PART - A

GENERAL INTELLIGENCE & REASONING

Direction: In questions no. **1** to **6**, select the related word/letters/number from the given alternatives.

1. AHOP : CKSU :: BJMF : ?
   (A) EZUQ (B) DMQK
   (C) DQKM (D) CJWM

2. HCM : FAK :: SGD : ?
   (A) QEB (B) QIB (C) ESQ (D) GES

3. FILM : ADGH :: MILK : ?
   (A) HEGF (B) ADGF
   (C) HDGE (D) HDGF

4. 25 : 625 :: 35 : ?
   (A) 1575 (B) 1205 (C) 875 (D) 635

5. 583 : 488 :: 293 : ?
   (A) 581 (B) 291 (C) 378 (D) 487

6. UMPIRE : GAME :: ?
   (A) Prodigy : wonder
   (B) Chef : banquet
   (C) Legislator : election
   (D) Moderator : debate

7. Arrange the following words as per order in the dictionary :
   (i) Ambitious (ii) Ambiguous
   (iii) Ambiguity (iv) Animation
   (v) Animals
   (A) (iii), (ii), (iv), (i), (v) (B) (iii), (ii), (v), (iv), (i)
   (C) (iii), (ii), (i), (v), (iv) (D) (iii), (ii), (iv), (v), (i)

Direction: In questions no. **8** to **11**, find the odd word/ number/letters/number pair from the given alternatives.

8. (A) RKD (B) UNG (C) MTF (D) SLE

9. (A) Zinc (B) Bronze
   (C) Silver (D) Platinum

10. (A) MORV (B) CEHL
    (C) CENT (D) JLOS

11. (A) 272 (B) 210 (C) 240 (D) 304

12. Which one of the given responses would be a meaningful order of the following continents in ascending order of area ?
    (i) South America (ii) Africa
    (iii) Europe (iv) Australia
    (v) North America
    (A) (ii), (i), (v), (iii), (iv) (B) (ii), (v), (i), (iii), (iv)
    (C) (ii), (v), (i), (iv), (iii) (D) (ii), (i), (v), (iv), (iii)

13. Which one of the given responses would be a meaningful order of the following ?
    (i) Pupa (ii) Larva
    (iii) Moth (iv) Eggs
    (A) (iv), (ii), (i), (iii) (B) (iv), (i), (ii), (iii)
    (C) (iv), (iii), (ii), (i) (D) (iv), (iii), (i), (ii)

Direction: In questions no. **14** to **21**, a series is given, with one term missing. Choose the correct alternative from the given ones.

14.

6	15	20
8	4	5
3	5	20
51	65	?

(A) 12 (B) 56 (C) 120 (D) 51

15. BEAG, DGCI, FIEK, ?
    (A) HMIE (B) HKGM
    (C) HGKJ (D) HKLJ

16. X, Q, K, F, ?
    (A) E (B) B (C) C (D) D

17.

2	9	11	7
8	5	13	−3
7	?	10	(−4)
6	4	10	?

(A) 3 and (−2) (B) (−3) and (−2)
(C) 3 and 2 (D) (−3) and 2

18. 17, 43, 81, 131, ?
    (A) 375 (B) 468 (C) 300 (D) 193

19. 5, 11, 23, 47, 95, ?
    (A) 190 (B) 191 (C) 161 (D) 169

20.

16	25	9
36	64	81
10	13	?

(A) 14 (B) 11 (C) 12 (D) 13

21. 2, 29, 38, 47, ?
    (A) 59 (B) 56 (C) 52 (D) 58

SPACE FOR ROUGH WORK

22. A man travels 4 km due north, then travels 6 km due east and further travels 4 km due north. How far he is from the starting point ?

(A) 6 km (B) 14 km
(C) 8 km (D) 10 km

23. Ram and Sam start walking towards North and cover 20 metres. Ram turns to his left and Sam to his right. After sometime, Ram walks 10 metres, in the same direction in which he turned. On the other hand, Sam walks only 7 metres. Later, Ram turns towards his left and Sam to his right. Both walk 25 metres forward. How far is Ram from Sam now ?

(A) 10 metres (B) 20 metres
(C) 17 metres (D) 5 metres

24. N is more intelligent than M. M is not as intelligent as Y. X is more intelligent than Y but not as good as N. Who is the most intelligent of all ?

(A) N (B) X (C) M (D) Y

25. If MUSICAL is written as KWQKACJ, how can SPRINKLE be written ?

(A) QRBKCNJG (B) QNPGLIJC
(C) QRPKLMJG (D) URTKPMNG

Direction : In questions no. **26** and **27**, from the given alternatives select the word which **cannot** be formed using the letters of the given word.

26. SPECIFICATION

(A) PACIFIC (B) FACTION
(C) FAINTING (D) TONIC

27. COURAGEOUS

(A) SECURE (B) ARGUE
(C) COURSE (D) GRACE

28. If MEAT is written as TEAM, then BALE is written as :

(A) ELAB (B) EABL
(C) EBLA (D) EALB

29. If 'P' means '+', 'Q' means '×', 'R' means '÷' and 'S' means '−', then :

44 Q 9 R 12 S 6 Q 4 P 16 = ?

(A) 36 (B) 124 (C) 25 (D) 112

30. There are 19 hockey players in a club. On a particular day, 14 were wearing the hockey shirts prescribed. None of them were without either hockey pants or shirts. Eleven were wearing the prescribed hockey pants. How many were in complete uniform ?

(A) 7 (B) 8 (C) 6 (D) 9

31. Which of the following interchange of sign would make the given equation **correct** ?

$(20 - 4) \times 4 + 16 = 36$

(A) 16 and 6 (B) ÷ and +
(C) + and − (D) 5 and 5

32. Which of the following interchange of signs would make the given equation **correct** ?

$5 + 3 \times 8 - 12 \div 4 = 3$

(A) + and ÷ (B) + and −
(C) − and + (D) + and ×

33. A direction pole was situated on the Road Crossing. Due to an accident, the pole turned in such a manner that the pointer which was showing East, started showing South. Sita, a traveller went to the wrong direction thinking it to be West. In what direction actually she was travelling ?

(A) North (B) West
(C) East (D) South

34. If − stands for addition, ÷ for multiplication, × for substraction, and + for division, then which of the following is **correct** ?

(A) $25 \times 12 - 14 \div 4 + 6 = 16$
(B) $25 - 12 + 14 \div 2 \times 4 = 15$
(C) $25 - 15 + 5 \div 4 \times 16 = 21$
(D) $25 + 11 - 4 \div 10 \times 6 = 20$

35. If WATER is written as YCVGT, then what is written as HKTG ?

(A) IRFE (B) FIRE (C) REFI (D) ERIF

36. Ram cycled 10 km southward from his home turned right and cycled 6 km, turned right cycled 10 km, turned left and cycled 15 km. How many km will he have cycled to reach straight home ?

