Question Paper Code 000 KG9

PART - A

GENERAL INTELLIGENCE & REASONING

Directions : In questions no. **1** and **2**, select the related letter / word from the given alternatives.

1. A – E : R – V : : B – F : F – J

(A) FUGK (B) CSCG
(C) CTDH (D) BSCG

2. Horse : Neigh : : Bells : ?

(A) Rustle (B) Roar
(C) Beat (D) Chime

3. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

a _ bba _ bba _ bb

(A) abb (B) bbb (C) bba (D) aab

Directions : In questions no. **4** to **12**, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

4. 61, 52, 63, 94, 46, ___?___.

(A) 19 (B) 18
(C) 17 (D) None

5. TQNKHEBYVSP???

(A) NKI (B) MJG
(C) MJH (D) NKG

6. P3C, R5F, T8I, V12L, ___?___.

(A) X17O (B) Y17O
(C) X16O (D) X17M

7. AZ, CX, EV, GT, ___?___, KP, ___?___.

(A) RI and MN (B) RI and NM
(C) IR and MN (D) IR and NM

8. 13, 10, ___?___, 100, 1003, 1000, 10003.

(A) 1130 (B) 103 (C) 130 (D) 1030

9. YZ, VYZ, SYZ, PYZ, ___?___.

(A) RYZ (B) MYZ
(C) XYZ (D) TYZ

10. NP MK RT IG ___?___.

(A) FD (B) EC (C) VX (D) UW

11. EFA, GHC, IJE, ___?___.

(A) KLG (B) HIF
(C) KDA (D) JKG

12. 5, 13, 29, 61, 125, ___?___.

(A) 196 (B) 245 (C) 145 (D) 253

13. Certain numbers have symbols as given below.

1	2	3	4	5	6	7	8	9	0
○	□	(	[	]	◖	◗	)	⌒	⌣

What is the number indicated by these symbols ?

[ ] ⌒ ⌣ ◖

(A) 45096 (B) 45906
(C) 47095 (D) 56907

Directions : In question nos. **14** to **17**, find the odd word / number from the given alternatives.

14. (A) Red Yellow (B) Red Orange
(C) Yellow Green (D) Yellow Orange

15. 27, 125, 216, 343

(A) 216 (B) 343 (C) 27 (D) 125

16. (A) grave (B) agreeable
(C) fastidious (D) firm

17. (A) Dutch Mark (B) Yen
(C) Franc (D) Pound (Sterling)

18. Shiela and Belah start from their office and walk in opposite direction each travelling 10 kms. Shiela then turns left and walks 10 kms. Belah turns right and walks 10 km. How far are they now from each other ?

(A) 5 km (B) 8 km
(C) 20 km (D) 10 km

19. What is the least number to be subtracted from 2486 to make it a perfect square ?

(A) 90 (B) 95 (C) 80 (D) 85

20. Roshan is taller than Hardik who is shorter than Susheel. Niza is taller than Harry but shorter than Hardik. Susheel is shorter than Roshan. Who is the tallest ?

(A) Hardik (B) Harry
(C) Roshan (D) Susheel

Directions : In questions no. **21** to **23**, from the given alternatives select the word which **cannot** be formed using the letters of the given word.

21. INTELLIGENCE

(A) INCITE (B) CANCEL
(C) NEGLECT (D) GENTLE

22. DISAPPOINTMENT

(A) TENEMENT (B) POSITION
(C) POINTER (D) OINTMENT

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23. DECOMPOSITION
(A) POSITION (B) DOCTOR
(C) COMPOSE (D) ECONOMIST

24. In the following question, the number of letters skipped in between adjacent letters in the series is successive even numbers. Which of the following series observes this rule ?
(A) BEJQZ (B) BDGKQ
(C) FINUZ (D) ADGJM

25. In a question paper, there are 12 questions in all out of which only six are to be answered. Six questions have an alternative each. Each question has four parts.
How many questions including parts are there in the question paper ?
(A) 72 (B) 96 (C) 24 (D) 48

26. If MOBILE is written as ZAMSUM, how TUMOR can be written in that code ?
(A) GGXYA (B) IHZBE
(C) BRAIN (D) HGYAD

27. If $55+66=33$ and $22+99=33$, what is $44+88$?
(A) 38 (B) 40 (C) 33 (D) 36

28. If $\times$ stands for addition, $<$ for substraction, $+$ stands for division, $>$ for multiplication, $-$ stands for equation, $\div$ for greater than, and $=$ stands for less than, state which of the following is true ?
(A) $3\times4>2-9+3<3$
(B) $5\times3<3\div8+4\times1$
(C) $3\times2<4\div16>2+4$
(D) $5>8+4=10<4\times8$

Directions : In questions no. **29** to **34**, select the missing number from the given responses.

29. 3917, 3526, ? , 2857
(A) 3389 (B) 2682
(C) 3082 (D) 3174

30.

4		3		2			
36	2	100	7	?	5		
(A)	64	(B)	81	(C)	71	(D)	49

31. 5, 11, 24, 51, 106, ? .
(A) 217 (B) 221 (C) 115 (D) 122

32.

3	4	6					
5	7	3					
1	2	7					
35	69	?					
(A)	84	(B)	42	(C)	82	(D)	94

33.

16	49	64					
25	36	81					
9	13	?					
(A)	17	(B)	14	(C)	21	(D)	22

34.

