.

Conclusions :

- I. Some cups are spoons.
II. Some spoons are plates.
III. Some plates are spoons.
(1) Only Conclusion II follows
(2) Only Conclusion III follows
(3) Only Conclusions I and III follow
(4) Only Conclusions II and III follow

35. In each of the following question below are given some statements followed by some

Conclusions. Taking the given statements to be true even if they seem to be at variance from commonly known facts, read all the Conclusions and then decide which of the given Conclusions logically follows the given statements.

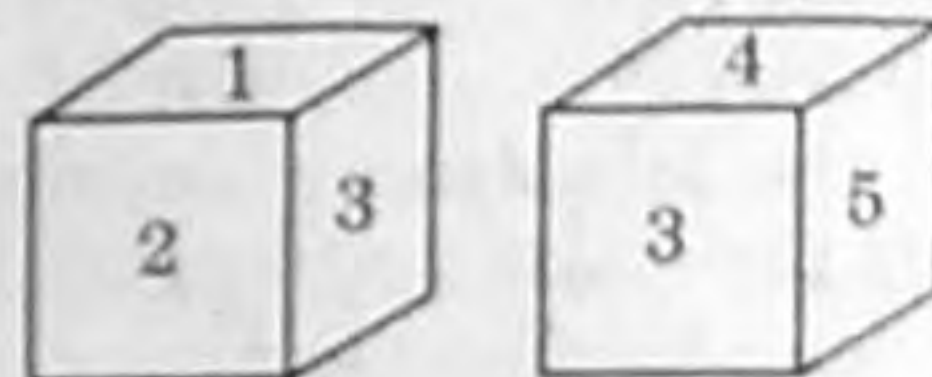
Statements :

- I. All men are hardworking.
II. No advocate is hardworking.
III. Some beautiful are men.

Conclusions :

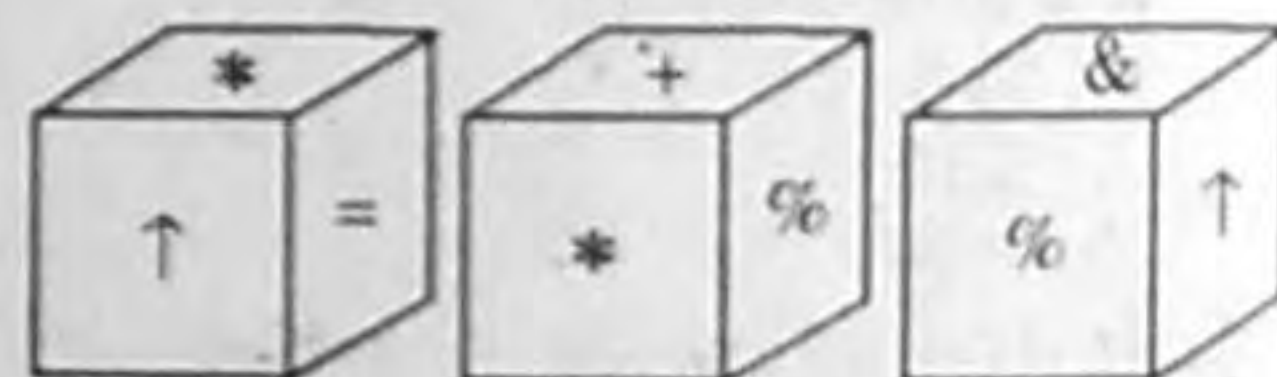
- I. Some beautiful are hardworking.
II. Some advocates are not beautiful.
III. Some beautiful are not advocates.
(1) Only Conclusion III follows
(2) Only Conclusions I and III follow
(3) Only Conclusions II and III follow
(4) Only Conclusions I and II follow

