PART - I : GENERAL INTELLIGENCE

Directions : In question nos. 1 to 3, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

1. oopqop__qoo__qo__oqo__pq
   - (A) poop
   - (B) popo
   - (C) opop
   - (D) oppo

2. a__baa__baa__ba
   - (A) aab
   - (B) bab
   - (C) bba
   - (D) bbb

3. __ __babbba__a__ __
   - (A) ababb
   - (B) baaab
   - (C) bbaba
   - (D) babbb

4. Karan has a brother Prem and a sister Neesha. Karan's wife is Naj and has a daughter Naksha. Naksha got married with Neesha's son Akbar and has a baby girl Riya. What is relation between Naksha and Neesha ?
   - (A) Niece and Aunt
   - (B) Sisters
   - (C) Mother and daughter
   - (D) Mother and granddaughter

5. Ali had ₹ 320. He spent $\frac{3}{4}$ of it to buy a watch. Of the remainder, he used $\frac{1}{8}$ of it to buy a pen. How much money had he left ?
   - (A) 120
   - (B) 100
   - (C) 90
   - (D) 70

Directions : In question nos. 6 to 14, select the related word/letters/number from the given alternatives.

6. VACATION : HOLIDAY :: VOCATION : ?
   - (A) Career
   - (B) Degree
   - (C) Pleasure
   - (D) Money

7. Perch : Freshwater :: ? : Saltwater
   - (A) Crocodile
   - (B) Frog
   - (C) Cod
   - (D) Snake

8. Eyes : Tears :: ? : ?
   - (A) Heart : Artery
   - (B) Sea : Water
   - (C) Volcano : Lava
   - (D) Hunger : Bread

9. FE : HG :: ML : ?
   - (A) PO
   - (B) QP
   - (C) ON
   - (D) JI

10. SNAKE : VQDNH :: CRADLE : ?
    - (A) EVFGOF
    - (B) FUDGOH
    - (C) EUDGOH
    - (D) FVDGPH

11. $\sqrt{AFI}$: 13 :: $\sqrt{DDA}$: ?
    - (A) 21
    - (B) 22
    - (C) 12
    - (D) 24

12. 32 : 28 :: 160 : ?
    - (A) 120
    - (B) 110
    - (C) 140
    - (D) 80

13. 196 : 256 :: ? : 400
    - (A) 452
    - (B) 324
    - (C) 144
    - (D) 204

14. 414 : 636 :: 325 : ?
    - (A) 547
    - (B) 636
    - (C) 414
    - (D) 222

15. If ARMS equal 1 2 3 4 then MARS will equal to
    - (A) 3 1 2 4
    - (B) 4 3 2 1
    - (C) 1 2 4 3
    - (D) 4 2 1 3

16. If 'Stress' is coded as 'Rtress' then 'Pulse' will be coded as
    - (A) Fulse
    - (B) Oulse
    - (C) Qulse
    - (D) Rulse

17. Insert the arithmetical operations in the following numerical figure 4 __ 3 __ 4 = 48.
    - (A) + +
    - (B) + −
    - (C) × +
    - (D) × ×

18. If + stands for division; × stands for addition; − stands for multiplication; ÷ stands for subtraction; which of the following is correct ?
    a. 25 × 3 − 7 + 8 + 12 = 18
    b. 25 + 3 × 7 − 8 + 12 = 10·89
    c. 25 − 3 + 7 × 8 + 12 = 132
    d. 25 + 3 × 7 − 8 + 12 = 19·3
    - (A) b
    - (B) c
    - (C) a
    - (D) d

Directions : In question nos. 19 and 20, from the given alternative words, select the word which cannot be formed using the letters of the given word.

19. CALCULATE
    - (A) CAT
    - (B) LATE
    - (C) TEA
    - (D) TEAM

20. CORRESPONDENCE
    - (A) RESPOND
    - (B) CONDENSE
    - (C) RESPONDENT
    - (D) CORRESPOND

21. If Sita walks 10 km towards West, then turned towards South and walked 10 km, then turned East walked 10 km and turned North walked 10 km. How far she is from starting point ?
    - (A) 40 km
    - (B) 10 km
    - (C) 0 km
    - (D) 20 km

22. Laxmi went 10 km to the west from my house, then turned left and walked 20 km. She then turned East and walked 25 km and finally turning left covered 20 km. How far was she from my house ?
    - (A) 5 km
    - (B) 10 km
    - (C) 15 km
    - (D) 40 km