(A) 10 km (B) 21 km
(C) 16 km (D) 20 km

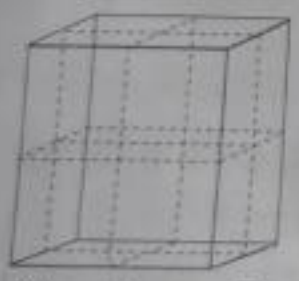
SPACE FOR ROUGH WORK

Direction : In questions no. **37** and **38**, two statements are given followed by two conclusions I and II. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements.

37. **Statement I :** Some keys are locks, some locks are numbers.
Statement II : All numbers are letters, all letters are words.
Conclusion I : Some words are numbers.
Conclusion II : Some locks are letters.
(A) Conclusion I follows
(B) Conclusion II follows
(C) Conclusion I and II follows
(D) None of the conclusion follows

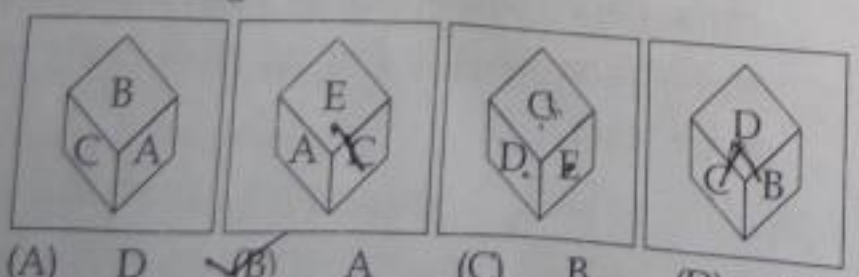
38. **Statement I :** The constitution assures the fundamental rights.
Statement II : Parliament has right to amend the constitution.
Conclusion I : Parliament included fundamental rights in the constitution
Conclusion II : Parliament did not assure the fundamental rights.
(A) Only conclusion I follows
(B) Only conclusion II follows
(C) Both conclusions I and II follows
(D) None of them

39. A cube which is painted red on the outer surface is of 2 inches height, 2 inches wide and 2 inches across. If it is cut into one-inch cubes as shown by dotted lines, indicate the number of cubes which are red on two sides ?



(A) 8 (B) 0 (C) 4 (D) 6

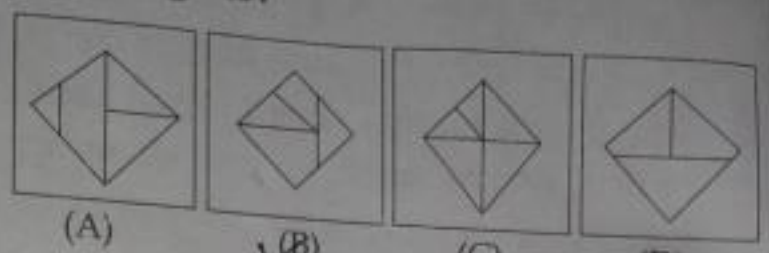
Four position of dice are given below. Which letter will be opposite to D ?
Question figures :



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

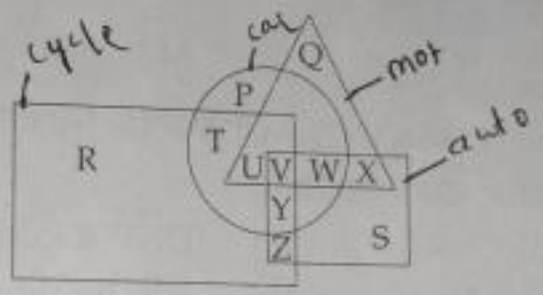
41. Identify the response figure in which the figures given are found.
Question figure :

Answer figures :



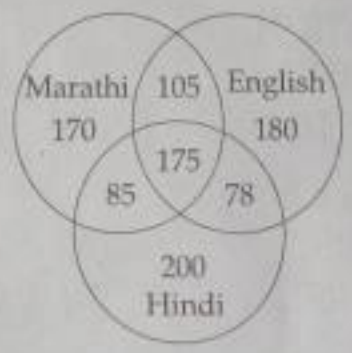
(A) (B) (C) (D)

42. In the given figure, Circle represents persons having Car, triangle represents persons having Motor Cycle, square represents persons having Autorickshaws, rectangle represents persons having Cycle. Find the region where persons having Car, Motor Cycle, Cycle but not Autorickshaw.



(A) X (B) U (C) V (D) W

Direction : In questions no. **43** and **44**, study the following diagram carefully and answer the questions based on it.



43. The diagram shows the survey on a sample of 1000 persons with reference to their knowledge of English, Hindi and Marathi. 105 people know _____ languages.
(A) Marathi, Hindi
(B) English, Hindi
(C) Marathi, English
(D) Hindi, Marathi, English

SPACE FOR ROUGH WORK

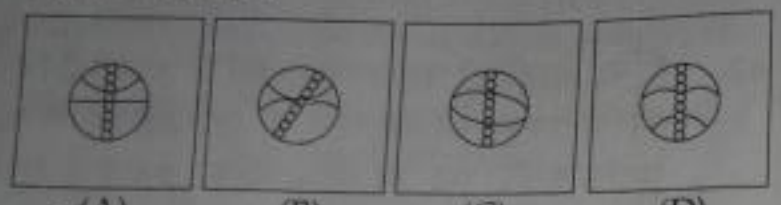
44. The diagram shows the survey on a sample of 1000 persons with reference to their knowledge of English, Hindi and Marathi. How many know all the languages ?

(A) 78 (B) 175 (C) 105 (D) 85

Direction : In questions no. **45** and **46**, which answer figure will complete the pattern in the question figure ?

45. **Question figure :**

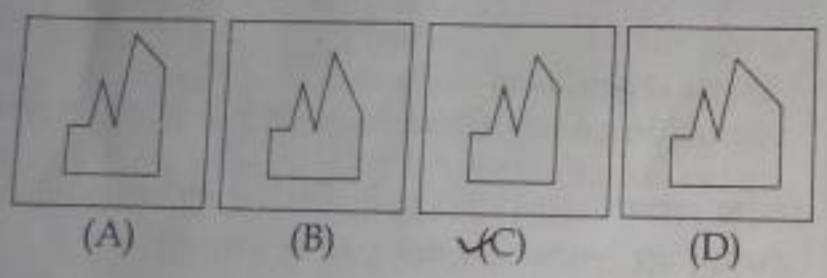
Answer figures :



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

46. **Question figure :**

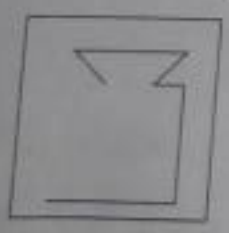
Answer figures :



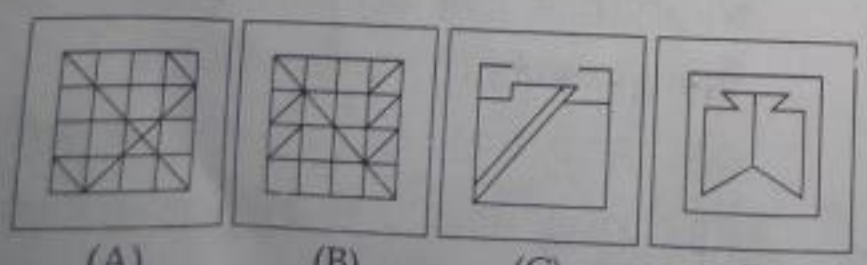
(A) (B) (C) (D)

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

Question figure :



Answer figures :



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

48. 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 alphabets as in two matrices given below. 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*, e.g. 'N' can be represented by 02, 24, etc. and 'Q' can be represented by 56 , 78 etc. Similarly, you have to identify the set for the word 'SPORTS'.