36. Two positions of a cube are shown below. What will come opposite to face containing '1'?



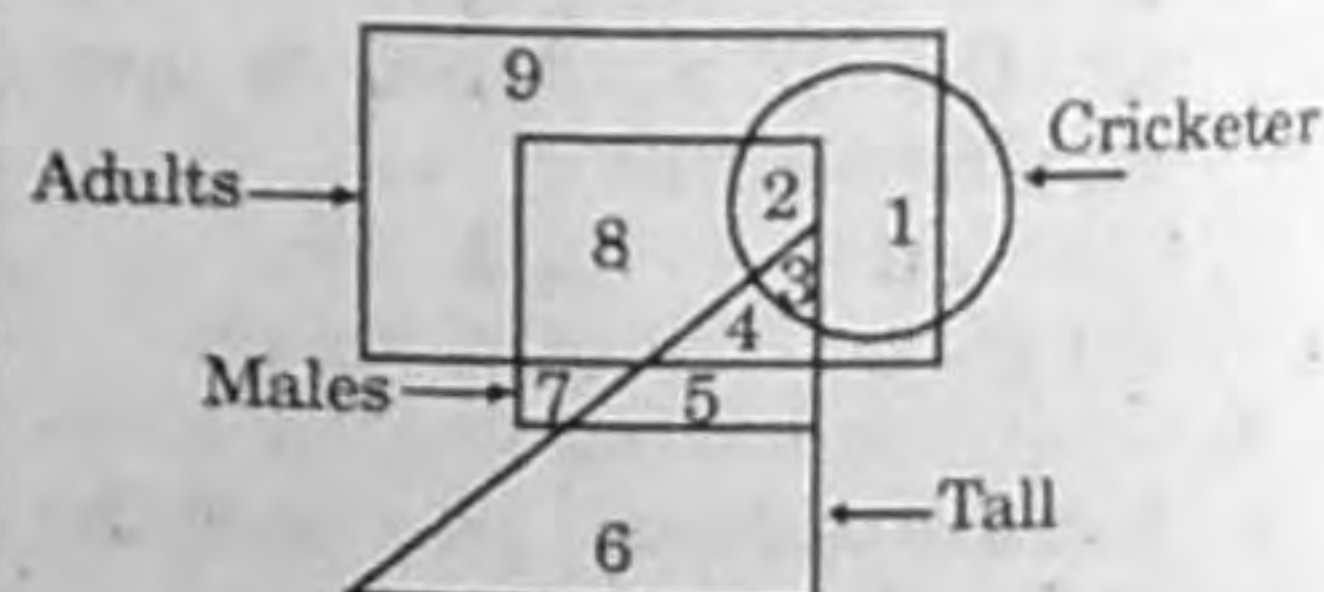
- (1) 4 or 5 (2) 5
(3) 4 (4) 3

37. Three positions of a cube are shown below. What will come opposite to face containing '*'?



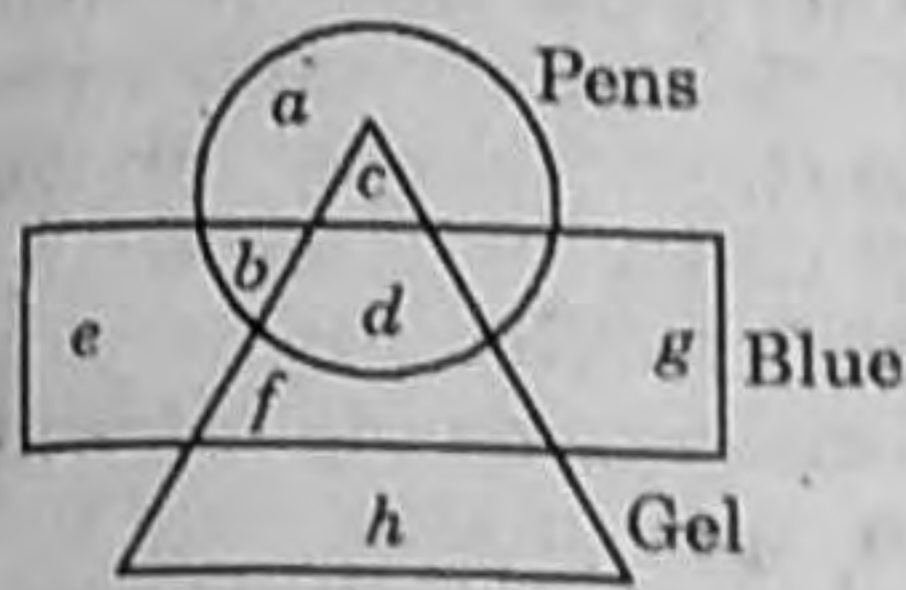
- (1) ↑ (2) %
(3) + (4) &

38. In the given figure, which number represents male cricketers who are adults but are not tall?



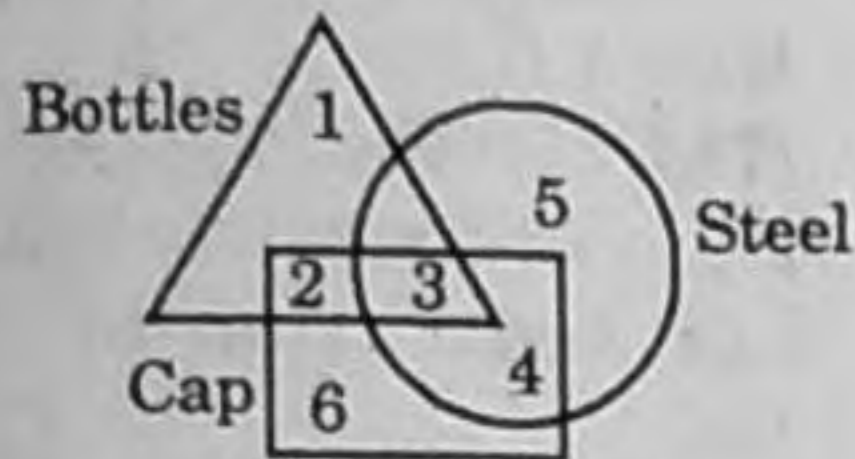
- (1) 3 (2) 2
(3) 8 (4) 4

39. In the given figure, which alphabet represents gel pens which are not blue?



- (1) c (2) d
(3) h (4) b

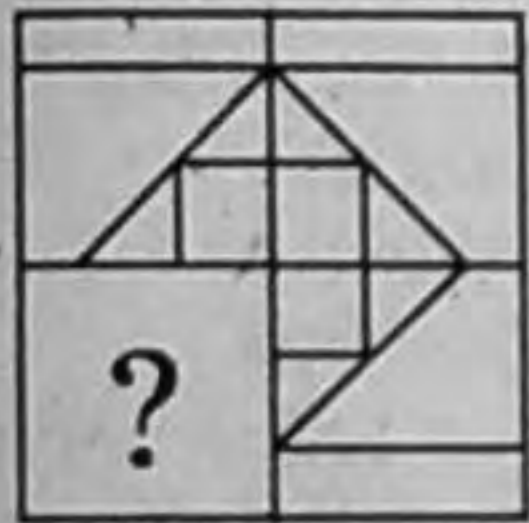
40. In the given figure, which number represents steel bottles which are caps?



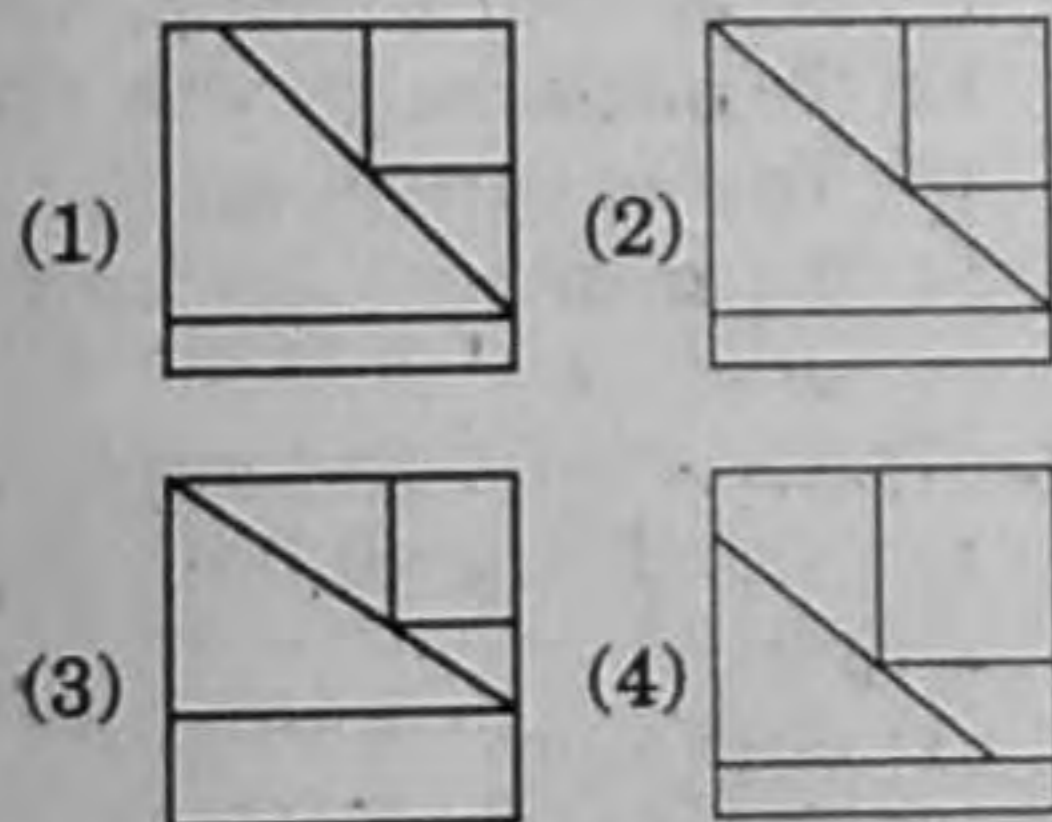
- (1) 2 (2) 4
(3) 3 (4) 6

41. Which answer figure will complete the pattern in the question figure?

Question Figure :



Answer Figures :

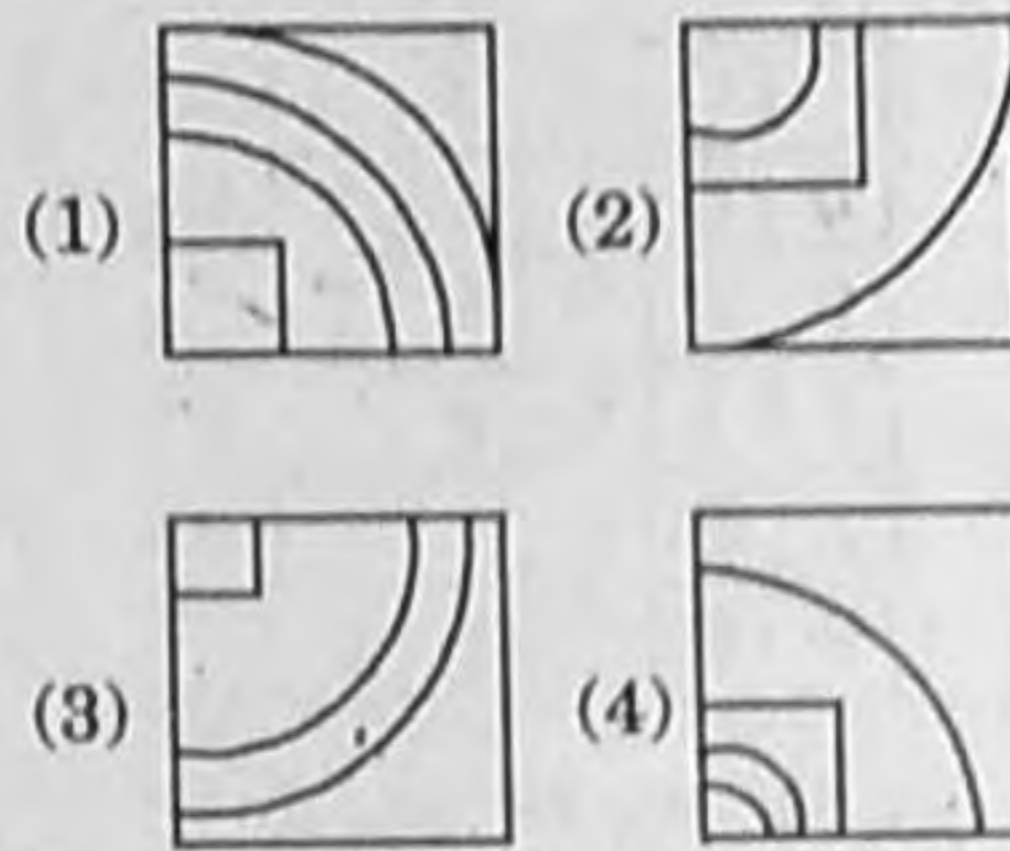


42. Which answer figure will complete the pattern in the question figure?

Question Figure :

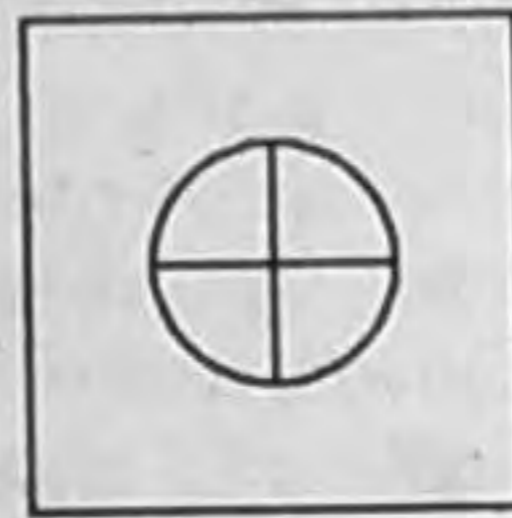


Answer Figures :