23. In the question two statements are given. You have to answer considering the statements to be true, even if they seem to be at variance from commonly known facts.
    Statement : 1. All squares are rectangles.
    2. All rectangles are polygons.
    Conclusions :
    - (A) Square is not a polygon
    - (B) Square is not a rectangle
    - (C) Square is a rectangle and polygon
    - (D) Square is a polygon

24. In the question two statements are given each followed by two conclusions/assumptions, 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/assumptions, if any, follows from the given statements.
    Statement : Some clerks are poor.
    A is poor.
    Conclusion : I. A is clerk.
    II. A has a large family.
    - (A) I is follow
    - (B) II is follow
    - (C) Both I, II are follow
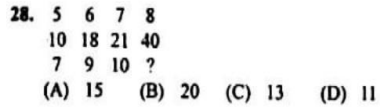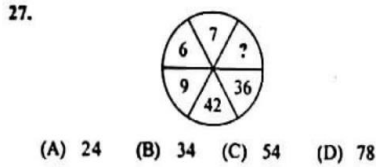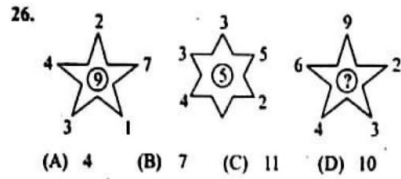   - (D) Neither I nor II follow

Directions : In question nos. 25 to 28, select the missing number from the given responses.

25.

	25			64			9	
16	22	36	9	16	1	4	15	1
	49			?			81	

- (A) 4
- (B) 16
- (C) 32
- (D) 2

26.

(A) 4   (B) 7   (C) 11   (D) 10

27.

(A) 24   (B) 34   (C) 54   (D) 78

28. 5   6   7   8
10   18   21   40
7   9   10   ?

(A) 15   (B) 20   (C) 13   (D) 11

29. Arrange the following words as per the reverse order in a dictionary.

1. Multitude   2. Multinational
3. Multiplier   4. Multinomial
5. Multilingual

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

30. Arrange the following words as per order in the dictionary.

1. Silt   2. Silicon   3. Silicate
4. Silken

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

31. Which one of the given responses would be a meaningful order of the following in ascending order ?

1. Atom   2. Matter   3. Molecule
4. Electron

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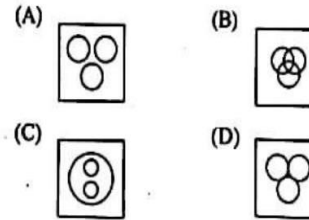(C) 1, 2, 3, 4   (D) 4, 1, 3, 2

Directions : In question nos. 32 to 34, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

32. 127, 131, 139, ?, 151, 157, 163, 167
(A) 141   (B) 149   (C) 147   (D) 143

33. 361, ?, 169, 121, 49, 25
(A) 289   (B) 256   (C) 196   (D) 324

34. 1, 1, 2, 3, 5, ?, 13, 21
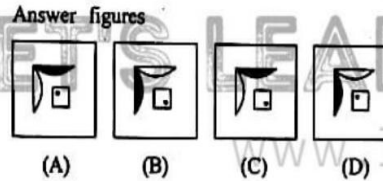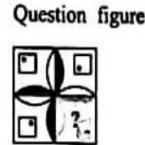(A) 7   (B) 8   (C) 9   (D) 6

Directions : In question nos. 35 to 43, find the odd word/number/letters/number pair from the given alternatives.

35. (A) Foible   (B) Caprice
(C) Whim   (D) Quirk

36. (A) YXWV   (B) FUEV
(C) VUXW   (D) QPSR

37. (A) Plump   (B) Fathom
(C) Thick   (D) Solid

38. (A) aacdff   (B) ggijkk
(C) mmopqq   (D) qqstuu

39. (A) HGFE   (B) IJKL
(C) PONM   (D) DCBA

40. (A) RQP   (B) NPR
(C) DCB   (D) HGF

41. (A) 6514   (B) 3463
(C) 5725   (D) 8948

42. (A) 751   (B) 734   (C) 853   (D) 532

43. (A) 6   (B) 12   (C) 15   (D) 17

44. Six faces of the dice are A, B, C, D, E and F. A is adjacent to B. B is adjacent to D but not C. E is adjacent to D and F. What is the side opposite to A ?
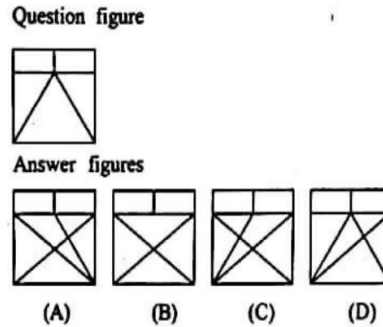(A) C   (B) E   (C) D   (D) F

45. Identify the diagram that best represents the relationship among classes given below :

Social science, History and Geography

(A)

(B)

(C)

(D)

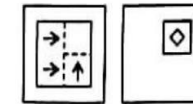**46.** Which answer figure will complete the pattern in the question figure ?