Matrix - I

	0	1	2	3	4
0	L	M	N	O	K
1	N	M	K	L	O
2	L	K	M	O	N
3	N	O	K	M	L
4	O	M	K	L	N

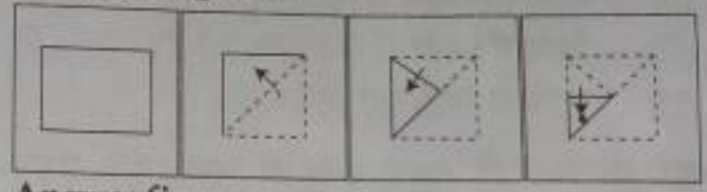
Matrix - II

	5	6	7	8	9
5	P	Q	R	S	T
6	Q	P	S	R	T
7	T	R	P	Q	S
8	R	P	S	Q	T
9	Q	P	S	R	T

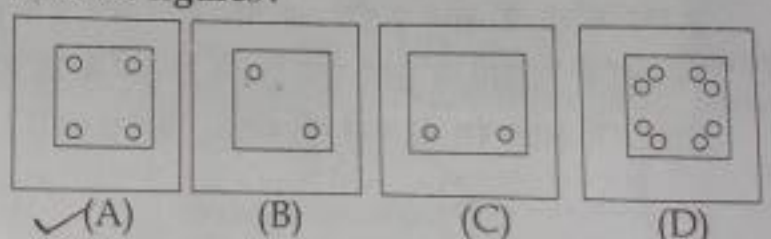
(A) 24, 66, 40, 85, 89, 58
(B) 87, 20, 23, 85, 75, 67
(C) 67, 55, 31, 57, 69, 87
(D) 58, 77, 20, 85, 79, 97

49. 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 :

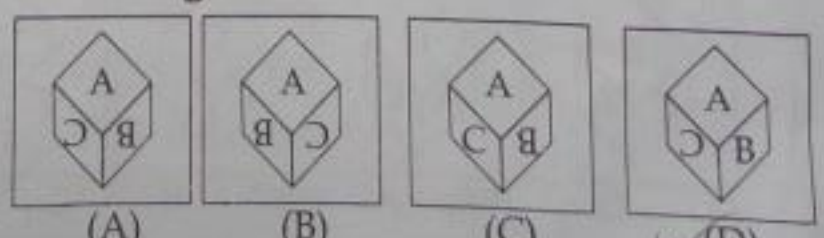


(A) (B) (C) (D)

50. If a mirror is placed on the line XY then which of the answer figures is the right image of the given figure ?

Question figure :

Answer figures :



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

SPACE FOR ROUGH WORK

PART - B

GENERAL AWARENESS

51. Who founded the Indian National Party in Berlin during 1914 ?
(A) Surendranath Banerjee
(B) Champakaraman Pillai
(C) Subhash Chandra Bose
(D) W.C. Banerjee

52. The study of population is called :
(A) Demography (B) Biography
(C) Cartography (D) Anthropology

53. The Sargasso sea is situated in the :
(A) Indian Ocean (B) Arctic Ocean
(C) Atlantic Ocean (D) Pacific Ocean

54. On which side did Japan fight in the First World War ?
(A) against Russia on its own
(B) with United Kingdom against Germany
(C) none, it was neutral
(D) with Germany against United Kingdom

55. Over use of resource is called "Tragedy of Commons". It was propounded by :
(A) Adolph Wagner (B) A.P. Lerner
(C) Garett Hardin (D) Seligman

56. The animal that do not develop hypertension inspite of heavy intake of salt is :
(A) Tiger (B) Camel
(C) Sheep (D) Buffallo

57. Which one of the following hormone is called "Emergency Hormone" ?
(A) Vasopressin (B) Insulin
(C) Adrenaline (D) Thyroxine

58. Who discovered electromagnetic nature of light ?
(A) Maxwell (B) Young
(C) Snell (D) Newton

59. Well preferred tree fossil supposed to be from Jurasic Age in India is reported from :
(A) Ramgarh (B) Bahadurgarh
(C) Pithauragarh (D) Chhattisgarh

60. Rajiv Gandhi International Airport is situated in :
(A) Mangalore
(B) Hyderabad
(C) Jammu and Kashmir
(D) New Delhi

61. The primary producer in an ecosystem are :
(A) Plants (B) Bacteria
(C) Women (D) Men

62. Which of the following metals is used in Space Crafts to withstand high temperatures ?
(A) Ni (B) Pb (C) Fe (D) Ti

63. Time of exposure required for taking photograph of an object depends upon the :
(A) proximity of object
(B) size of the object
(C) brightness of the object
(D) skill of photographer

64. Plantation of trees on a large scale to check soil erosion are called :
(A) Strip cropping
(B) Afforestation
(C) Shelter belts
(D) Contour ploughing

65. The highest altitude (4411 meters above sea level) is of :
(A) Kathmandu Airport
(B) Bangda Airport
(C) Daocheng Yading Airport
(D) Heathrow Airport

66. Persistence of vision is the Principle behind :
(A) Periscope (B) Camera
(C) Binocular (D) Cinema

67. The First India-Africa Forum Summit was held during 2008 at :
(A) Bangalore (B) Addis Ababa
(C) New Delhi (D) Tana

68. The Poona Pact (1932) was an agreement between :
(A) Malaviya and Ambedkar
(B) Gandhi and Nehru
(C) Nehru and Ambedkar
(D) Gandhi and Ambedkar

69. Tick the correct option of GDP (Gross Domestic Product) contributed by service sector in the past :
(A) During 1950 - 51 (GDP - 34.63%)
(B) During 2011 - 12 (GDP - 57.00%)
(C) During 2000 - 01 (GDP - 65.54%)
(D) During 1980 - 81 (GDP - 50.00%)

70. Article 1 of the Indian Constitution declares "India that is Bharat" is a :
(A) Unitary State with federal features
(B) Federal State
(C) Union of States
(D) Federal State with Unitary features