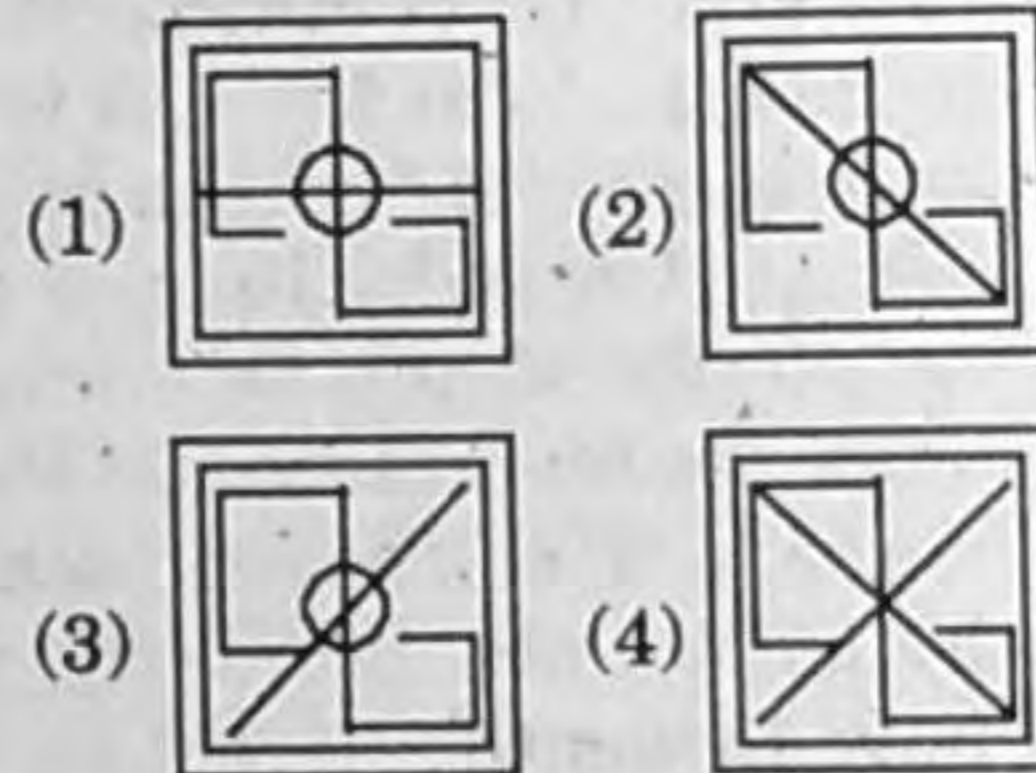


43. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question Figure :

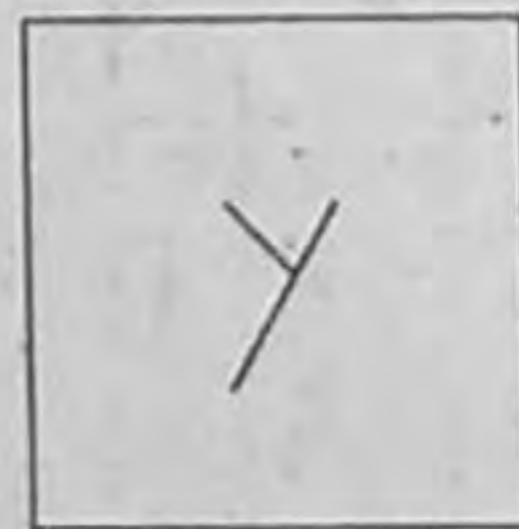


Answer Figures :

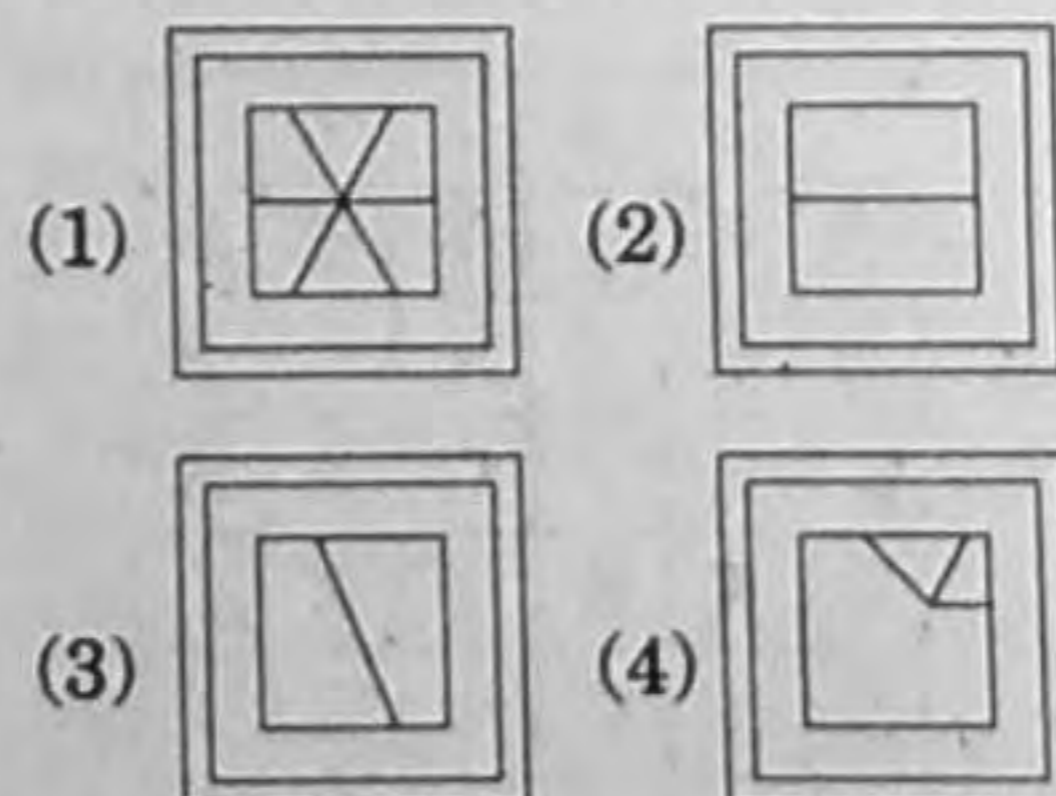


44. From the given answer figures, select the one in which the question figure is hidden/embedded.

Question Figure :



Answer Figures :

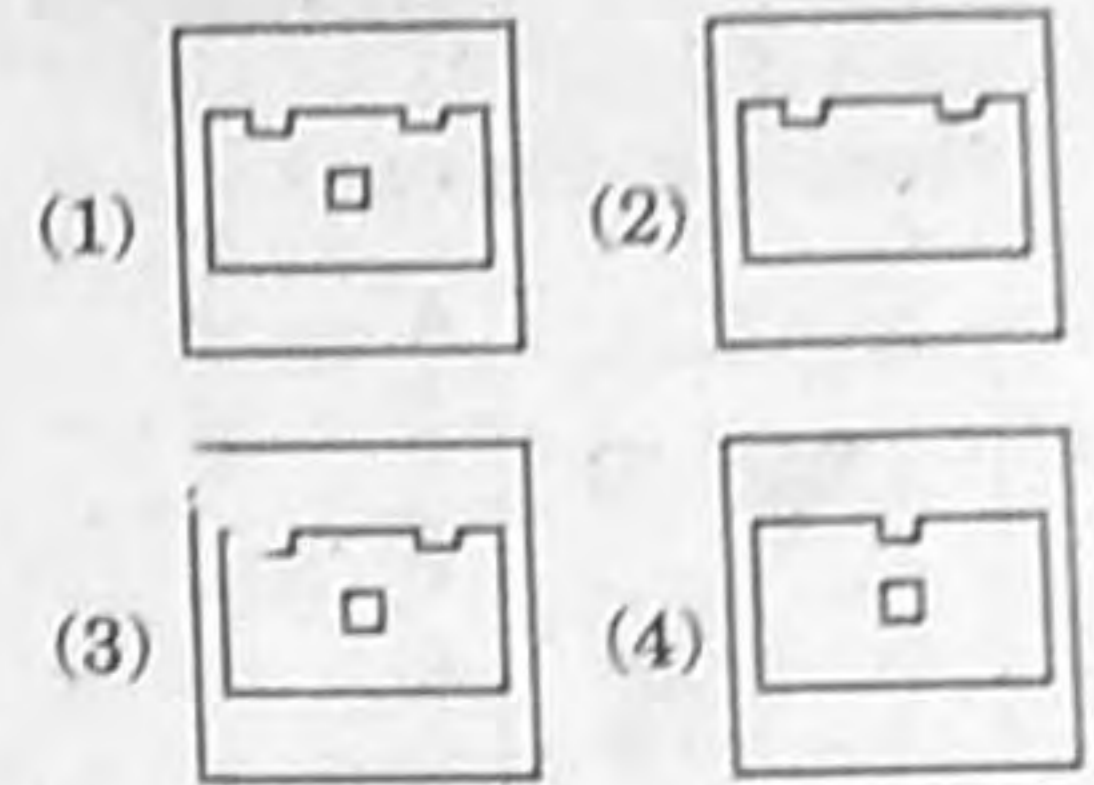


45. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?