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)

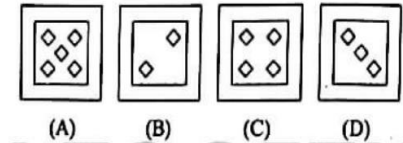**48.** A piece of paper is folded and punched as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.
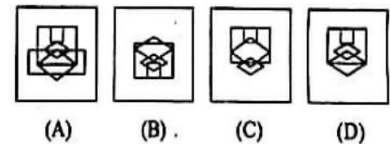
Question figures

Answer figures

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

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

Question figure

Answer figures

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

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 alphabets as in two matrices given below. The columns and rows of Matrix 1 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., 'M' can be represented by 01, 10 etc., and 'R' can be represented by 58, 85 etc. Similarly, you have to identify the set for the word 'NOW'.

Matrix I

	0	1	2	3	4
0	I	M	W	S	Q
1	M	W	S	Q	I
2	W	S	Q	I	M
3	S	Q	I	M	W
4	Q	I	M	W	S

Matrix II

	5	6	7	8	9
5	O	A	D	R	N
6	A	D	R	N	O
7	D	R	N	O	A
8	R	N	O	A	D
9	N	O	A	D	R

(A) 55, 78, 11   (B) 86, 58, 11

(C) 95, 55, 34   (D) 95, 67, 02

For Visually Handicapped/Cerebral Palsy Candidates Only

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

bc_b_c_b__ccb

(A) cbcb   (B) bbcb

(C) cbbc   (D) bcbc

Directions : In question nos. 45 and 46, select the missing number from the given responses.

45. 0, 1, 1, 2, 3, 5, 8, 13, ?

(A) 20   (B) 16

(C) 21   (D) 121

46.

28	4	7
?	6	6
24	4	6

(A) 52   (B) 10

(C) 4   (D) 36

47. If 4 • 3 = 3; 8 • 7 = 14 then 9 • 4 = ?

(A) 9   (B) 8

(C) 12   (D) 16

Directions : In question nos. 48 and 49, select the related word/number from the given alternatives.

48. Metabolism : Growth :: Vandalism : ?

(A) Movement   (B) Static

(C) Progress   (D) Destruction

49. 64 : 5 :: 81 : ?

(A) 9   (B) 8

(C) 7   (D) 6

50. In certain language CHART is coded as 57394, RACE as 9352, then how can CHARACTER be coded ?

(A) 573953429   (B) 573935429

(C) 537953429   (D) 537953492

PART – II : ENGLISH LANGUAGE

Directions : In question nos. 51 to 54, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

51. Defile

(A) describe   (B) repair

(C) purify   (D) yield

52. Desist

(A) hope   (B) continue

(C) request   (D) assign

53. Sterile

(A) barren   (B) fertile

(C) infertile   (D) dense

54. Prudent

(A) foolish   (B) miserly

(C) careless   (D) strange

Directions : In question nos. 55 to 58, out of the four alternatives, choose the one which can be substituted for the given words/sentence and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

55. A handsome man

(A) adonis   (B) tycoon

(C) cavalier   (D) debonair

56. Intentional damage to arrest production

(A) sangfroid   (B) modus operandi

(C) nemesis   (D) sabotage

57. Introductory part or lines to a discourse or play

(A) epilogue   (B) prologue

(C) monologue   (D) blurb

58. A cinema show held in the afternoon.

(A) premiere   (B) play

(C) matinee   (D) entertainment

Directions : In question nos. 59 to 62, the 1st and the last part of the sentence/passage are numbered 1 and 6. The rest of the sentence/passage is split into four parts and named P, Q, R and S. These four parts are not given in their proper order. Read the sentence/Passage and find out which of the four combinations is correct. Then find the correct answer and indicate it by blackening the appropriate oval [●] in the Answer Sheet.

59. 1. Glorious tributes were paid
P. who, after fighting a battle with cancer,
Q. the original superstar of Bollywood
R. passed away last month
S. to the legendary Rajesh Khanna,
6. at his residence in Mumbai.

(A) QSPR   (B) SRPQ

(C) SQRP   (D) SQPR

60. 1. What gives some persons
P. torturing physical pain
Q. after experiencing
R. after the loss of a precious loved one
S. the power to fight on
6. day after day ?