19	18	34	32	44	41						
	2		4		?						
(A)	9	(B)	4	(C)	3	(D)	6				

35. A and B both are walking away from point 'X'. A walked 3 m and B walked 4 m from it, then A walked 4 m north of 'X' and B walked 5 m south of A. What is the distance between them now ?
(A) 9 m (B) 16 m
(C) 11.40 m (D) 9.5 m

36. Pipe A can fill a tank completely in 5 hours. However, on account of a leak at the tank, it takes 3 more hours to fill the tank. How long will the leak take to empty the full tank when pipe A is closed/shut ?
(A) 14 hours 40 minutes
(B) 12 hours 20 minutes
(C) 13 hours 20 minutes
(D) 7.5 hours

Directions : In questions no. **37** and **38**, one/two statements are given followed by two/three conclusions I, II and III. 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 :** Sun is the source of light.
Conclusions : (I) Moon is not the source of light.
(II) Light has only one source.
(A) Both conclusions (I) and (II) follow
(B) Neither conclusion (I) nor (II) follows
(C) Only conclusion (I) follows
(D) Only conclusion (II) follows

38. **Statement :** (I) All cities are towns.
(II) Some cities are villages.
Conclusions : (I) All villages are towns.
(II) No village is a town.
(III) Some villages are towns.
(A) Only conclusion (III) follows
(B) Only conclusion (I) follows
(C) Only conclusion (II) follows
(D) None of these

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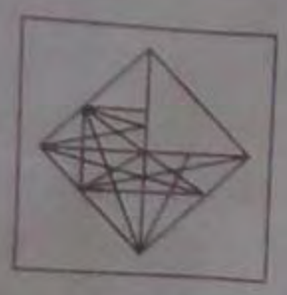
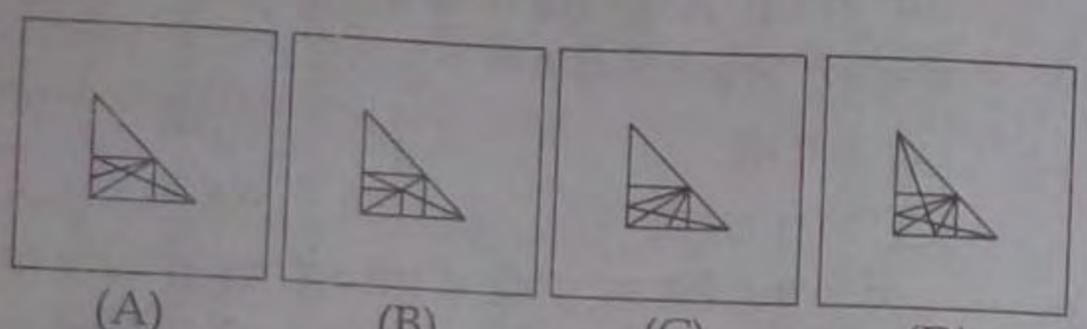
Directions : In questions no. **39** to **41**, which answer figure will complete the question figure ?

39. **Question figure :**

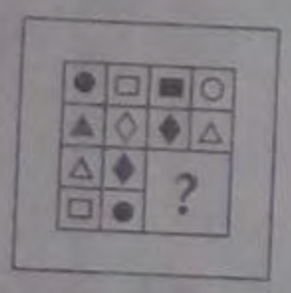


Answer figures :

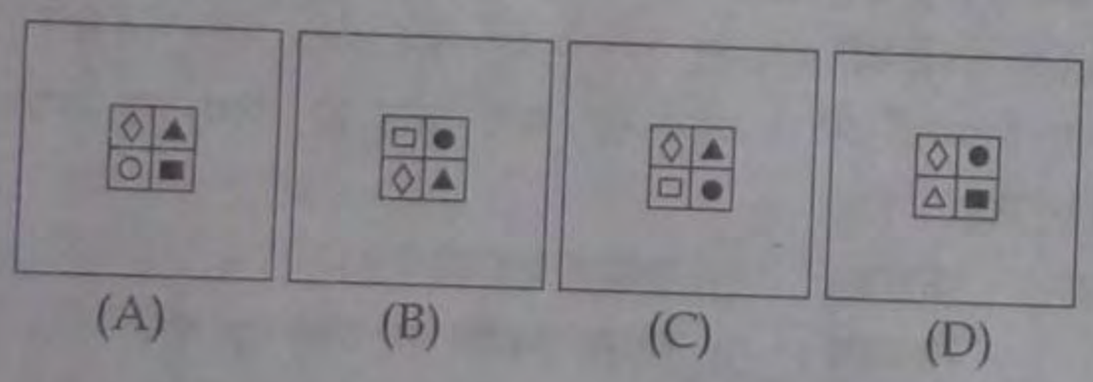


(A) (B) (C) (D)

40. **Question figure :**

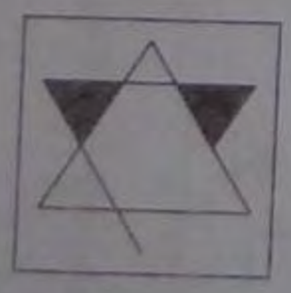


Answer figures :

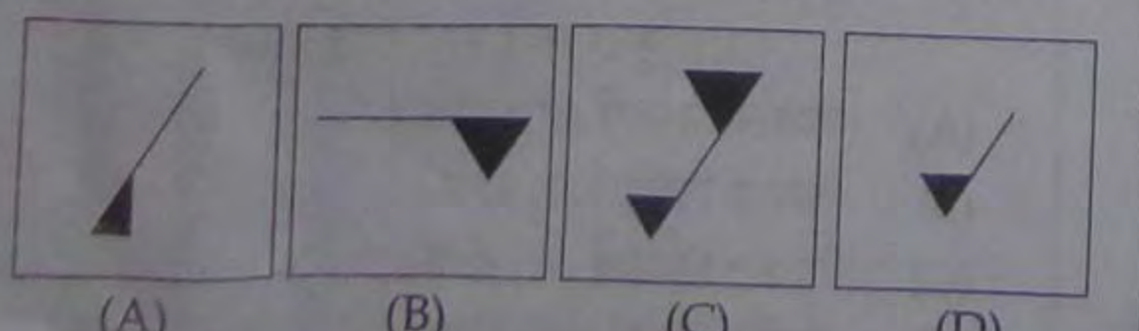


(A) (B) (C) (D)

41. **Question figure :**



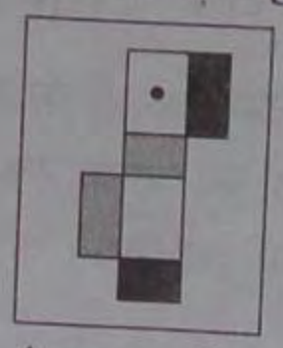
Answer figures :