71. In the case of an inferior good, the income elasticity of demand is :
(A) Infinite (B) Positive
(C) Zero (D) Negative

72. Salal is the hydro power project in :
(A) Himachal Pradesh
(B) Punjab
(C) Haryana
(D) Jammu and Kashmir

73. Some of the ingredients required for bread making are :
(A) Maida and Baking Soda
(B) Maida and Ghee
(C) Maida and Yeast
(D) Maida and Baking Powder

74. Nitrogen is an essential constituent of all :
(A) Vitamins (B) Carbohydrates
(C) Fats (D) Proteins

75. The Vice-President is :
(A) A member of either House
(B) Not a member of the Parliament
(C) A member of Lok Sabha
(D) A member of Rajya Sabha

76. Brass gets discoloured in air due to constant exposure in presence of :
(A) Hydrogenated wafers
(B) Aluminium sulphide
(C) Aluminium phosphide
(D) Hydrogen sulphide

77. Malaria is transmitted from one person to another by :
(A) Aedes Mosquito
(B) Culex Mosquito
(C) Anopheles Mosquito
(D) All of the above

78. The Government of India Act, 1935 was based on :
(A) Dimitrov Thesis
(B) Lord Clive's report
(C) Simon Commission
(D) Lord Curzon Commission

79. What is 'Milindapanho' ?
(A) A Buddhist Specimen of Art
(B) A Buddhist text
(C) A Buddhist place
(D) One of the names of Buddha

80. In which year the planning commission was set-up ?
(A) 1952 (B) 1949
(C) 1950 (D) 1951

81. Which of the following is protected under Wild life (Protection) Act, 1972 ?
(A) Bandicoot rat (B) Squirrel
(C) Porcupine (D) Gerbil

82. During Quit India Movement, 'Parallel Government' was constituted at :
(A) Lucknow (B) Ballia
(C) Varanasi (D) Allahabad

83. An example of protein which acts as a hormone is :
(A) Keratin (B) Casein
(C) Trypsin (D) Oxytocin

84. A NOT gate can be implemented by :
(A) a single resistor (B) a single transistor
(C) a single diode (D) two diodes

85. Liver is a *RICH* source of :
(A) minerals
(B) proteins
(C) sugars
(D) fat soluble vitamins

86. Thinner particles responsible for deteriorating the air-quality resulting in the damage of vital body organs are referred as PM :
(A) 2.5 (B) 20.5 (C) 15.5 (D) 10.5

87. Cuscuta is a :
(A) Xerophyte (B) Parasite
(C) Saprophyte (D) Epiphyte

88. In India, Special Economic Zones were established to enhance :
(A) Employment
(B) Technology Development
(C) Free trade
(D) Foreign Investment

89. Which was the first super computer purchased by India for medium range weather forecasting ?
(A) CDC Cyber 930-11
(B) Param
(C) Cray XMP-14
(D) Medha - 930

90. The fat of a common mussel secretes a sticky glue that can be used to make heart implants. The unique chemical compound present in the glue is :
(A) Phenyl alanine
(B) Dihydroxy phenyl alanine
(C) Amino phenyl alanine
(D) Hydroxy phenyl alanine

91. The layer of the atmosphere in which Radio Waves are reflected back is called :
(A) Stratosphere (B) Exosphere
(C) Ionosphere (D) Troposphere

92. "National Youth Day" is marked on :
(A) January 18 (B) January 12
(C) January 15 (D) January 9

93. Who was the head of the 10th Finance Commission ?
(A) Shiv-Shankar
(B) K.C. Pant
(C) Manmohan Singh
(D) Vasant Sathe

94. In <HR> , the HR stands for :
(A) Horizontal Rule
(B) Horizontal Rulers
(C) Heading Regulations
(D) Happy Romulans

95. "Rainbow Coalition" is a term derived from the politics and policies of :
(A) Mitt Romney
(B) A.B. Vajpayee
(C) Pranab Mukherjee
(D) Barack Obama

96. Judges of the district courts are appointed by :
(A) Law Minister (B) President
(C) Governor (D) Chief Minister

97. Who won the "World Youth Chess Championship 2012" ?
(A) Scott Flemming (B) M. Mahalakshmi
(C) N. Priyanka (D) Kimi Raikkonen

98. Who can impose reasonable restrictions over fundamental rights ?
(A) People
(B) Cabinet
(C) Council of Ministers
(D) Parliament

99. The number of eggs normally released during one menstrual cycle is :
(A) 1 (B) 4 (C) 3 (D) 2

100. Of the following, in which did Napoleonic France suffer final defeat ?
(A) Battle of Pyramids
(B) Battle of Austerlitz
(C) Battle of Trafalgar
(D) Battle of Wagram

PART - C

QUANTITATIVE APTITUDE

101. The square root of $33-4\sqrt{35}$ is :

(A) $\pm(\sqrt{7}-2\sqrt{5})$ (B) $\pm(2\sqrt{7}-\sqrt{5})$

(C) $\pm(2\sqrt{7}+\sqrt{5})$ (D) $\pm(\sqrt{7}+2\sqrt{5})$

102. The marked price of a watch was ₹ 720. A man bought the same for ₹ 550.80 after getting 2 successive discounts, the 1st being 10%. What was the 2nd discount ?

(A) 18% (B) 12% (C) 14% (D) 15%

103. Value of $(\tan 1^\circ \tan 2^\circ \tan 3^\circ \ldots \tan 89^\circ)$ is :

(A) undefined (B) 0

(C) 1 (D) 89

104. A person bought two bicycles for ₹ 1600 and sold the first at 10% profit and the second at 20% profit. If he sold the first at 20% profit and the second at 10% profit, he would get ₹ 5 more. The difference of the cost price of the two bicycle was :

(A) ₹ 25 (B) ₹ 75

(C) ₹ 50 (D) ₹ 40

105. The average age of 14 girls and their teacher's age is 15 years. If the teacher's age is excluded, the average reduces by 1. What is the teacher's age ?

(A) 29 years (B) 35 years

(C) 32 years (D) 30 years

106. Three sides of a triangular field are of length 15 m, 20 m and 25 m long respectively. Find the cost of sowing seeds in the field at the rate of 5 rupees per sq. m.