(A) PQRS   (B) PSQR

(C) SRQP   (D) PQSR

61. 1. A volcano is an opening or rupture in a planet's surface.
P. Erupting volcanoes can pose many hazards.
Q. This opening allows magma, ash and gases to escape from below the surface.
R. Volcanic ash can be a threat to aircraft
S. Volcanoes are generally found where tectonic plates are diverging or converging.
6. Historically, so-called volcanic winters have caused catastrophic famines.

(A) SPQR   (B) RSPQ

(C) QSPR   (D) SQRP

62.
    1. Though the government
    P. the growth of population
    Q. has undertaken a series of plans
    R. and for raising the standard of living of the people
    S. for economic development
    6. has upset all the plans.

    (A) SPQR   (B) QSRP

    (C) SRPQ   (D) QPRS

Directions : In question nos. 63 to 66, 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.

63. When the workers threatened to
            (A)
    go on a strike, the mill owner
            (B)
    declared a lay off on his mill.   No error.
            (C)   (D)

64. Whoever assumes   his statement true
       (A)   (B)
    is foolish.   No error.
      (C)   (D)

65. The people gathered   at the funeral
       (A)   (B)
    to pay respect.   No error.
      (C)   (D)

66. Iodine deficiency   is an easy and inexpensive
       (A)   (B)
    nutrient disorder to prevent.   No error.
      (C)   (D)

Directions : In question nos. 67 and 68, a sentence has been given in Active/Passive Voice. Out of the four alternatives suggested, select the one which best expresses the same sentence in Passive/Active Voice and mark your answer in the Answer Sheet.

67. I cannot trust him any more.
    (A) He could not be trusted by me any more
    (B) He may not be trusted by me any more
    (C) He cannot be trusted by me any more
    (D) He cannot trust by me any more

68. Take the medicine.
    (A) The medicine is to be taken by you
    (B) Let the medicine be taken
    (C) You are requested to take the medicine
    (D) The medicine must take you

Directions : In question nos. 69 and 70, a sentence has been given in Direct/Indirect. Out of the four alternatives suggested, select the one which best expresses the same sentence in Indirect/Direct and mark your answer in the Answer Sheet.

69. The peon said to his officer, "Please forgive me"
    (A) The peon said to his officer that he should forgive him.
    (B) The peon told his officer please forgive him
    (C) The peon requested his officer to forgive him.
    (D) The peon requested his officer that he forgave him.

70. My brother told me that he would buy me a notepad the next day.
    (A) My brother said to me, "I will be buying you a notepad tomorrow".
    (B) My brother said to me, "I shall buy you a notepad tomorrow".
    (C) My brother said to me, "I would buy you a notepad tomorrow".
    (D) My brother "I am going to buy you a notepad tomorrow".

Directions : In question nos. 71 to 74, 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.

71. (A) puritannical   (B) purritanical
    (C) purritaniccal   (D) puritanical

72. (A) plagearist   (B) plagiarist
    (C) plegiarist   (D) plagraist

73. (A) ingeneous   (B) ingenius
    (C) ingenious   (D) ingenous

74. (A) acomodation   (B) acommodation
    (C) accommodation   (D) accomodation

Directions : In question nos. 75 to 78, a part of the sentence is underlined. Below are given alternatives to the underlined part at (A), (B), (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed your answer is (D). Mark your answer in the Answer Sheet.

75. I'm really sorry but I haven't got much money myself.
    (A) I'm really sorry but I not have much money myself.
    (B) I'm really sorry but I have very few money myself.
    (C) I'm really sorry I have lesser money myself.
    (D) No improvement

76. He said, 'Let the show begins'.
    (A) 'Let the show begin'
    (B) 'Let the show to begin'
    (C) 'Let's the show begin'
    (D) No improvement

77. The museum's collection includes artefacts dated back to prehistoric times.
    (A) date back to   (B) dating back to
    (C) date backs to   (D) No improvement

78. Both of them are good, but this is the best of the two.
    (A) good   (B) better
    (C) much better   (D) No improvement

Directions : In question nos. 79 to 82, sentences are given with blanks to be filled in 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.