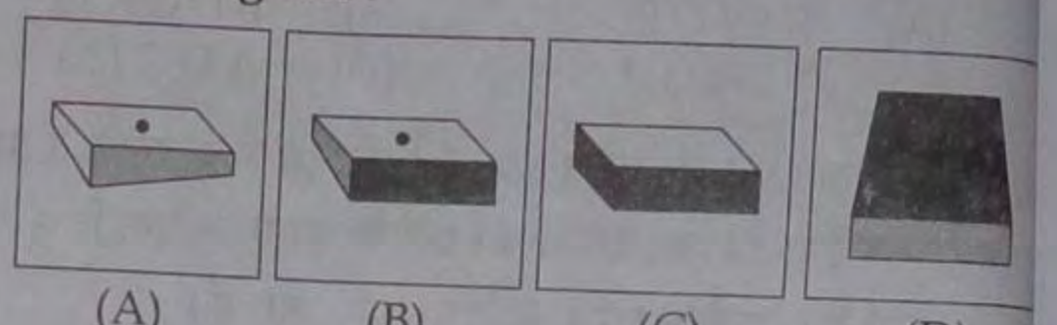
(A) (B) (C) (D)

42. Which one of the following box can be created by folding the given key design ?

Question figure :

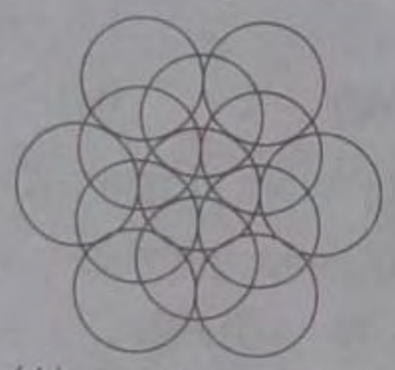


Answer figures :



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

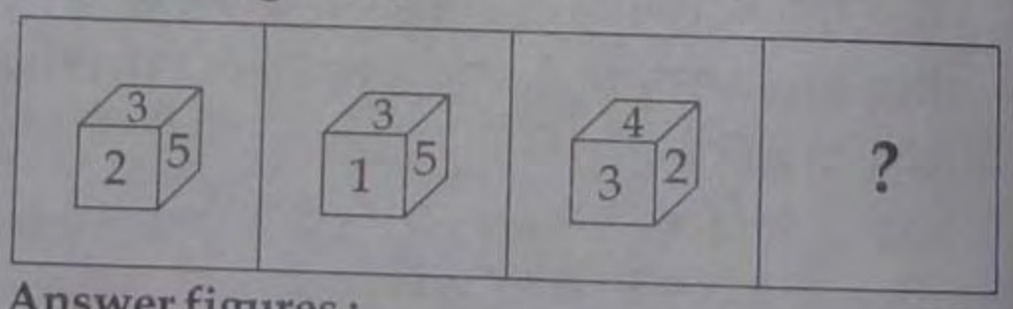
43. How many circles are there in the following figure ?



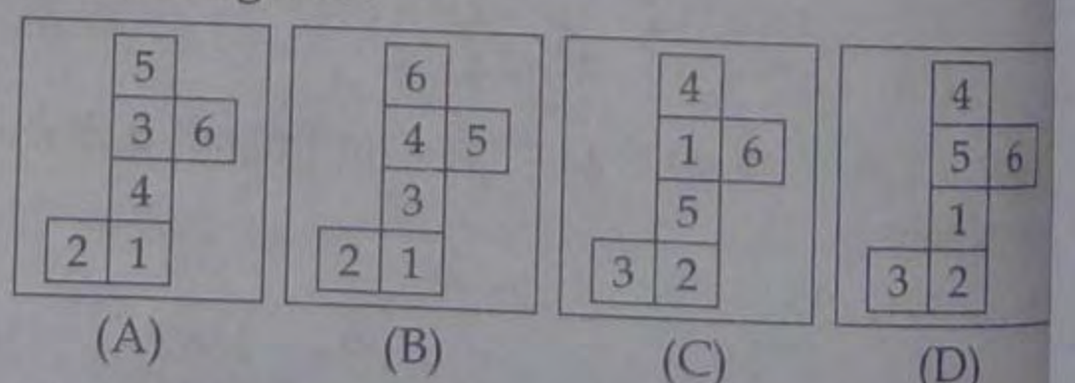
(A) 13 (B) 14 (C) 11 (D) 12

44. Three views of the same cube are given. All the faces of the cube are numbered from 1 to 6. Select one figure which will result when the cube is unfolded.

Question figures :



Answer figures :

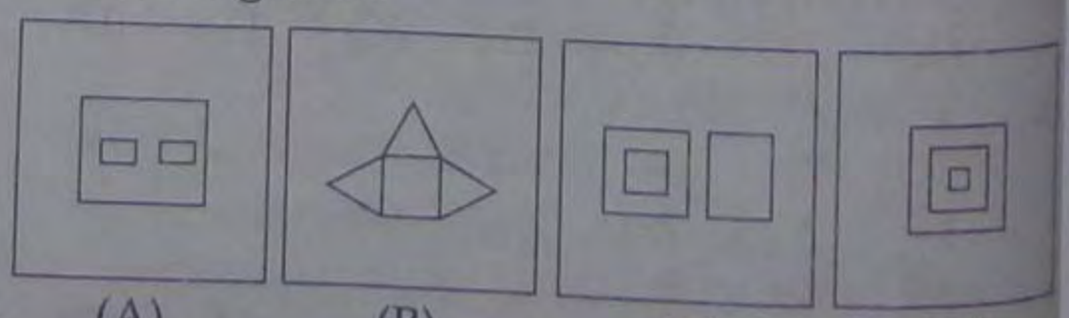


(A) (B) (C) (D)

45. Choose from the following diagrams (A), (B), (C) and (D) the one that illustrates the relationships among three given classes :

North America, United States of America, New York

Answer figures :



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

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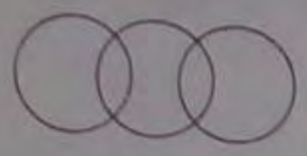
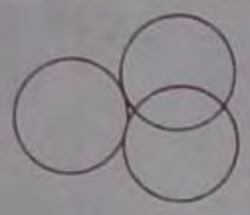
46. Which figure represents the relationship among Sun, Moon, Molecule ?