(A) 750 (B) 150 (C) 300 (D) 600

107. A man standing in one corner of a square football field observes that the angle subtended by a pole in the corner just diagonally opposite to this corner is 60°. When he retires 80 m from the corner, along the same straight line, he finds the angle to be 30°. The length of the field, in m, is :

(A) 20 (B) $40\sqrt{2}$

(C) 40 (D) $20\sqrt{2}$

108. If the median drawn on the base of a triangle is half its base, the triangle will be :

(A) obtuse-angled (B) equilateral

(C) right-angled (D) acute-angled

109. If $x \neq 0$, $y \neq 0$ and $z \neq 0$ and $\frac{1}{x^2}+\frac{1}{y^2}+\frac{1}{z^2}=\frac{1}{xy}+\frac{1}{yz}+\frac{1}{zx}$, then the relation among x, y, z is :

(A) $\frac{1}{x}+\frac{1}{y}+\frac{1}{z}=0$ (B) $x=y=z$

(C) $x+y+z=0$ (D) $x+y=z$

110. The cost of manufacture of an article was ₹ 900. The trader wants to gain 25% after giving a discount of 10%. The marked price should be :

(A) ₹ 1000 (B) ₹ 1500

(C) ₹ 1250 (D) ₹ 1200

111. ABC is an isosceles triangle with AB = AC. A circle through B touching AC at the middle point intersects AB at P. Then AP : AB is :

(A) 3 : 5 (B) 1 : 4 (C) 4 : 1 (D) 2 : 3

112. If $\cos x+\cos^2 x=1$, the numerical value of $(\sin^{12}x+3\sin^{10}x+3\sin^8 x+\sin^6 x-1)$ is :

(A) 0 (B) 1 (C) −1 (D) 2

113. Find the maximum number of trees which can be planted, 20 metres apart, on the two sides of a straight road 1760 metres long.

(A) 174 (B) 176 (C) 180 (D) 178

114. In a ΔABC, $\angle A : \angle B : \angle C = 2 : 3 : 4$. A line CD drawn $\parallel$ to AB, then the $\angle ACD$ is :

(A) 80° (B) 20° (C) 40° (D) 60°

SPACE FOR ROUGH WORK

115. If $a\sin\theta + b\cos\theta = c$ then the value of $a\cos\theta - b\sin\theta$ is :

(A) $\pm\sqrt{a^2 - b^2 - c^2}$

(B) $\pm\sqrt{a^2 - b^2 + c^2}$

(C) $\pm\sqrt{-a^2 + b^2 + c^2}$

(D) $\pm\sqrt{a^2 + b^2 - c^2}$

116. The arithmetic mean of the scores of a group of students in a test was 52. The brightest 20% of them secured a mean score of 80 and the dullest 25%, a mean score of 31. The mean score of remaining 55% is :

(A) 54.6% approx. (B) 45%

(C) 50% (D) 51.4% approx.

117. If $a*b = a + b + \frac{a}{b}$, then the value of $12*4$ is :

(A) 48 (B) 19 (C) 20 (D) 21

118. If $x^2+y^2+z^2=2(x-y-z)-3$, then the value of $2x-3y+4z$ is [Assume that x, y, z are all real numbers] :

(A) 3 (B) 0 (C) 9 (D) 1

119. If the lengths of the sides of a triangle are in the ratio 4 : 5 : 6 and the inradius of the triangle is 3 cm, then the altitude of the triangle corresponding to the largest side as base is :

(A) 10 cm (B) 8 cm

(C) 7.5 cm (D) 6 cm

120. The greatest common divisor of $3^{3^{333}} + 1$ and $3^{3^{334}} + 1$ is :

(A) $3^{3^{333}} + 1$ (B) 20

(C) 2 (D) 1

121. A person observed that he required 30 seconds less time to cross a circular ground along its diameter than to cover it once along the boundary. If his speed was 30 m / minute, then the radius of the circular ground is (Take $\pi = \frac{22}{7}$) :

(A) 10.5 m (B) 3.5 m

(C) 5.5 m (D) 7.5 m

122. A, B, C and D purchase a gift worth ₹ 60. A pays 1/2 of what others are paying, B pays 1/3rd of what others are paying and C pays 1/4 th of what others are paying. What is the amount paid by D ?

(A) 14 (B) 15 (C) 16 (D) 13

123. Mohan gets 3 marks for each correct sum and loses 2 marks for each wrong sum. He attempts 30 sums and obtains 40 marks. The number of sums solved correctly is :

(A) 25 (B) 10 (C) 15 (D) 20

124. A, B, C walk 1 km in 5 minutes, 8 minutes and 10 minutes respectively. C starts walking from a point, at a certain time, B starts from the same point 1 minute later and A starts from the same point 2 minutes later than C. Then A meets B and C at times.

(A) 2 min, 3 min (B) $\frac{4}{3}$ min, 3 min

(C) $\frac{5}{3}$ min, 2 min (D) 1 min, 2 min

125. Each of the two circles of same radius a passes through the centre of the other. If the circles cut each other at the points A and B and O, O' be their centres, area of the quadrilateral AOBO' is :

(A) $\frac{1}{4}a^2$ (B) $\frac{1}{2}a^2$

(C) $\frac{\sqrt{3}}{2}a^2$ (D) a^2

SPACE FOR ROUGH WORK

126. A person distributes his pens among four friends A, B, C, D in the ratio $\frac{1}{3} : \frac{1}{4} : \frac{1}{5} : \frac{1}{6}$. What is the minimum number of pens that the person should have ?

(A) 75 (B) 45 (C) 57 (D) 65

127. Two circles of same radius 5 cm, intersect each other at A and B. If AB = 8 cm, then the distance between the centres is :

(A) 10 cm (B) 4 cm
(C) 6 cm (D) 8 cm

128. A contractor undertook to finish a certain work in 124 days and employed 120 men. After 64 days, he found that he had already done $\frac{2}{3}$ of the work. How many men can be discharged now so that the work may finish in time ?

(A) 40 (B) 50 (C) 48 (D) 56

129. If $\frac{\sec\theta + \tan\theta}{\sec\theta - \tan\theta} = \frac{5}{3}$, then $\sin\theta$ is equal to :

(A) $\frac{2}{3}$ (B) $\frac{3}{4}$ (C) $\frac{1}{4}$ (D) $\frac{1}{3}$

130. If $a+b+c=0$, then the value of

$$\left(\frac{a+b}{c} + \frac{b+c}{a} + \frac{c+a}{b}\right)\left(\frac{a}{b+c} + \frac{b}{c+a} + \frac{c}{a+b}\right)$$

is :

(A) 9 (B) 0 (C) 8 (D) −3

131. The curved surface area and the total surface area of a cylinder are in the ratio 1 : 2. If the total surface area of the right cylinder is 616 cm^2, then its volume is :

(A) 1632 cm^3 (B) 1078 cm^3
(C) 1232 cm^3 (D) 1848 cm^3

132. Arvind purchased a wrist watch with 30% discount on the labelled price. He sold it with 40% profit on the price he bought. What was his percent loss on the labelled price ?