Question Figures :



Answer Figures :

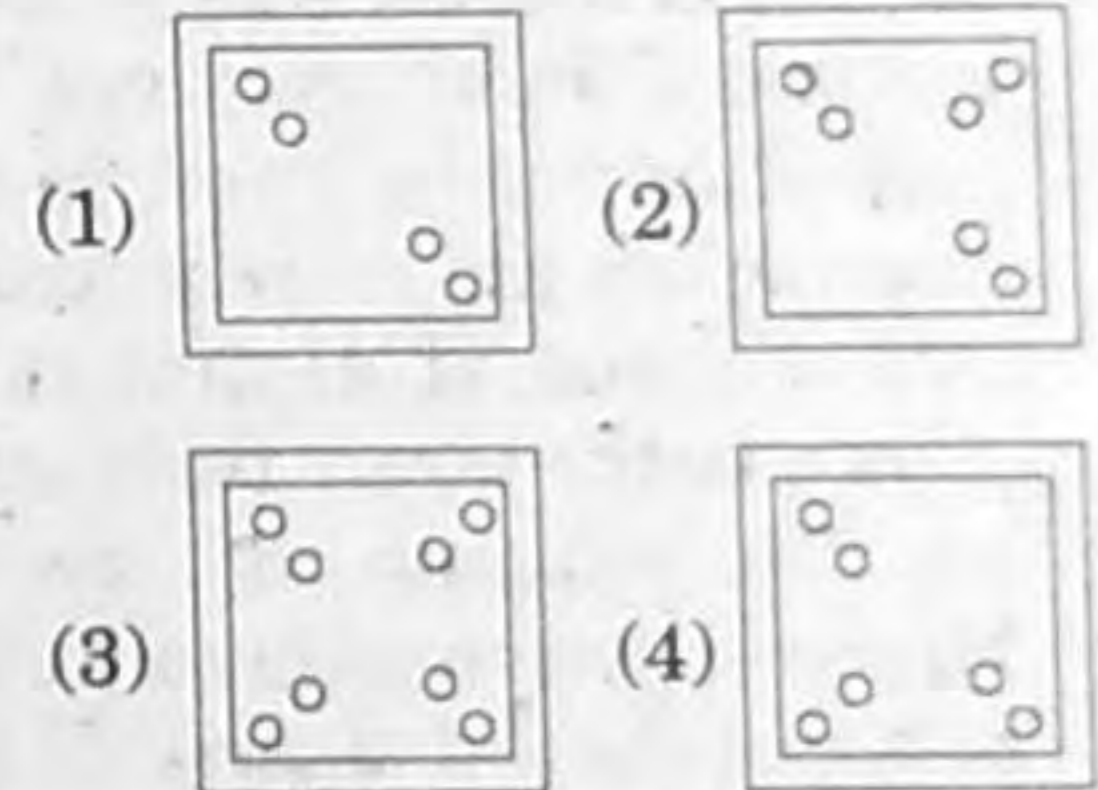


46. A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened?

Question Figures :

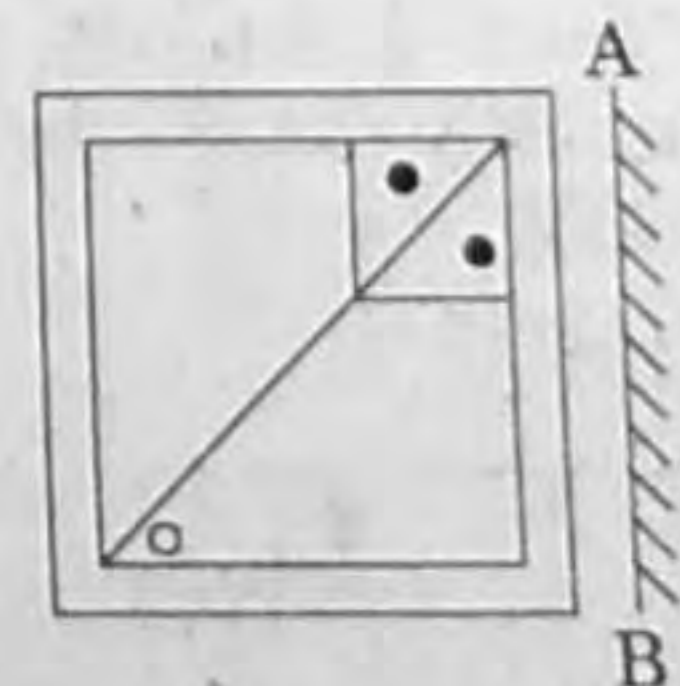


Answer Figures :

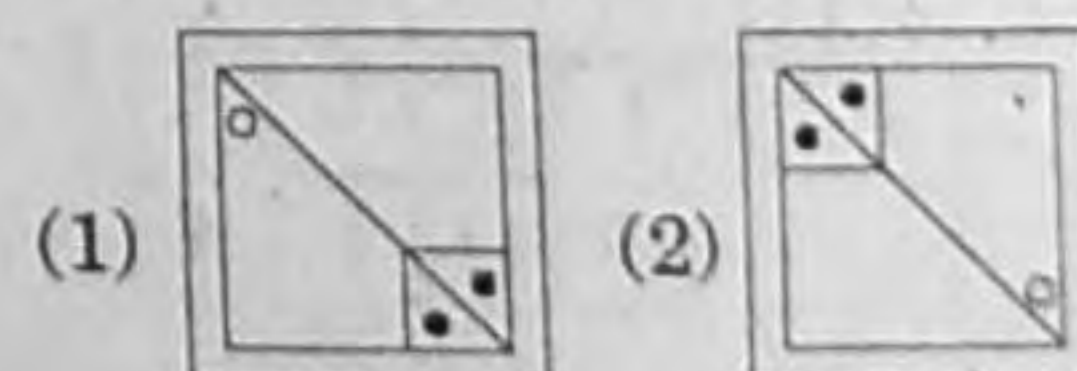


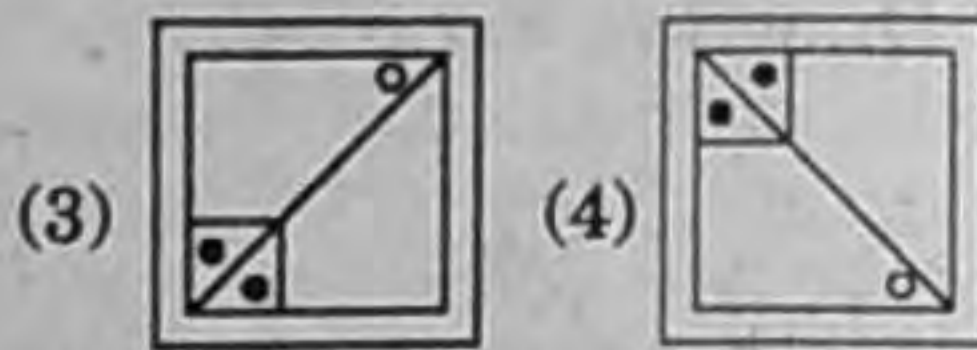
47. If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure?

Question Figure :



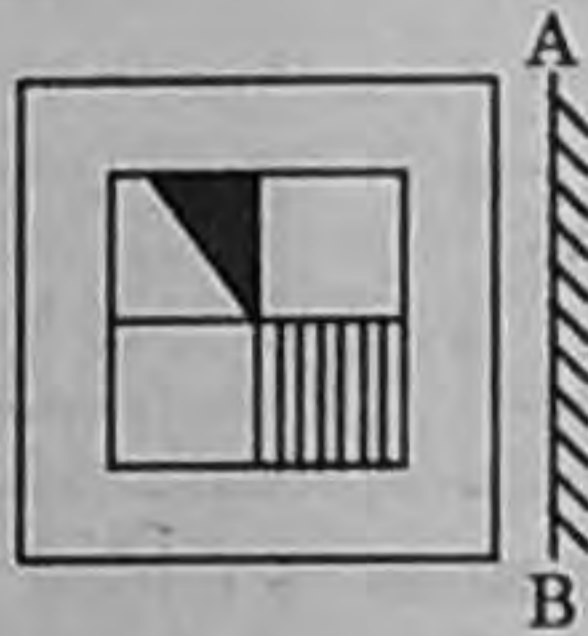
Answer Figures :



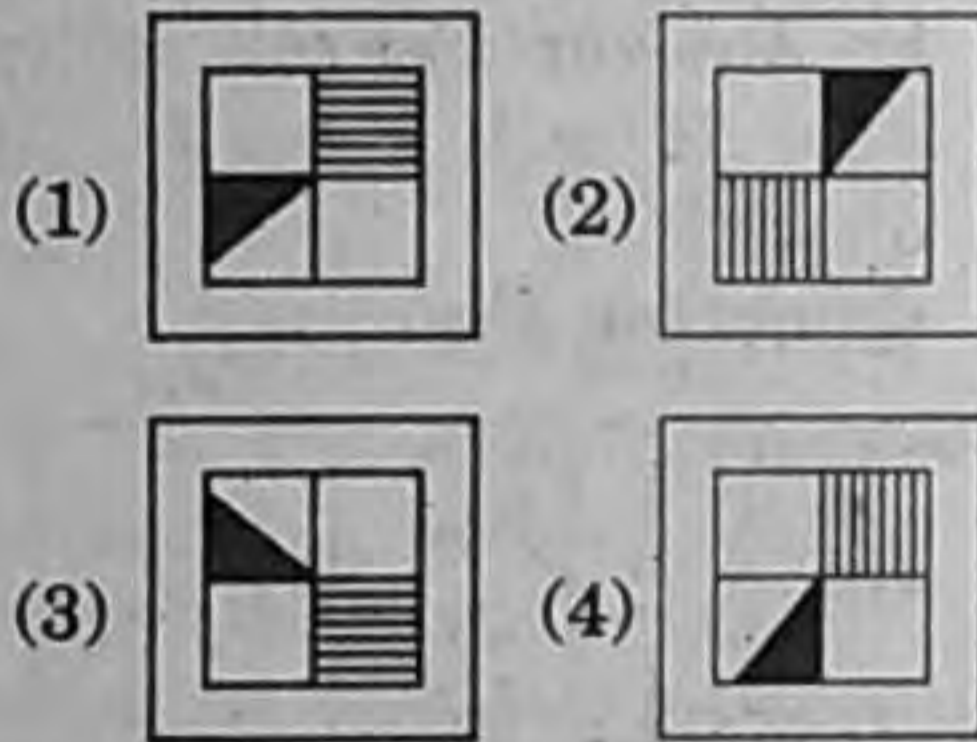


48. If a mirror is placed on the line AB, then which of the answer figures is the right image of the given figure?

Question Figure :



Answer Figures :



49. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabet as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'D' can be represented by 11, 42 etc., and 'T' can be represented by 68, 99 etc. Similarly, you have to identify the set for the word "NOSE".