(A) 

(B) 

(C) 

(D) 

47. 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 the matrix given below. The columns and rows of Matrix are numbered from 0 to 6. A letter from the matrix can be represented *first by its row* and *next by its column*, e.g., 'A' can be represented by 42, 62, etc., and 'P' can be represented by 15, 43, etc. Similarly, you have to identify the set for the word 'CALM'.

Matrix

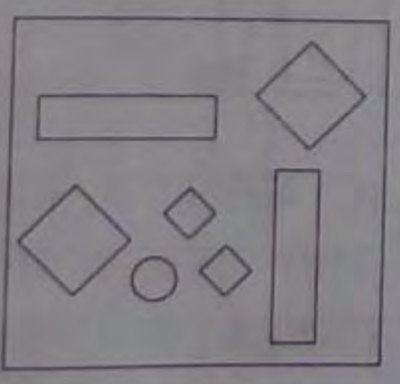
0	1	2	3	4	5	6
1	H	R	E	I	P	S
2	S	G	N	D	Z	I
3	B	U	F	T	K	L
4	V	A	P	C	Y	A
5	M	W	C	O	X	N
6	B	A	E	J	L	O

(A) 53, 54, 51, 31 (B) 44, 54, 65, 24

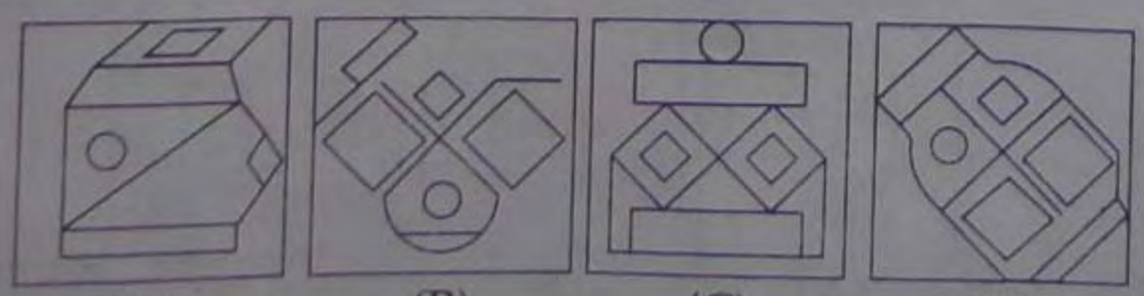
(C) 44, 62, 65, 51 (D) 53, 42, 65, 36

48. Which answer figure includes all the components given in the question figure ?

Question figure :



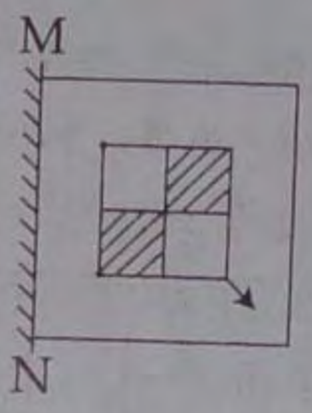
Answer figures :



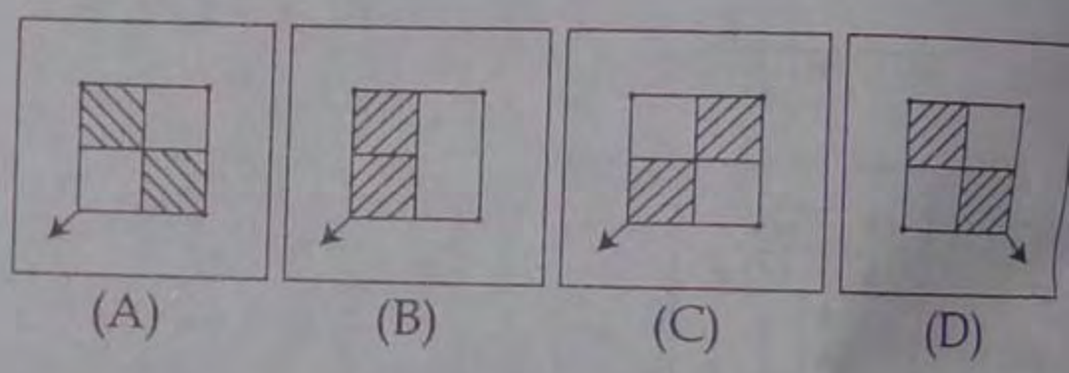
(A) (B) (C) (D)

49. If a mirror is placed on the line MN, then whi the answer figures is the right image of the g figure ?

Question figure :



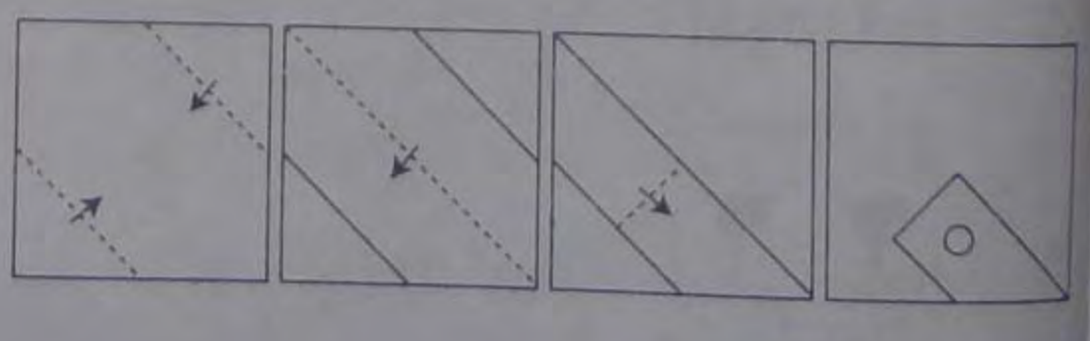
Answer figures :