(A) 4 (B) 8 (C) 2 (D) 6

133. ABCD is a rhombus. AB is produced to F and BA is produced to E such that AB = AE = BF. Then :

(A) $ED^2 + CF^2 = EF^2$ (B) ED ∥ CF
(C) ED > CF (D) ED ⊥ CF

134. A swimmer swims from a point A against a current for 5 minutes and then swims backwards in favour of the current for next 5 minutes and comes to the point B. If AB = 100 metres, the speed of the current (in km per hour) is :

(A) 1 (B) 0.6 (C) 0.4 (D) 0.2

135. If $x = a \sec\theta \cos\phi$, $y = b \sec\theta \sin\phi$, $z = c \tan\theta$, then the value of $\frac{x^2}{a^2} + \frac{y^2}{b^2} - \frac{z^2}{c^2}$ is :

(A) 9 (B) 0 (C) 1 (D) 4

136. If a, b, c are non-zero, $a + \frac{1}{b} = 1$ and $b + \frac{1}{c} = 1$, then the value of abc is :

(A) −3 (B) 1 (C) −1 (D) 3

137. A sum of money is sufficient to pay A's wages for 21 days and B's wages for 28 days. The same money is sufficient to pay the wages of both for :

(A) $24\frac{1}{2}$ days (B) 12 days
(C) $12\frac{1}{4}$ days (D) 14 days

138. Two pipes, P and Q can fill a cistern in 12 and 15 minutes respectively. If both are opened together and at the end of 3 minutes, the first is closed, how much longer will the cistern take to fill ?

(A) $8\frac{1}{4}$ minutes (B) $8\frac{3}{4}$ minutes
(C) 5 minutes (D) $8\frac{1}{2}$ minutes

SPACE FOR ROUGH WORK

139. The radius of the circumcircle of a right angled triangle is 15 cm and the radius of its inscribed circle is 6 cm. Find the sides of the triangle.

(A) 30, 24, 25 (B) 24, 36, 30
(C) 30, 40, 41 (D) 18, 24, 30

140. The price of sugar having gone down by 10%, a consumer can buy 5 kg more sugar for ₹ 270. The difference between the original and reduced price per kg is :

(A) 62 paise (B) 60 paise
(C) 75 paise (D) 53 paise

141. The value of a machine depreciates every year at the rate of 10% on its value at the beginning of that year. If the current value of the machine is ₹ 729, its worth 3 years ago was :

(A) ₹ 947.10 (B) ₹ 800
(C) ₹ 1000 (D) ₹ 750.87

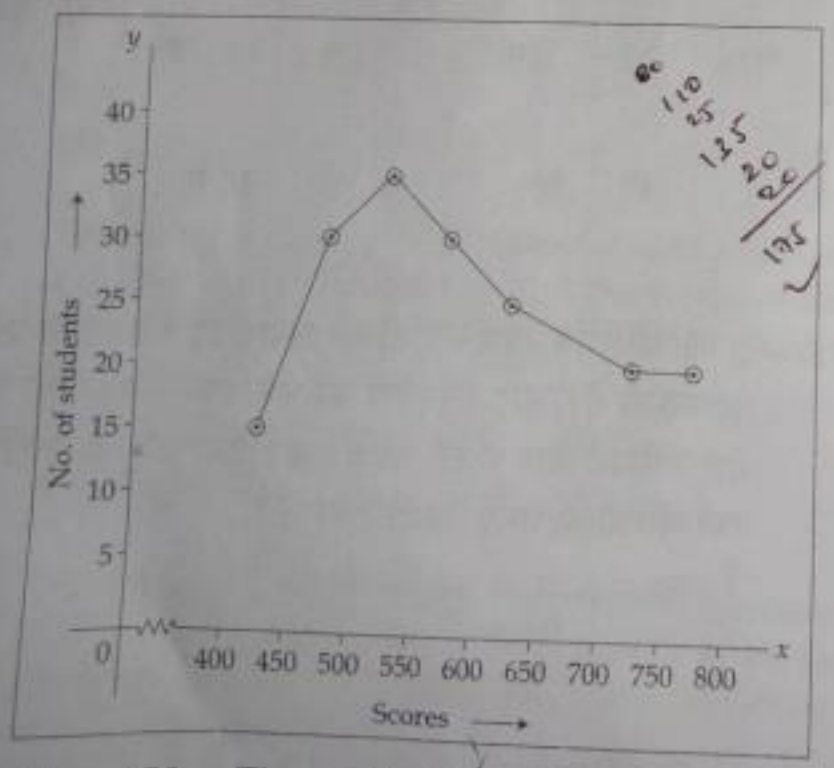
142. If $a^2+1=a$, then the value of $a^{12}+a^6+1$ is :

(A) 2 (B) 3 (C) −3 (D) 1

143. Taking any three of the line segments out of segments of length 2 cm, 3 cm, 5 cm and 6 cm, the number of triangles that can be formed is :

(A) 1 (B) 4 (C) 3 (D) 2

144. The adjoining diagram is frequency polygon for the scores of students in a test. What is the total number of students appeared in the test ?



(A) 250 (B) 150 (C) 180 (D) 200

145. The table given below shows production of five types of cars by a company from the year 1998 to 2003. Study the table and answer question.

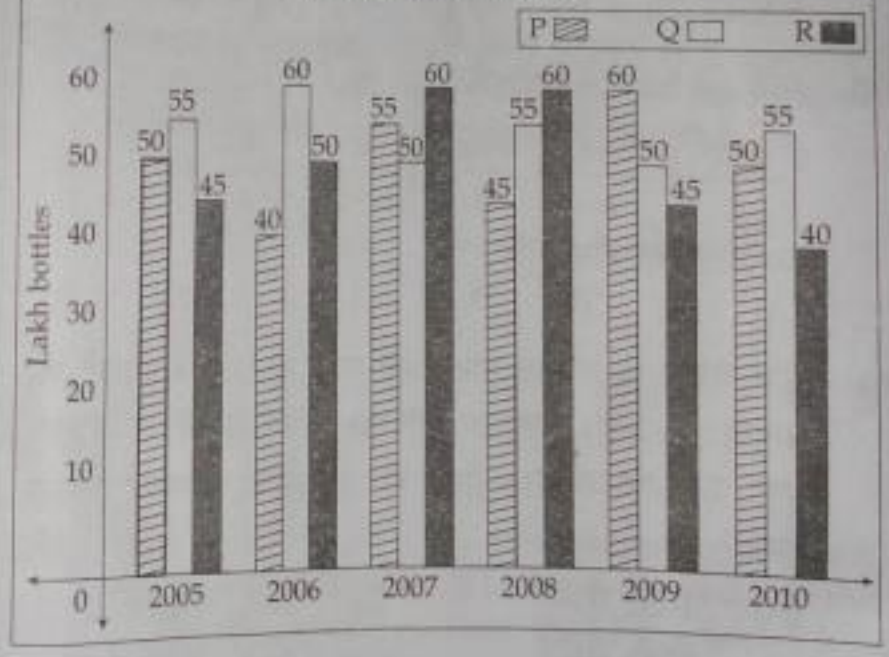
Years → / Types ↓	1998	1999	2000	2001	2002	2003	Total
P	10	18	16	15	11	18	88
Q	14	12	13	12	11	14	76
R	16	20	14	13	15	12	90
S	5	8	12	14	20	31	90
T	26	18	24	20	23	21	132
Total	71	76	79	74	80	96	476

In which year the production of cars of all types taken together was approximately equal to the average of the total production during the period :

(A) 2002 (B) 1998 (C) 1999 (D) 2000

A health drink company prepares the drinks of 3 different flavours P, Q, R. The production of 3 flavours over a period of six years has been expressed on bar graph provided below. Study the graph and answer the questions from 146 to 150.