Matrix-I

	0	1	2	3	4
0	L	A	N	O	D
1	O	D	L	A	N
2	A	N	O	D	L
3	D	L	A	N	O
4	N	O	D	L	A

Matrix-II

	5	6	7	8	9
5	E	I	C	P	S
6	P	S	E	I	C
7	I	C	P	S	E
8	S	E	I	C	P
9	C	P	S	E	I

- (1) 21, 10, 78, 98
 (2) 13, 22, 66, 56
 (3) 02, 34, 59, 68
 (4) 41, 42, 85, 86
50. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabet as shown in the given two matrices. The columns and rows of Matrix-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, for example, 'S' can be represented by 10, 34 etc., and 'Y' can be represented by 57, 95 etc. Similarly, you have to identify the set for the word 'PARK'.

Matrix-I

	0	1	2	3	4
0	P	T	A	S	E
1	S	E	P	T	A
2	T	A	S	E	P
3	E	P	T	A	S
4	A	S	E	P	T

Matrix-II

	5	6	7	8	9
5	K	I	Y	C	R
6	C	R	K	I	Y
7	I	Y	C	R	K
8	R	K	I	Y	C
9	Y	C	R	K	I

- (1) 13, 14, 85, 55
 (2) 31, 02, 78, 98
 (3) 23, 22, 66, 67
 (4) 00, 40, 59, 78

GENERAL KNOWLEDGE AND GENERAL AWARENESS

51. What is the full form of GNI?
 (1) Gross National Interest
 (2) Gross National Income
 (3) Gross Net Interest
 (4) Gross Net Income
52. Which among the following is an apex institution in the sphere of Agriculture credit in India?
 (1) NABARD (National Bank for Agriculture and Rural Development)
 (2) SIDBI (Small Industries Development Bank of India)
 (3) EXIM Bank
 (4) NAFED (National Agricultural Cooperative Marketing Federation of India Ltd.)
53. Which organisation measures Gross Domestic Product in India?
 (1) Reserve Bank of India
 (2) NITI Aayog
 (3) State Bank of India
 (4) Central Statistics Office
54. Who among the following suggested the 'Rolling Plan'?
 (1) John W. Miller
 (2) D. T. Lakdawala
 (3) Gunnar Myrdal
 (4) Sukhmay Chakarborty
55. Why was 'Tendulkar Committee' constituted?
 (1) To measure unemployment
 (2) To measure growth rate
 (3) To measure poverty
 (4) To measure agricultural produce
56. Which of the following is not a branch of federal form of government?
 (1) Judiciary
 (2) Executive
 (3) Legislative
 (4) Media
57. What is meant by 'defection'?
 (1) Changing party after winning election
 (2) Changing party before winning election
 (3) Changing party after losing election
 (4) Changing party before losing election

58. Who among the following said that 'Democracy is the government of the people, for the people and by the people'?
- (1) Aristotle (2) Plato
(3) Abraham Lincoln
(4) George Bush
59. How many types of emergencies can be proclaimed in India?
- (1) Five (2) Six
(3) Two (4) Three
60. Indian Constitution contains how many Parts?
- (1) Twelve Parts
(2) Twenty-two Parts
(3) Eighteen Parts
(4) Twenty-five Parts
61. Money bill can be introduced first in which house of Parliament?
- (1) Only in Lok Sabha
(2) Only in Rajya Sabha
(3) Both in Lok Sabha and Rajya Sabha
(4) Either in Lok Sabha or in Rajya Sabha
62. In how many ways Indian citizenship can be lost?
- (1) One (2) Two
(3) Three (4) Four
63. Who of the following appoints the Prime Minister of India?
- (1) President of India
(2) Chief Justice of India
(3) Attorney General of India
(4) Governor
64. Who among the following was one of the discoverers of Indus Valley Civilization?
- (1) Lord Wooley
(2) Daya Ram Sahni
(3) V. S. Agarwal
(4) A. L. Basham
65. When was Delhi declared as the capital of India?
- (1) 1901 (2) 1911
(3) 1913 (4) 1921
66. Magical charms and spells are given in which of the following Vedas?
- (1) Rig Veda (2) Sama Veda
(3) Yajurveda Veda
(4) Atharva Veda
67. In Indus Valley Civilization, Dholavira is famous for which of the following?
- (1) Rock cut architecture
(2) Sea port

- (3) Water Conservation
(4) Pottery
68. Who was the founder of Arya Samaj?
- (1) Mula Shankar
(2) Bal Gangadhar Tilak
(3) Swami Dayanand Saraswati
(4) Rabindra Nath Tagore
69. Which of the following pair is CORRECT?
- (1) 23.5° South - Tropic of Cancer
(2) 23.5° South - Tropic of Capricorn
(3) 23.5° North - Tropic of Capricorn
(4) 66° North - Antarctic Circle
70. Which of the following sea has highest salinity?
- (1) Red Sea (2) Black Sea
(3) Dead Sea (4) Arabian Sea
71. Ox-bow lakes are formed when river is _____.
- (1) Fast moving
(2) At steep slope
(3) At very low gradient
(4) At near point of origin
72. In which country Cape Comorin is located?
- (1) India
(2) Pakistan
(3) South Africa
(4) South America
73. Which among the following is a green house gas?
- I. Methane
II. Carbon dioxide
III. Nitrogen dioxide
- (1) I and II
(2) I and III
(3) II and III
(4) All options are correct.
74. Which of the following cell organelle is present only in plant cell?
- (1) Mitochondria
(2) Cell wall
(3) Cell membrane
(4) Vacuole
75. Which of the following is a vestigial organ in human body?
- (1) Wisdom teeth
(2) Spleen (3) Thyroid
(4) Gall bladder
76. Which of the following enzyme is essential for clotting of blood?

- (1) Amylase (2) Thrombin
(3) Pepsin (4) Renin
77. Which of the following is a genetic disease?
- (1) Down syndrome
(2) Elephantiasis
(3) Asthama
(4) Night blindness
78. Onion is an example of bulb, which is a modified _____.
- (1) Stem (2) Root
(3) Leaf (4) Flower
79. Which of the following gives colour to human skin?
- (1) Adenosine (2) Thymine
(3) Melanin (4) Guanine
80. A flying jet possesses _____.
- (1) Potential energy
(2) Kinetic energy
(3) Wind energy
(4) Both kinetic and potential energy
81. Direction of heat flow depends on _____.
- (1) Density (2) Energy
(3) Mass
(4) Temperature
82. Which of the following phenomena is involved in Kaleidoscope?
- (1) Refraction
(2) Reflection
(3) Total Internal reflection
(4) Diffraction
83. In a magnifying glass _____ lens is used.
- (1) Convex (2) Concave
(3) Plano concave
(4) Plano convex
84. Which of the following is also termed as main memory of computer?
- (1) RAM (2) ROM
(3) Hard disk
(4) Compact disk
85. BIT is also known as _____.
- (1) Binary language
(2) Binary digit
(3) Binary Number
(4) Gigabyte
86. Match of the following.
- | Nature | Substance |
|------------|---------------------|
| 1. Acidic | a. Distill water |
| 2. Basic | b. Carbonated drink |
| 3. Neutral | c. Soap |
- (1) 1 - a, 2 - c, 3 - b
(2) 1 - b, 2 - c, 3 - a
(3) 1 - a, 2 - b, 3 - c
(4) 1 - c, 2 - a, 3 - b