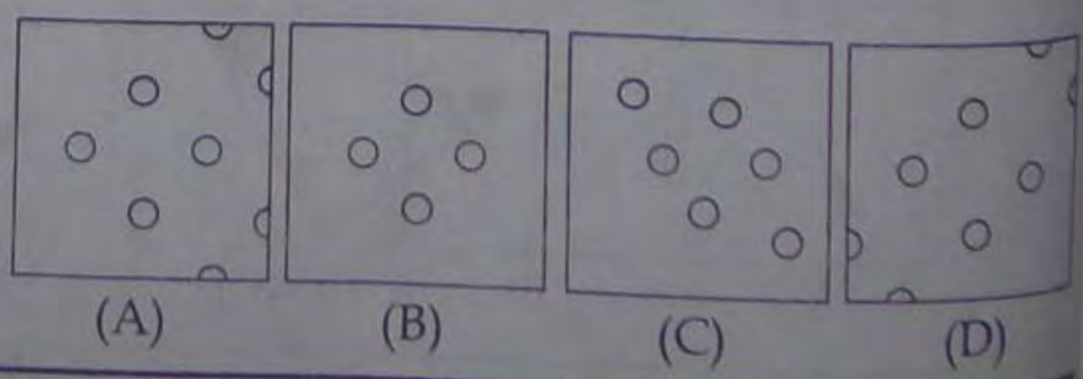
(A) (B) (C) (D)

50. A piece of paper is folded and cut as shown belo in the question figures. From the given answe figures, indicate how it will appear when opened.

Question figures :



Answer figures :



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

SPACE FOR ROUGH WORK

PART - B

GENERAL AWARENESS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

87. Of the following, in which did Napoleonic France suffer final defeat ?

(A) Battle of Wagram
(B) Battle of Pyramids
(C) Battle of Austerlitz
(D) Battle of Trafalgar

88. In India, Special Economic Zones were established to enhance :

(A) Foreign Investment
(B) Employment
(C) Technology Development
(D) Free trade

89. Who won the "World Youth Chess Championship 2012" ?

(A) Kimi Raikkonen (B) Scott Flemming
(C) M. Mahalakshmi (D) N. Priyanka

90. Article 1 of the Indian Constitution declares "India that is Bharat" is a :

(A) Federal State with Unitary features
(B) Unitary State with federal features
(C) Federal State
(D) Union of States

91. The animal that do not develop hypertension inspite of heavy intake of salt is :

(A) Buffallo (B) Tiger
(C) Camel (D) Sheep

92. An example of protein which acts as a hormone is :

(A) Oxytocin (B) Keratin
(C) Casein (D) Trypsin

93. Which of the following is protected under Wild life (Protection) Act, 1972 ?

(A) Gerbil (B) Bandicoot rat
(C) Squirrel (D) Porcupine

94. During Quit India Movement, 'Parallel Government' was constituted at :

(A) Allahabad (B) Lucknow
(C) Ballia (D) Varanasi

95. Liver is a *RICH* source of :

(A) fat soluble vitamins
(B) minerals
(C) proteins
(D) sugars

96. Who founded the Indian National Party in Berlin during 1914 ?

(A) W.C. Banerjee
(B) Surendranath Banerjee
(C) Champakaraman Pillai
(D) Subhash Chandra Bose

97. Persistence of vision is the Principle behind :

(A) Cinema (B) Periscope
(C) Camera (D) Binocular

98. The Government of India Act, 1935 was based on :

(A) Lord Curzon Commission
(B) Dimitrov Thesis
(C) Lord Clive's report
(D) Simon Commission

99. The study of population is called :

(A) Anthropology (B) Demography
(C) Biography (D) Cartography

100. Which was the first super computer purchased by India for medium range weather forecasting ?

(A) Medha - 930
(B) CDC Cyber 930-11
(C) Param
(D) Cray XMP-14

PART - C

QUANTITATIVE APTITUDE

101. If $\left(\frac{3}{4}\right)^3\left(\frac{4}{3}\right)^{-7}=\left(\frac{3}{4}\right)^{2x}$, then x is :

(A) 2 (B) 5 (C) $2\frac{1}{2}$ (D) -2

102. The marked price of a mixie is ₹ 1600. The shopkeeper gives successive discount of 10% and x% to the customer. If the customer pays ₹ 1224 for the mixie, find the value of x :

(A) 12% (B) 15% (C) 8% (D) 10%

103. On selling an article for ₹ 170, a shopkeeper loses 15%. In order to gain 20%, he must sell that article at rupees :

(A) 212.50 (B) 240
(C) 210 (D) 215.50

104. A shopkeeper marks the price of an article at ₹ 80. What will be the selling price, if he allows two successive discounts at 5% each ?

(A) ₹ 72 (B) ₹ 85
(C) ₹ 7.2 (D) ₹ 72.2

105. If $\left(x+\frac{1}{x}\right)=4$, then the value of $x^4+\frac{1}{x^4}$ is :

(A) 194 (B) 81 (C) 124 (D) 64

106. Which of the following successive discounts is better to a customer (a) 20%, 15%, 10%
or (b) 25%, 12%, 8% ?

(A) (a) is better
(B) (b) is better
(C) (a) or (b) (both are same)
(D) None of these

107. A circular road runs around a circular ground. If the difference between the circumferences of the outer circle and the inner circle is 66 metres, the width of the road is : (Take $\pi=\frac{22}{7}$)

(A) 7 metres (B) 5.25 metres
(C) 21 metres (D) 10.5 metres

108. The degree measure of 1 radian (taking $\pi=\frac{22}{7}$) is :

(A) 57° 16' 22" (approx.)
(B) 57° 22' 16" (approx.)
(C) 57° 22' 16' (approx.)
(D) 57° 61' 22" (approx.)