(Production of 3 diff. flavours of health drinks of a company 6 years in Lakh bottles)



146. In which of the following years the percentage of rise or fall in production from the previous year is maximum for the flavour of Q ?

(A) 2010 (B) 2006
(C) 2007 (D) 2009

SPACE FOR ROUGH WORK

147. What was the approximate decline in the production of flavour R in 2010 as compared to the production of 2008 in percentage ?

(A) 30.33%
(B) 53.33%
(C) 43.33%
(D) 33.33%

148. What is the difference between the average production of flavour Q in 2008, 2009 and 2010 from that of flavour P in 2005, 2006 and 2007 in lakh bottle is :

(A) 5.5
(B) 5
(C) 50
(D) 0.5

149. The percentage of the total production of flavour in 2007 and 2008 with respect to the production flavour P in 2005 and 2006 :

(A) 133.33%
(B) 97.67%
(C) 102.25%
(D) 115.35%

150. The average annual production of which flavou was maximum in the given period ?

(A) P and R both
(B) P only
(C) P and Q both
(D) Q only

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144. Which number should replace both the asterisks in $\left(\frac{21}{*}\right)\times\left(\frac{189}{*}\right)=1$?

(A) 467
(B) 21
(C) 63
(D) 189

145. If $a+b+c,\ p\neq 0$ and $(a+b+c)\ p=(b+c-a)\ q=(c+a-b)\ r=(a+b-c)s$ then $\frac{1}{q}+\frac{1}{r}+\frac{1}{s}-\frac{1}{p}$ is :

(A) $a+2b+3c$
(B) 1
(C) -1
(D) 0

146. A buys an article for ₹ 1600 and gets two successive discounts of 20% and 10%. He spends 20% on its repairs and sells at a profit of 25%. The selling price of the article is :

(A) ₹ 1728
(B) ₹ 2030
(C) ₹ 1850
(D) ₹ 1690

147. A sells a bicycle to B at a profit of 20%. B sells it to C at a profit of 25%. If C pays ₹ 225 for it, the cost pric (in ₹) of the bicycle for A is :

(A) 150
(B) 110
(C) 120
(D) 125

148. The distance between two towns is 800 km. A ca starts from the first town with a speed o 30 km/hr. At the same time, another car starts from the second town with a speed of 50 km/hr. The distance (in km) of the point where they meet from the first town is :

(A) 500
(B) 200
(C) 300
(D) 400

149. The mean temperature from Monday to Wednesday was 37°C and from Tuesday to Thursday was 34°C. If the temperature on Thursday was 4/5 th that of Monday, the temperature on Thursday was :

(A) 37°C
(B) 34°C
(C) 35°C
(D) 36°C

150. A rat takes 5 leaps for every 4 leaps of cat, but 3 leaps of the cat are equal to 4 leaps of the rat. What is the ratio of the speed the rat to that of the cat ?

(A) 15 : 16
(B) 11 : 15
(C) 15 : 11
(D) 16 : 15

SPACE FOR ROUGH WORK

PART - D

ENGLISH COMPREHENSION

Directions : In questions no. **151** to **155**, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval [●] corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

151. Sudoku was first designed in the 1970s/
(A)
by a retired architect /
(B)
and freelance puzzle constructor. /
(C)
No Error.
(D)

152. Each one of you / must make up their mind /
(A) (B)
as I did. / No Error.
(C) (D)

153. During the last few years/
(A)
the company works hard/
(B)
to modernise its image./
(C)
No Error.
(D)

154. After he had apologised to the magistrate profusely/
(A)
for having broke the promise/
(B)
the magistrate was happy to forgive him. /
(C)
No Error.
(D)

This stamp is only one / of the design /
(A) (B)
ever printed./ No Error.
(C) (D)

Directions : In questions no. **156** to **160** sentences are given with blanks to be filled with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

156. What _____ ? It _____ wonderful.
(A) are you cooking, smelt
(B) are you cooking, smells
(C) is cooking, smell
(D) is cooking, smelled

157. We had _____ money left, so we went out for a meal. We decided to abandon our trip as we had _____ money left.
(A) a few, few (B) a little, little
(C) a little, a little (D) little, a little

158. Please write to me _____ this address.
(A) to (B) on
(C) upon (D) at

159. On Tuesday it's the carnival, _____ everybody gets dressed up in a fancy costume. So we will meet at John's house, _____ is about a couple of kilometres away.
(A) when, where (B) when, which
(C) which, where (D) where, when

160. I hate him for the simple reason that he keeps singing his own praises continually talking about himself. He is an irritating _____. He is a real _____ because for anything he does he always expects something in return, a selfish person indeed.
(A) Egoist, Misanthrope
(B) Egotist, Egoist
(C) Poser, Misanthrope
(D) Poser, Egotist

Directions : In questions no. **161** to **163**, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

161. Insolent
(A) depreciating
(B) the sole of a shoe
(C) disrespectful
(D) insoluble

162. Innocuous
(A) insufficient (B) irresponsible
(C) careless (D) harmless

163. Ingenuous
(A) cunning (B) clever
(C) innocent (D) artful

Directions : In questions no. **164** to **166,** choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

164. Diffidence
(A) shyness (B) sharpness
(C) self-assurance (D) expansiveness

165. Amateur
(A) lover (B) apprentices
(C) novice (D) professional

166. Overt
(A) hidden (B) culvert
(C) open (D) complete

Directions : In questions no. **167** to **171,** four alternatives are given for the Idiom\Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom\Phrase and mark it in the Answer Sheet.

167. He is leaving the USA <u>for good</u>.
(A) temporarily (B) immediately
(C) urgently (D) permanently

168. Communicative English is the <u>Achilles' heel</u> for the job aspirants.
(A) what they cherish most
(B) top priority
(C) weak spot
(D) source of strength

169. He is known for <u>blowing his own trumpet</u>.
(A) clamouring (B) boasting
(C) clattering (D) shouting

170. He <u>cut the Gordian knot</u> by practicing what he preached.
(A) removed the difficulty
(B) add to the difficulty
(C) lessened the difficulty
(D) let the difficulty remain as it was

171. He <u>took a leap in the dark</u> with his latest investment in stocks.
(A) was confused (B) was cocksure
(C) took a risk (D) was hesitant

Directions : In questions no. **172** to **181,** a sentence/part of the sentence is underlined. Below are given alternatives to the underlined sentence/part of the sentence at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D).