87. Which of the following is radioactive in nature?
 (1) Helium (2) Sodium
 (3) Thorium (4) Platinum
88. Which of the following is used as fuel rods in Atomic reactor?
 (1) Sodium (2) Uranium
 (3) Graphite (4) Boron
89. Bleaching action of Chlorine is due to which reaction?
 (1) Oxidation
 (2) Hydrolysis
 (3) Redox
 (4) Decomposition
90. Which of the following is a major component of water pollution in Bengal Basin?
 (1) Chromium
 (2) Arsenic
 (3) Calcium
 (4) Potassium
91. Identify correct type of food chain :
 Dead animal → maggots → frog → snake
 (1) Decomposer food chain
 (2) Detritus food chain
 (3) Grazing food chain
 (4) Parasitic food chain
92. In which of the following ecosystem pyramid of biomass is upright?
 (1) Pond ecosystem
 (2) Grassland ecosystem
 (3) Fresh water ecosystem
 (4) Forest ecosystem
93. Ministry of Health and family welfare has launched the 'Test and Treat Policy' for _____ patients.
 (1) Polio (2) HIV
 (3) Malaria (4) Cancer
94. Karl Landsteiner is known for the discovery of which one of the following?
 (1) Cresco graph
 (2) Radioactivity
 (3) Blood group
 (4) X-rays
95. National sport of Malaysia is
 (1) Badminton
 (2) Hockey
 (3) Table Tennis
 (4) Chess
96. Lotus Temple is known for which religion?
 (1) Judaism (2) Buddhism
 (3) Bahai (4) Taoism

97. Who is the recipient of Padma Shri for the year 2016 in the field of sports - Cricket along with Virat Kohli?
 (1) Polly Umrigar
 (2) Amit Bhandari
 (3) Shekhar Naik
 (4) Bishan Singh Bedi
98. Who has written the book named 'The People's President: Dr. A.P.J. Abdul Kalam'?
 (1) S. M. Khan
 (2) Sourabh Duggal
 (3) Tarun Vijay
 (4) Shri Vijay Kumar
99. Which country has opened its consulate in Chennai on 28 April, 2017?
 (1) Kazakhstan
 (2) Uzbekistan
 (3) Iran (4) Israel
100. Katchatheevu Island was ceded by India to which country in 1974?
 (1) Sri Lanka (2) Maldives
 (3) Indonesia (4) Myanmar

QUANTITATIVE APTITUDE

101. If $\frac{1}{N} = \frac{(\sqrt{6} + \sqrt{5})}{(\sqrt{6} - \sqrt{5})}$, what is the value of N?
 (1) $6 - \sqrt{30}$ (2) $6 + \sqrt{30}$
 (3) $11 - 2\sqrt{30}$ (4) $11 + 2\sqrt{30}$
102. What is the value of positive square root of $(69 + 28\sqrt{5})$?
 (1) $7 + 2\sqrt{5}$ (2) $7 - 2\sqrt{5}$
 (3) $2 + 7\sqrt{5}$ (4) $2 - 7\sqrt{5}$
103. $3^{11} + 3^{12} + 3^{13} + 3^{14}$ is divisible by _____.
 (1) 7 (2) 8
 (3) 11 (4) 14
104. A boy added all natural numbers from 1 to 12, however he added one number twice due to which the sum became 80. What is the number which he added twice?
 (1) 3 (2) 2
 (3) 7 (4) 8
105. What smallest value must be added to 508, so that the resultant is a perfect square?
 (1) 4 (2) 9
 (3) 18 (4) 21

106. Raman is 25% more efficient than Aman. If Aman can complete a piece of work in 25 days, Raman can complete the same work in how many days?
 (1) 12 (2) 15
 (3) 16 (4) 20
107. A and B together can complete a work in 30 days. They started together but after 6 days A left the work and the work is completed by B after 36 more days. A alone can complete the entire work in how many days?
 (1) 45 (2) 90
 (3) 60 (4) 120
108. The marked price of an article is 40% more than its cost price. If 10% discount is given, what is the profit per cent?
 (1) 10 (2) 20
 (3) 26 (4) 32
109. What will be the net discount (in per cent) after giving three successive discounts of 10%, 20% and 30%?
 (1) 50.4 (2) 49.6
 (3) 45.3 (4) 48.4
110. The ratio of two numbers is 3 : 5. If both numbers are increased by 8, the ratio becomes 13 : 19. What is the sum of the two numbers?
 (1) 32 (2) 48
 (3) 40 (4) 72
111. If $3A = 5B$, what is the value of $\frac{(A+B)}{B}$?
 (1) $\frac{8}{3}$ (2) $\frac{8}{5}$
 (3) $\frac{5}{8}$ (4) $\frac{5}{3}$
112. What is the average of first 29 even numbers?
 (1) 30 (2) 31
 (3) 32 (4) 33
113. The average of five consecutive odd numbers is 27. What is the product of the first and the last number?
 (1) 621 (2) 667
 (3) 713 (4) 725
114. A man bought nine pens for a rupee. How many pens should he sell for a rupee to gain 50%?
 (1) 3 (2) 6
 (3) 7 (4) 8

115. On an article the profit is 210% of the cost price. If the cost price increases by 40% but the selling price remains constant, approximately what per cent of selling price will be the profit?

- (1) 55 (2) 62
(3) 74 (4) 85

116. If the price of apple increases from Rs. 80 per kg to Rs. 100 per kg, by what per cent a person should decrease the consumption of apple so that his expenditure remains same?

- (1) 25 (2) 22
(3) 20 (4) 18

117. If 25% of a number is 6, what is the number which is 50% more than the initial number?

- (1) 36 (2) 24
(3) 30 (4) 18

118. A boat travels 60 kilometres downstream and 20 kilometres upstream in 4 hours. The same boat travels 40 kilometres downstream and 40 kilometres upstream in 6 hours. What is the speed (in km./hr.) of the stream?

- (1) 24 (2) 16
(3) 18 (4) 20

119. 50 trees are standing in a line such that distance between any two consecutive trees is same. A car takes 18 seconds to travel from 13th tree to 34th tree. How much time (in seconds) will it take to reach from the first tree to the 50th tree?

- (1) 42 (2) 42.85
(3) 45 (4) 49

120. What will be the amount on Rs. 12500 at the rate of 20% per annum compounded yearly for 3 years?

- (1) Rs. 21080 (2) Rs. 21560
(3) Rs. 20600 (4) Rs. 21600

121. A certain sum becomes 7 times in 8 years, at simple interest, then in how many years will it become 19 times of itself?

- (1) 15 (2) 18
(3) 28 (4) 24

Directions (122-125): The table given below shows the runs scored by 5 players in four matches.

Player	Match			
	I	II	III	IV
A	70	105	55	135
B	40	35	95	72
C	60	68	75	85
D	95	45	55	60
E	105	110	125	122

122. What is the difference between total runs scored by A and B in four matches?

- (1) 111 (2) 123
(3) 98 (4) 135

123. Runs scored by C in match II is how much per cent more than the runs scored by C in match I?

- (1) 11.76 per cent
(2) 16.66 per cent
(3) 17.12 per cent
(4) 13.33 per cent

124. Runs scored by A in match II is what per cent of the total runs scored by these five players in match II?

- (1) 71.07 per cent
(2) 35.14 per cent
(3) 28.92 per cent
(4) 55.13 per cent

125. What is the correct order of averages of the given players in the four matches?

- (1) $E > A > C > D > B$
(2) $E > A > D > C > B$
(3) $A > E > C > D > B$
(4) $A > E > B > C > D$

126. A solid metallic sphere of radius 21 cm is melted and recast into a cone with diameter of the base as 21 cm. What is the height (in cm) of the cone?

- (1) 336 (2) 112
(3) 224 (4) 66

127. The radius of a wheel is 3.5 cm. What is the distance (in cm.) travelled by the wheel in 20 revolutions?

- (1) 220 (2) 440
(3) 880 (4) 1320

128. If the perimeter of a square is 44 cm, what is the diagonal (in cm) of the square?

- (1) $11\sqrt{2}$ (2) $2\sqrt{11}$
(3) 11 (4) $44\sqrt{2}$

129. What is the curved surface area (in cm^2) of a cylinder having radius of base as 14 cm and height as 10 cm?

- (1) 440 (2) 880
(3) 220 (4) 1320

130. Three circles of radius 63 cm each are placed in such a way that each circle touches the other two. What is the area of the portion enclosed by the three circles? (in sq. cm)

- (1) $7938\sqrt{3} - 4158$
(2) $3969\sqrt{3} - 4158$
(3) $7938\sqrt{3} - 6237$
(4) $3969\sqrt{3} - 6237$

131. If $\left(\frac{x}{y}\right)^{5a-3} = \left(\frac{y}{x}\right)^{17-3a}$, what is the value of a ?

- (1) -7 (2) -5
(3) 0 (4) 3

132. What is the value of

$$\left(\frac{x^2 - x - 6}{x^2 + x - 12}\right) \div \left(\frac{x^2 + 5x + 6}{x^2 + 7x + 12}\right)?$$

- (1) 1 (2) $\frac{(x-3)}{(x+3)}$
(3) $\frac{(x+4)}{(x-3)}$ (4) $\frac{(x-3)}{(x+4)}$

133. If $\left(x^2 + \frac{1}{x^2}\right) = \frac{7}{4}$ for $x > 0$, what is the value of $\left(x^3 + \frac{1}{x^3}\right)$?