109. If $\frac{x}{a}=\frac{1}{a}-\frac{1}{x}$, then the value of $x-x^2$ is :

(A) $\frac{1}{a}$ (B) $-\frac{1}{a}$ (C) a (D) $-a$

110. A chord AB of a circle C_1 of radius $\left(\sqrt{3}+1\right)$ cm touches a circle C_2 which is concentric to C_1. If the radius of C_2 is $\left(\sqrt{3}-1\right)$ cm., the length of AB is :

(A) $8\sqrt{3}$ cm (B) $4\sqrt[4]{3}$ cm
(C) $4\sqrt{3}$ cm (D) $2\sqrt[4]{3}$ cm

111. Three numbers are in the ratio 1 : 2 : 3. By adding 5 to each of them, the new numbers are in the ratio 2 : 3 : 4. The numbers are :

(A) 15, 30, 45 (B) 1, 2, 3
(C) 5, 10, 15 (D) 10, 20, 30

112. If $\sec\theta+\tan\theta=2+\sqrt{5}$, then the value of $\sin\theta+\cos\theta$ is :

(A) $\sqrt{5}$ (B) $\frac{7}{\sqrt{5}}$ (C) $\frac{1}{\sqrt{5}}$ (D) $\frac{3}{\sqrt{5}}$

113. ABC is an isosceles triangle such that AB = AC and $\angle B=35°$. AD is the median to the base BC. Then $\angle BAD$ is :

(A) 35° (B) 110° (C) 55° (D) 70°

114. Evaluate : $\tan 1°\tan 2°\tan 3°$ ..... $\tan 89°$.

(A) -1 (B) 2 (C) 0 (D) 1

SPACE FOR ROUGH WORK

115. If $a^2+b^2+c^2+3=2(a-b-c)$, then the value of $2a-b+c$ is :

(A) 4 (B) 0 (C) 2 (D) 3

116. Out of 10 teachers of a school, one teacher retires and in his place, a new teacher of age 25 years joins. As a result, average age of teachers is reduced by 3 years. The age (in years) of the retired teacher is :

(A) 60 (B) 55 (C) 50 (D) 58

117. If $p-2q=4$, then the value of $p^3-8q^3-24pq-64$ is :

(A) 0 (B) 3 (C) -1 (D) 2

118. A man buys 3 cows and 8 goats in ₹ 47,200. Instead, if he would have bought 8 cows and 3 goats, he had to pay ₹ 53,000 more. Cost of one cow is :

(A) ₹ 12,000 (B) ₹ 13,000

(C) ₹ 10,000 (D) ₹ 11,000

119. A man can swim 3 km/hr. in still water. If the velocity of the stream is 2 km/hr., the time taken by him to swim to a place 10 km upstream and back is :

(A) 10 hr. (B) 12 hr.

(C) $8\frac{1}{3}$ hr. (D) $9\frac{1}{3}$ hr.

120. Equation of the straight line parallel to x-axis and also 3 units below x-axis is :

(A) $y=3$ (B) $y=-3$

(C) $x=3$ (D) $x=-3$

121. Given A is 50% larger than C and B is 25% larger than C, then A is what percent larger than B ?

(A) 50% (B) 75% (C) 20% (D) 25%

122. If ABCD be a rectangle and P, Q, R, S be the mid-points of $\overline{AB}$, $\overline{BC}$, $\overline{CD}$ and $\overline{DA}$ respectively, then the area of the quadrilateral PQRS is equal to :

(A) $\frac{1}{3}$ area (ABCD)

(B) $\frac{3}{4}$ area (ABCD)

(C) $\frac{1}{2}$ area (ABCD)

(D) area (ABCD)

123. A can finish a work in 18 days and B can do the same work in 15 days. B worked for 10 days and left the job. In how many days, A alone can finish the remaining work ?

(A) 5½ (B) 5 (C) 8 (D) 6

124. The perimeter of the base of a right circular cone is 8 cm. If the height of the cone is 21 cm, then its volume is :

(A) $\frac{112}{\pi}$ cm^3 (B) $112\,\pi$ cm^3

(C) $\frac{108}{\pi}$ cm^3 (D) $108\,\pi$ cm^3

125. If 10 men or 20 women or 40 children can do a piece of work in 7 months, then 5 men, 5 women and 5 children together can do half of the work in :

(A) 4 months (B) 5 months

(C) 8 months (D) 6 months

126. If $\left(n^r-tn+\frac{1}{4}\right)$ be a perfect square, then the values of t are :

(A) 1, 2 (B) 2, 3 (C) ±1 (D) ±2

127. The angle of elevation of a tower from a distance 100 m from its foot is 30°. Height of the tower is :

(A) $50\sqrt{3}$ m (B) $\frac{200}{\sqrt{3}}$ m

(C) $100\sqrt{3}$ m (D) $\frac{100}{\sqrt{3}}$ m

128. In a triangle ABC, AB = AC, $\angle BAC=40°$. Then the external angle at B is :

(A) 70° (B) 110° (C) 80° (D) 90°

SPACE FOR ROUGH WORK

129. The value of $(\sin^2 25° + \sin^2 65°)$ is :

(A) 1 (B) 0 (C) $\frac{2}{\sqrt{3}}$ (D) $\frac{\sqrt{3}}{2}$

130. The value of
$\cos 1° \cos 2° \cos 3° \ldots\ldots \cos 177° \cos 178° \cos 179°$ is :

(A) $\frac{1}{2}$ (B) 1 (C) $\frac{1}{\sqrt{2}}$ (D) 0

131. A chord of length 30 cm is at a distance of 8 cm from the centre of a circle. The radius of the circle is :

(A) 23 (B) 21 (C) 19 (D) 17

132. AB and CD are two parallel chords of a circle such that AB = 10 cm and CD = 24 cm. If the chords are on the opposite sides of the centre and distance between them is 17 cm, then the radius of the circle :