172. He found a <u>wooden broken chair</u> in the room.
(A) wooden and broken chair
(B) broken wooden chair
(C) broken and wooden chair
(D) No improvement

173. The starving and crawling people in the television programme <u>looked</u> more like beasts than tiring creatures.
(A) posed (B) resembled
(C) seemed (D) No improvement

174. Five years ago today, I <u>am sitting</u> in a small Japanese car, driving across Poland towards Berlin.
(A) was sitting (B) sat
(C) have been sitting (D) No improvement

175. He could not <u>look</u> anything in the dark room.
(A) look at (B) see
(C) see through (D) No improvement

176. No one could explain how a calm and balanced person like him could <u>penetrate</u> such a mindless act on his friends.
(A) perpetuate (B) perpetrate
(C) precipitate (D) No improvement

177. <u>They left the hotel by car where they had been staying</u>.
(A) They left the hotel where they had been staying by car.
(B) They left where they were staying in a hotel by car.
(C) In a car they left where they were staying in a hotel.
(D) No improvement

178. Having only a few hours left, she wondered as she would finish the assignment.
(A) that if (B) whether
(C) that (D) No improvement

179. Will you lend me few rupees in this hour of need ?
(A) lend me a little rupees
(B) borrow me a few rupees
(C) lend me a few rupees
(D) No improvement

180. I took the cycle which he bought yesterday.
(A) that he bought yesterday.
(B) which he had bought yesterday.
(C) that he has bought yesterday.
(D) No improvement

181. Anyone who would speak with authority on the poets of the Renaissance must have a broad acquaintance with the writers of classical antiquity.
(A) Anyone who will speak
(B) If one would speak
(C) Anyone desirous for speaking
(D) No improvement

Directions : In questions no. **182** to **188**, out of the four alternatives, choose the one which can be substituted for the given words/sentences and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

182. The production of raw silk.
(A) sariculture (B) syrumculture
(C) sericulture (D) seroculture

183. Politicians are notorious for doing undue favour to their relatives.
(A) dualism (B) polarism
(C) pluralism (D) nepotism

184. A person who helps even a stranger in difficulty.
(A) philanthropist (B) beneficiary
(C) samaritan (D) altruist

185. A person who readily believes others.
(A) Sensitive (B) Sensible
(C) Credible (D) Credulous

186. Meaningless language with an exaggerated style intended to impress.
(A) Verbalization (B) Rhetoric
(C) Oratory (D) Public speaking

187. The political leader has an evil reputation. He is not trusted.
(A) is magnanimous (B) is dubious
(C) is notorious (D) is malicious

188. The conference takes place once in three years.
(A) treennial (B) thriennial
(C) tetraennial (D) triennial

Directions : In questions no. **189** and **190**, four words are given in each question, out of which only one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

189. (A) heterogenious (B) heterogeneous
(C) hetrogenous (D) heterogineous

190. (A) parjury (B) perjery
(C) perjary (D) perjury

Directions : In questions no. **191** to **200**, you have two passages with 5 questions in each passage. Read the passages carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval [●] in the Answer Sheet.

PASSAGE - I (Ques. No. 191 to 195)

The **Bengal Renaissance** refers to a social reform movement during the nineteenth and early twentieth centuries in the region of Bengal in Undivided India during the period of British rule. The Bengal renaissance can be said to have started with Raja Ram Mohan Roy (1775 - 1833) and ended with Rabindranath Tagore (1861 - 1941), although there have been many stalwarts thereafter embodying particular aspects of the unique intellectual and creative output. Nineteenth century Bengal was a unique blend of religious and social reformers, scholars, literary giants, journalists, patriotic orators and scientists, all merging to form the image of a renaissance, and marked the transition from the 'medieval' to the 'modern'.

During this period, Bengal witnessed an intellectual awakening that is in some way similar to the European Renaissance during the 16th century, although Europeans of that age were not confronted with the challenge and influence of alien colonialism. This movement questioned existing orthodoxies, particularly with respect to women,

marriage, the dowry system, the caste system and religion. One of the earliest social movements that emerged during this time was the Young Bengal movement, that espoused rationalism and atheism as the common denominators of civil conduct among upper caste educated Hindus.

The parallel socio-religious movement, the Brahmo Samaj, developed during this time period and counted many of the leaders of the Bengal Renaissance among its followers.

191. The spirit of Renaissance :

(A) lies in breaking all shackles of backwardness and narrow mindedness

(B) is essentially scientific

(C) is to embrace atheism

(D) is to get inspiration from Western intellectual thought

192. Find the option that is opposite in meaning to alien.

(A) unethical

(B) unscientific

(C) disputable

(D) indigenous

193. The Bengal Renaissance was different from the 16th century European Renaissance because :

(A) The Bengal Renaissance was an essentially Hindu Movement.

(B) Unlike the Bengalis, Europeans were not under foreign rule.

(C) Europeans did not have the dowry system.

(D) Raja Rammohan Roy and Tagore were not born in the 16th century.

194. The Bengal Renaissance gathered momentum in the 19th century because :

(A) the Brahmo Samaj was formed

(B) Raja Rammohan Roy and Tagore lived at that time.

(C) the British had colonised India

(D) there was an abundance of intellectual and creative activities in Bengal then.

195. The Bengal Renaissance movement :

(A) wanted to overthrow colonialism

(B) wanted to propagate Brahmoism

(C) wanted social reform to improve the lot of the weak and the downtrodden

(D) none of the above

PASSAGE - II (Ques. No.196 - 200)

"I must find a hiding place," he thought, "and in the next few seconds or I am done for."

Scarcely had the thought crossed his mind that the lane took a sudden turning so that he found himself hidden from his pursuers. There are circumstances in which the least energetic of mankind learn to act with speed and decision. This was such an occasion for Rehmat Ali and those who knew him best would have been the most astonished at the lad's boldness. He stopped dead, threw the box of jewellery over a garden wall and, leaping upwards with incredible lightness, he seized the top of the walls with his hands and tumbled headlong into the garden.

196. The expression 'to stop dead' means :

(A) to die suddenly

(B) be close to death

(C) to be paralysed

(D) to come to a complete halt

197. Rehmat Ali is most likely :

(A) a night watchman

(B) a jogger

(C) a burglar

(D) a policeman

198. 'There are circumstances in which the least energetic of mankind learn to act with speed and decision, and the most cautious forget their care'. Rehmat illustrates this by :

(A) turning into a lane

(B) jumping into the garden

(C) running away from his pursuers

(D) by stopping dead

199. What kind of a person was Rehmat Ali originally ?

(A) reflective in nature

(B) bold and decisive

(C) slow and steady

(D) lazy and indecisive

200. Rehmat Ali found himself hidden from his pursuers because :

(A) he had stopped dead

(B) he had acted with speed and decision

(C) he had gone around an unexpected bend

(D) his pursuers could not run fast enough

-o0o-