- (1) $\frac{(3\sqrt{3})}{5}$ (2) $\frac{(3\sqrt{15})}{5}$
(3) $\frac{(3\sqrt{15})}{8}$ (4) $\frac{(3\sqrt{5})}{8}$

134. If $x^2 - 8x + 1 = 0$, what is the value of $\left(x^2 + \frac{1}{x^2}\right)$?

- (1) 18 (2) 34
(3) 40 (4) 62

135. What is the simplified value of

$$\left(x^{32} + \frac{1}{x^{32}}\right)\left(x^8 + \frac{1}{x^8}\right)\left(x - \frac{1}{x}\right)$$

$$\left(x^{16} + \frac{1}{x^{16}}\right)\left(x + \frac{1}{x}\right)\left(x^4 + \frac{1}{x^4}\right)?$$

- (1) $\left(x^{64} + \frac{1}{x^{64}}\right)$

$$(2) \frac{\left(x^{64} - \frac{1}{x^{64}}\right)}{\left(x^2 + \frac{1}{x^2}\right)}$$

$$(3) \frac{\left(x^{64} - \frac{1}{x^{64}}\right)}{\left(x + \frac{1}{x}\right)}$$

$$(4) \frac{\left(x^{32} - \frac{1}{x^{32}}\right)}{\left(x + \frac{1}{x}\right)}$$

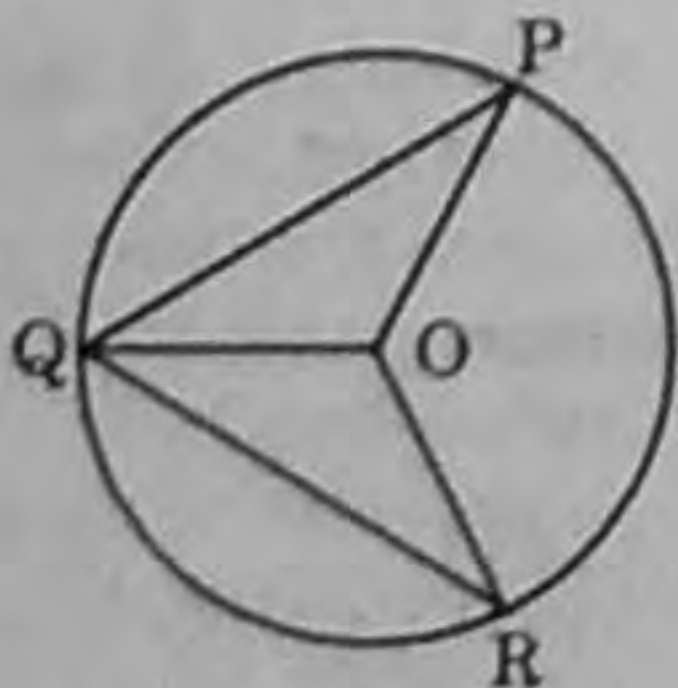
136. If P is the circum-centre in ΔABC , $\angle BPC = 30^\circ$, what is the value (in degrees) of $\angle BAC$?

- (1) 30 (2) 60
(3) 75 (4) 105

137. In ΔPQR , $\angle PQR = 90^\circ$, $PQ = 5$ cm and $QR = 12$ cm. What is the radius (in cm) of the circum-circle of ΔPQR ?

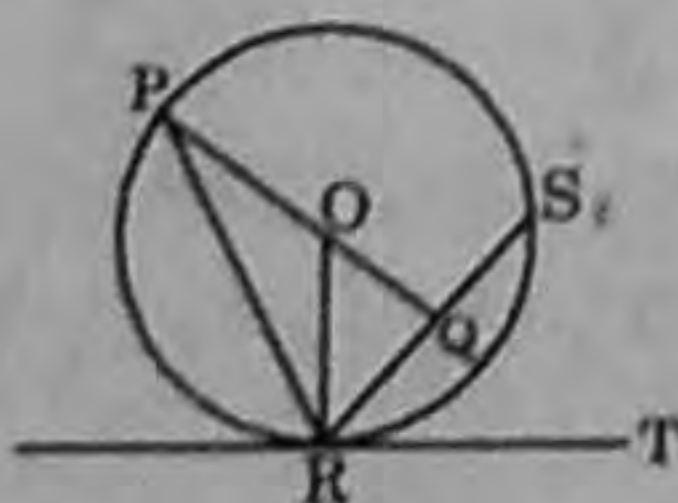
- (1) 6.5 (2) 7.5
(3) 13 (4) 15

138. In the given figure, O is the centre of the circle, $\angle PQO = 30^\circ$ and $\angle QRO = 45^\circ$. What is the value (in degrees) of $\angle POR$?



- (1) 150 (2) 110
(3) 160 (4) 130

139. In the given figure, O is the centre of the circle, OQ is perpendicular to RS and $\angle SRT = 30^\circ$. If $RS = 10\sqrt{2}$ units, what is the value of PR^2 ?



- (1) $200(1 + \sqrt{3})$ sq. units.
(2) $300(2 + \sqrt{3})$ sq. units.

(3) $200(2 + \sqrt{3})$ sq. units.

(4) $100(3 + 2\sqrt{3})$ sq. units.

140. If ΔABC is right angled at B, $AB = 30$ units and $\angle ACB = 60^\circ$, what is the value of AC?

- (1) 20 units (2) $20\sqrt{3}$ units
(3) 40 units (4) 60 units

141. If $\sin\theta + \cos\theta = \sqrt{3} \cos(90 - \theta)$, what is the value of $\tan\theta$?

- (1) $\sqrt{3} - 1$ (2) $\sqrt{3} + 1$
(3) $\frac{(\sqrt{3} + 1)}{2}$ (4) $\frac{(\sqrt{3} - 1)}{2}$

142. If $\tan A = \frac{1}{3}$ and $\tan B = \frac{2}{5}$, what is the value of $\tan(2A + B)$?

- (1) $\frac{8}{15}$ (2) $\frac{6}{13}$
(3) $\frac{37}{115}$ (4) $\frac{23}{14}$

143. What is the simplified value of $[(1 + \sec 2\theta) \tan^2\theta] + 1$?

- (1) $\cos 2\theta$ (2) 1
(3) $\sec 2\theta$ (4) $\operatorname{cosec} \theta$

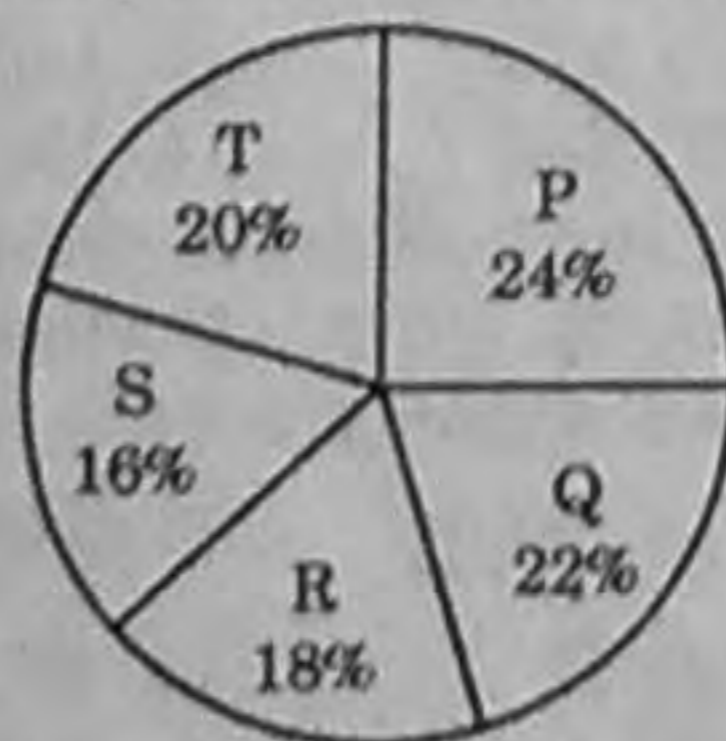
144. What is the simplified value of $[(1 - \cos^2\theta) \operatorname{cosec}^4\theta] - \cot^2\theta$?

- (1) -1 (2) 0
(3) 1 (4) 3

145. If $\cos(\theta + 31^\circ) = \sin 47^\circ$, what is the value of $\sin 5\theta$?

- (1) $\frac{1}{2}$ (2) $\frac{1}{\sqrt{2}}$
(3) $\frac{\sqrt{3}}{2}$ (4) 0

Directions (146-150): The following pie-chart shows the expenditure (in percentage) of five companies P, Q, R, S and T in the year 2016. Total Expenditure = Rs. 48 crores



146. What was the total expenditure (in Rs. crores) of the company Q, R and T together?

- (1) 19.2 (2) 28.8
(3) 24.3 (4) 31.4

147. By how much per cent expenditure of company Q and R together is greater than that of company P?

- (1) 33.33% (2) 60%
(3) 66.67% (4) 75%

148. What is the respective ratio between the total expenditure of company P, Q and S together to the total expenditure?

- (1) 31 : 60 (2) 50 : 31
(3) 60 : 31 (4) 31 : 50

149. Total amount spent by company S is what percent of total amount spent by companies T and R?

- (1) 42.1 (2) 43
(3) 39.68 (4) 41

150. The profit earned by company

R is equal to the $\frac{1}{4}$ th of the expenditure of company Q. What is the profit (in Rs. crores) of company R?