(A) 12 cm (B) 13 cm
(C) 10 cm (D) 11 cm

133. The ratio of inradius and circumradius of a square is :

(A) $\sqrt{2} : \sqrt{3}$ (B) 1 : 3
(C) 1 : 2 (D) $1 : \sqrt{2}$

134. If ΔABC is similar to ΔDEF such that BC = 3 cm, EF = 4 cm and area of $\Delta ABC = 54\ cm^2$, then the area of ΔDEF is :

(A) $78\ cm^2$ (B) $96\ cm^2$
(C) $54\ cm^2$ (D) $66\ cm^2$

135. Number of digits in the square root of 62478078 is :

(A) 5 (B) 6 (C) 3 (D) 4

136. The time in which ₹ 80,000 amounts to ₹ 92,610 at 10% p.a. at compound interest, interest being compounded semi annually is :

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

137. P and Q are two points on a circle with centre at O. R is a point on the minor arc of the circle, between the points P and Q. The tangents to the circle at the points P and Q meet each other at the point S. If $\angle PSQ = 20°$, $\angle PRQ = ?$

(A) 200° (B) 160° (C) 100° (D) 80°

138. A man undertakes to do a certain work in 150 days. He employs 200 men. He finds that only a quarter of the work is done in 50 days. The number of additional men that should be appointed so that the whole work will be finished in time is :

(A) 100 (B) 125 (C) 50 (D) 75

139. The value of a machine depreciates every year by 10%. If its present value is ₹ 50,000 then the value of the machine after 2 years is _____ .

(A) ₹ 45,000 (B) ₹ 40,005
(C) ₹ 40,500 (D) ₹ 40,050

140. The average of 50 numbers is 38. If two numbers namely 45 and 55 are discarded, the average of the remaining numbers is :

(A) 32.5 (B) 37.5 (C) 36 (D) 35

141. A train moving at a rate of 36 km/hr. crosses a standing man in 10 seconds. It will cross a platform 55 metres long, in :

(A) 7 seconds (B) $15\frac{1}{2}$ seconds
(C) $5\frac{1}{2}$ seconds (D) 6 seconds

142. If $\frac{x}{x^2 - 2x + 1} = \frac{1}{3}$, then the value of $x^3 + \frac{1}{x^3}$ is :

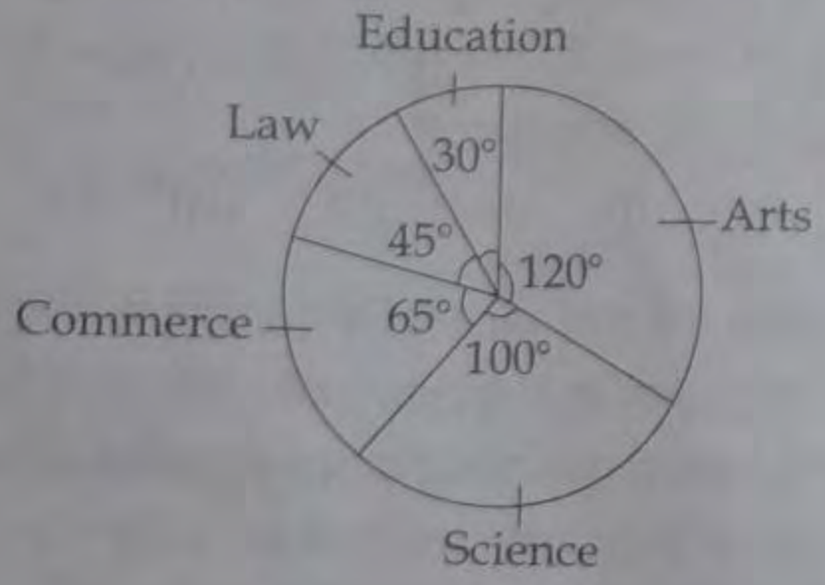
(A) 110 (B) 125 (C) 27 (D) 81

143. If $\sin\theta + \text{cosec}\,\theta = 2$, then the value of $\sin^9\theta + \text{cosec}^9\,\theta$ is :

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

SPACE FOR ROUGH WORK

Directions : Questions no. **144** to **146**, the following pie-chart shows the number of students admitted in different faculties of a college. Study the chart and answer.



144. If 1000 students are admitted in science, what is the ratio of students in science and arts ?

(A) 7 : 5 (B) 7 : 6 (C) 5 : 6 (D) 6 : 5

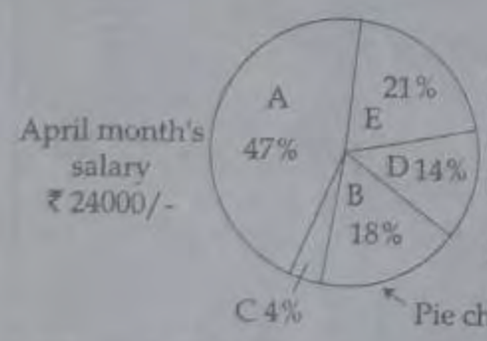
145. If 1000 students are admitted in science, what is the total number of students ?

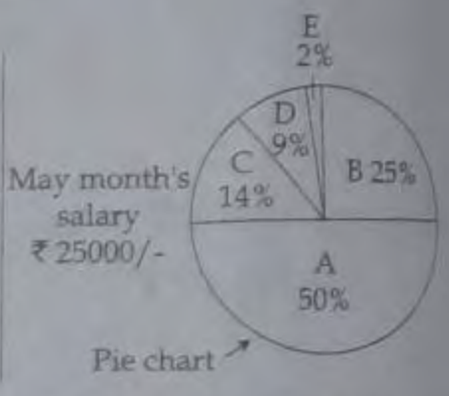
(A) 1800 (B) 3600 (C) 360 (D) 180

146. How many students are more in commerce than in law if 1000 students are in science ?

(A) 2000 (B) 500 (C) 20 (D) 200

Directions : Questions no. **147** to **150**, Study the two pie-charts and answer the questions.





147. What is the percent increase in Education in May month than April month ?

(A) 12.35% (B) 20%
(C) 10.82% (D) 9.56%

148. The ratio of amount spent for savings in April month's salary and miscellaneous in May month's salary is :

(A) 217 : 26 (B) 205 : 13
(C) 235 : 50 (D) 216 : 25

149. From the salary of May, the amount spent on Grocery and Electricity are :

(A) ₹ 960, ₹ 5040 (B) ₹ 3500, ₹ 2250
(C) ₹ 2160, ₹ 480 (D) ₹ 6250, ₹ 3360

150. The average amount spent on Education, Grocery and Savings from April month's salary is :

(A) ₹ 6000/- (B) ₹ 6325/-
(C) ₹ 5520/- (D) ₹ 5800/-

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

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

153. 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)

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

155. Sudoku was first designed in the 1970s / (A)
by a retired architect / (B)
and freelance puzzle constructor. / (C)
No Error. (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) is cooking, smelled
(B) are you cooking, smelt
(C) are you cooking, smells
(D) is cooking, smell

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

158. 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) where, when
(B) when, where
(C) when, which
(D) which, where

159. 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) Poser, Egotist
(B) Egoist, Misanthrope
(C) Egotist, Egoist
(D) Poser, Misanthrope

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

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. Ingenuous

(A) artful

(B) cunning

(C) clever

(D) innocent

162. Innocuous

(A) harmless

(B) insufficient

(C) irresponsible

(D) careless

163. Insolent

(A) insoluble

(B) depreciating

(C) the sole of a shoe

(D) disrespectful

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. Amateur

(A) professional

(B) lover

(C) apprentices

(D) novice

165. Diffidence

(A) expansiveness

(B) shyness

(C) sharpness

(D) self-assurance

166. Overt

(A) complete

(B) hidden

(C) culvert

(D) open

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 <u>took a leap in the dark</u> with his latest investment in stocks.

(A) was hesitant

(B) was confused

(C) was cocksure

(D) took a risk

168. He <u>cut the Gordian knot</u> by practicing what he preached.

(A) let the difficulty remain as it was

(B) removed the difficulty

(C) add to the difficulty

(D) lessened the difficulty

169. He is known for <u>blowing his own trumpet</u>.

(A) shouting

(B) clamouring

(C) boasting

(D) clattering

170. He is leaving the USA <u>for good</u>.

(A) permanently

(B) temporarily

(C) immediately

(D) urgently

171. Communicative English is the Achilles' heel for the job aspirants.

D

(A) source of strength

(B) what they cherish most

(C) top priority

(D) weak spot

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. Will you lend me few rupees in this hour of need ?

C

(A) lend me a little rupees

(B) borrow me a few rupees

(C) lend me a few rupees

(D) No improvement

173. I took the cycle which he bought yesterday.

B

(A) that he bought yesterday.

(B) which he had bought yesterday.

(C) that he has bought yesterday.

(D) No improvement

174. They left the hotel by car where they had been staying.

B

(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

175. No one could explain how a calm and balanced person like him could penetrate such a mindless act on his friends.

B

(A) perpetuate (B) perpetrate

(C) precipitate (D) No improvement

176. He could not look anything in the dark room.

B

(A) look at (B) see

(C) see through (D) No improvement

177. He found a wooden broken chair in the room.

B

(A) wooden and broken chair

(B) broken wooden chair

(C) broken and wooden chair

(D) No improvement

178. The starving and crawling people in the television programme looked more like beasts than tiring creatures.

B

(A) posed

(B) resembled

(C) seemed

(D) No improvement

179. Anyone who would speak with authority on the poets of the Renaissance must have a broad acquaintance with the writers of classical antiquity.

C

(A) Anyone who will speak

(B) If one would speak

(C) Anyone desirous for speaking

(D) No improvement

180. Five years ago today, I am sitting in a small Japanese car, driving across Poland towards Berlin.

(A) was sitting

(B) sat

(C) have been sitting

(D) No improvement

181. Having only a few hours left, she wondered as she would finish the assignment.

(A) that if

(B) whether

(C) that

(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. Politicians are notorious for doing undue favour to their relatives.

(A) nepotism

(B) dualism

(C) polarism

(D) pluralism

183. A person who helps even a stranger in difficulty.

(A) altruist

(B) philanthropist

(C) beneficiary

(D) samaritan

184. The production of raw silk.

(A) seroculture

(B) sariculture

(C) syrumculture

(D) sericulture

185. The political leader has an evil reputation. He not trusted.

(A) is malicious

(B) is magnanimous

(C) is dubious

(D) is notorious

186. A person who readily believes others.

(A) Credulous

(B) Sensitive

(C) Sensible

(D) Credible

187. The conference takes place once in three years.

(A) triennial

(B) treennial

(C) thriennial

(D) tetraennial

188. Meaningless language with an exaggerated style intended to impress.

(A) Public speaking

(B) Verbalization

(C) Rhetoric

(D) Oratory

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) perjury

(B) parjury

(C) perjery

(D) perjary

190. (A) heterogineous

(B) heterogenious

(C) heterogeneous

(D) hetrogenous

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 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

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

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

(B) the Brahmo Samaj was formed

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

(D) the British had colonised India

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

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

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

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

(D) Europeans did not have the dowry system.

194. The spirit of Renaissance :

(A) is to get inspiration from Western intellectual thought

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

(C) is essentially scientific

(D) is to embrace atheism

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

(A) indigenous

(B) unethical

(C) unscientific

(D) disputable

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. '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) by stopping dead

(B) turning into a lane

(C) jumping into the garden

(D) running away from his pursuers

197. The expression 'to stop dead' means :

(A) to come to a complete halt

(B) to die suddenly

(C) be close to death

(D) to be paralysed

198. Rehmat Ali is most likely :

(A) a policeman

(B) a night watchman

(C) a jogger

(D) a burglar

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

(A) his pursuers could not run fast enough

(B) he had stopped dead

(C) he had acted with speed and decision

(D) he had gone around an unexpected bend

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

(A) lazy and indecisive

(B) reflective in nature

(C) bold and decisive

(D) slow and steady

-o0o-