- (1) 3.24 (2) 4.84
(3) 2.64 (4) 5.66

ENGLISH COMPREHENSION

Directions (151-155): In each of the following questions, some part of the sentence may have errors. Find out which part of the sentence has an error and select the appropriate option. If a sentence is free from error, select 'No Error'.

151. Three summons have been (1)/ issued by the district court (2)/ but he has not turned up yet. (3)/ No Error (4)

152. Her aunt didn't (1)/ give me (2)/ a minute of peace. (3)/ No Error (4)

153. Aayushi has come (1)/ here to do a master (2)/ degree in Social Work. (3)/ No Error (4)

154. There is no money in (1)/ the bank in Rajesh's and (2)/ Reena's joint account. (3)/ No Error (4)

155. This master book concludes with pages (1)/ that contain lists of all (2)/ MBA colleges across India. (3)/ No Error (4)

Directions (156-160): In each of the following questions, the sentence given with a blank is to be

filled in with an appropriate word. Select the correct alternative out of the four.

156. The man felt _____ when he got to know that he had been cheated.

- (1) worried
- (2) horrified
- (3) humiliated
- (4) disgraced

157. The chairman _____ the company's funds, so he was dismissed.

- (1) pirated
- (2) misplaced
- (3) misappropriated
- (4) enticed

158. Rohan yelled _____ her and she hastily retreated.

- (1) towards (2) to
- (3) on (4) at

159. He stood _____ Ankita, but could not utter a single word for quite some time.

- (1) to (2) for
- (3) before (4) towards

160. We are all accountable _____ team leader for our work on this project.

- (1) of (2) with
- (3) for (4) to

Directions (161-165) : In each of the following questions, out of the four alternatives, select the word **similar** in meaning to the word given.

161. **Malevolent**

- (1) confused (2) spiteful
- (3) frugal (4) sedate

162. **Querulous**

- (1) grouchy (2) delusion
- (3) belittle (4) indecent

163. **Meander**

- (1) sanctify (2) barren
- (3) wander (4) futile

164. **Fraternise**

- (1) regulate (2) luxuriate
- (3) appreciate (4) associate

165. **Enshroud**

- (1) unveil (2) praise
- (3) reveal (4) conceal

Directions (166-170) : In each of the following questions, out of the four alternatives, select the word **opposite** in meaning to the word given.

166. **Obstinate**

- (1) brighten (2) degrade
- (3) flexible (4) repel

167. **Decry**

- (1) convict (2) reject
- (3) synthesis (4) praise

168. **Hoarse**

- (1) scanty (2) smooth
- (3) disperse (4) accept

169. **Debonair**

- (1) cheerless (2) rational
- (3) inadequate
- (4) niggard

170. **Suavity**

- (1) pleasant (2) politeness
- (3) misbehaviour
- (4) stupidity

Directions (171-175) : In each of the following questions, out of the four alternatives, select the alternative which **best expresses** the meaning of the idiom/phrase.

171. **By fair means or foul**

- (1) By any means
- (2) To make sense
- (3) Undecided/controversial
- (4) To get puzzled

172. **Sword of Damocles**

- (1) Life full of quarrels
- (2) Imminent danger
- (3) In a state of suspense and anxiety
- (4) Remain faithful to the cause

173. **Out of elbows**

- (1) By all means
- (2) Old (3) Poor
- (4) Forever

174. **Pandora's box**

- (1) Arguments for and against
- (2) To act dubiously
- (3) Popular
- (4) A prolific source of trouble

175. **A nig-nog**

- (1) Watchful (2) Very old
- (3) A fool (4) Rich

Directions (176-180) : In each of the following questions, improve the bracketed part of the sentence.

176. Hardly had I finished cooking dinner (**before**) Rajesh arrived.

- (1) when (2) then
- (3) while
- (4) No improvement

177. I met the two boys, (**whom I believe are**) twins.

- (1) who I believe to be
- (2) who I believe are
- (3) who to my belief, are
- (4) No improvement

178. Let's buy a new phone with the annual bonus, (**can we**)?

- (1) shall we
- (2) can't we
- (3) don't we
- (4) No improvement

179. I have not written any letter to her since my brother (**had died**).

- (1) was died
- (2) died
- (3) has died
- (4) No improvement

180. Reyansh (**gave**) most of his time to music.

- (1) devoted
- (2) spent
- (3) lent
- (4) No improvement

Directions (181-185) : In each of the following questions, out of the four alternatives, select the alternative which is the best substitute of the phrase.

181. **That which is morally dangerous**

- (1) cadaverous
- (2) defalcation
- (3) sinecure
- (4) pestiferous

182. **A temple dedicated to all the gods**

- (1) pantheon (2) kiln
- (3) scullery (4) cellar

183. **That which cannot be satisfied**

- (1) camouflage
- (2) insatiable
- (3) undecipherable
- (4) tenacious

184. **Free from punishment**

- (1) posterity (2) stoicism
- (3) impunity (4) wrath

185. **Fear of foreigners**

- (1) stenophobia
- (2) clinophobia
- (3) ballistophobia
- (4) xenophobia

Directions (186-190) : In each of the following questions, four words are given out of which one word is incorrectly spelt. Select the incorrectly spelt word.

186. (1) accessory (2) accelerate

- (3) accesion (4) accompany

187. (1) chracteristic

- (2) chancellor
- (3) chauffeur
- (4) chocolate

188. (1) etiquette (2) espionage
(3) expedient (4) enthusiasm
189. (1) haemoglobin
(2) gynecologist
(3) haematite
(4) inquietude
190. (1) deliquescence
(2) pertinacious
(3) pisciculture
(4) renaissance

Directions (191-195) : In the following passage some of the words have been left out. Read the passage carefully and select the correct answer for the given blank (numbered) out of the four alternatives.

Man and his (191) are two distinct things, whereas a good deed should call forth approbation and a (192) deed, disapprobation, the doer of the deed whether good or (193) always deserves (194) or pity as the case may be. Hate the sin and not the sinner is a precept which, though easy enough to understand, is rarely (195) and that is why the poison of hatred spreads in the world.

191. (1) working (2) deeds
(3) knowledge (4) altitude
192. (1) wicked (2) useless
(3) violent (4) sharp
193. (1) reliable (2) resistible
(3) bad (4) evil
194. (1) punishment
(2) accolade
(3) applaud
(4) respect
195. (1) followed
(2) practised
(3) justified
(4) acknowledged

Directions (196-200) : A passage is given with five questions following it. Read the passage carefully and select the best answer to each question out of the given four alternatives.

Superstitions are a universal phenomena having their own peculiar place in the cultural ethos and milieu of a people. They epitomize man's fear of the unknown, fear of evil, blind faith in omens and portents. Superstitions are inter-woven with myth, legend, unnatural phe-

nomena and disaster, customs and traditions, and are mainly the outcome of ignorance. They are unreasoned and irrational beliefs that gradually become matters of faith. When certain things and happenings are rationally inexplicable people tend to assign mysterious and supernatural reasons for their operation. Thus a natural disaster is explained in terms of God's wrath and the failure of one's project is assigned to the black cat which crossed the path just as one set out on the errand.

The primitive human beings were mainly governed by superstitions. Superstitions were widespread before the dawn of civilization when science had not advanced.

Thus, ignorance of the primitive people and the resultant growth of superstitions were the direct outcome of the lack of scientific advancement. Unenlightened people always tend to be superstitious. The belief in the sanctity of time and old traditions of the ancestors bind the people into knots of superstitious thought.

Besides, the unscrupulous priests and religious officials exercise a dominating, unhealthy effect upon the people believing in religious orthodoxy. They encourage superstitions for their own ulterior motives.

Superstitions are not only universally prevalent but even have strikingly common features whether believed in India or in as far off a place as Canada. There are some common superstitions which are shared by people all over the world. Beliefs in spirits, ghosts and witches and reincarnation are quite common among all the peoples of the world. Belief in witches still prevails in India, France, Scotland, England and many other countries. In countries of the East, especially in India, belief in ghosts and spirits still exists. The cries of certain birds like owls and ravens and the howl of cats are regarded with superstition as

portents of evil throughout the world. Then there is a very common belief that the sighting of comets portends the death of kings or great men or some unforeseen catastrophe. Shakespeare refers to such a superstition in his Julius Ceaser, Halley's Comet in the twentieth century evoked a similar response in many a mind.

196. What is the main reason behind once superstitions?
(1) ignorance
(2) customs and traditions
(3) fear of the unknown
(4) blind faith in omens and portents
197. Who were mainly governed by superstitions?
(1) unenlightened people
(2) religious officials
(3) primitive human beings
(4) unscrupulous priests
198. Which of the following is INCORRECT with respect to passage?
(1) superstitions is also prevailing in Canada
(2) superstitions are a universal phenomena
(3) superstitions are unreasoned and rational beliefs
(4) a natural disaster is regarded as a god's wrath by the superstitious people
199. According to passage which of the following is not regarded as a superstition by the people?
(1) howl of cats
(2) cries of children
(3) crossing of path by black cat
(4) sighting of comets
200. What can only be the effective counter of superstition?
(1) belief in the sanctity of time
(2) awareness through plays like Julius Ceaser by Shakespeare
(3) explaining the theory of reincarnation
(4) a broad light of scientific discovery