79. We can _____ right and wrong.
    (A) distinguish by
    (B) distinguish from
    (C) distinguish between
    (D) distinguish for

80. You take a decision. The ball is in _____ now.
    (A) your net   (B) your pocket
    (C) your court   (D) your garden

81. He is a man of _____ simplicity.
    (A) child   (B) childish
    (C) childless   (D) childlike

82. The cold breath of autumn had _____ the ivy leaves from the vine and the branches remained almost bare.
    (A) strike   (B) striken
    (C) strucked   (D) striking

Directions : In question nos. 83 to 86, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

83. Desultory
    (A) frugal   (B) random
    (C) diminish   (D) forsake

84. Diligent
    (A) industrious   (B) modest
    (C) energetic   (D) intelligent

85. Jealous
    (A) envious   (B) greedy
    (C) lustful   (D) proud

86. Quest
    (A) trial   (B) test
    (C) search   (D) decision

87. To take after

(A) to resemble   (B) to write down

(C) to cheat   (D) to remove

88. Have a finger in every pie

(A) to be meddlesome

(B) to be quarrelsome

(C) to be greedy

(D) to be efficient

Past __91__ us in understanding our present world in a __92__ better way. If we know __93__ our ancestors lived or __94__ the wars were waged, we can understand the today's world __95__ and get ideas for a __96__ future. What appears to __97__ as wrong today could have been right __98__. It is also interesting to know how __99__ in the past __100__ the life of humans.

91. (A) help   (B) helped   (C) helps   (D) is helping

92. (A) much   (B) more   (C) most   (D) just

93. (A) why   (B) how   (C) where   (D) when

94. (A) why   (B) how   (C) when   (D) which

95. (A) well   (B) better   (C) best   (D) betterment

96. (A) fairest   (B) fairer   (C) fair   (D) fairy

97. (A) them   (B) us   (C) him   (D) they

98. (A) earliest   (B) early   (C) earlier   (D) later

99. (A) inventions   (B) inventing   (C) adventures   (D) inventors

100. (A) improves   (B) improved   (C) improve   (D) improvement

89. The jury is out

(A) the jury has taken a break between hearings

(B) a jury member is absent

(C) no decision has been reached

(D) the entire jury decides to stay out of the proceedings

90. She paid a flying visit to Mumbai to see her ailing father.

(A) went by aeroplane

(B) a very short visit

(C) a very long visit

(D) a surprise visit

PART – III : QUANTITATIVE APTITUDE

101. On what sum of money will the difference between simple interest and compound interest for 2 years at 5% per annum be equal to ₹ 63 ?

(A) ₹ 25,200   (B) ₹ 24,800

(C) ₹ 25,500   (D) ₹ 24,600

102. A man buys a TV priced at ₹ 16000. He pays ₹ 4000 at once and the rest after 15 months on which he is charged a simple interest at the rate of 12% per year. The total amount he pays for the TV is

(A) ₹ 18,200   (B) ₹ 17,800

(C) ₹ 17,200   (D) ₹ 16,800

103. A hemisphere and a cone have equal bases. If their heights are also equal, then the ratio of their curved surfaces will be

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

(C) $2 : 1$ (D) $1 : 2$

104. The base of a right prism is a trapezium whose lengths of two parallel sides are 10 cm and 6 cm and distance between them is 5 cm. If the height of the prism is 8 cm, its volume is

(A) 300·5 cm³   (B) 310 c.c.

(C) 300 c.c.   (D) 320 c.c.

105. Each side of a cube is decreased by 25%. Find the ratio of the volumes of the original cube and the resulting cube

(A) 8 : 1   (B) 64 : 1

(C) 64 : 27   (D) 27 : 64

106. The radius of a hemispherical bowl is 6 cm. The capacity of the bowl is (Take $\pi = \frac{22}{7}$)

(A) 495·51 cm³   (B) 345·53 cm³

(C) 452 cm³   (D) 452·57 cm³

107. AB is the diameter of a circle with centre O. P be a point on it. If $\angle POA = 120°$ then, $\angle PBO =$

(A) 60°   (B) 45°

(C) 50°   (D) 120°

108. A circle touches the four sides of a quadrilateral ABCD. The value of $\left(\frac{AB + CD}{CB + DA}\right)$ is equal to

(A) $\frac{1}{2}$ (B) 1

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

109. AB and AC are tangents to a circle with centre O. A is the external point of the circle. The line AO intersect the chord BC at D. The measure of the $\angle BDO$ is

(A) 75°   (B) 60°

(C) 90°   (D) 45°

110. Let ABC be an equilateral triangle and AD perpendicular to BC. Then $AB^2 + BC^2 + CA^2$ is

(A) $2AD^2$ (B) $3AD^2$

(C) $4AD^2$ (D) $5AD^2$

111. The value of $\frac{(\tan 20°)^2}{(\csc 70°)^2} + \frac{(\cot 20°)^2}{(\sec 70°)^2} +$ $2\tan 15° \cdot \tan 45° \cdot \tan 75°$ is

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

112. If A, B, C are the angles of a $\triangle ABC$ then $\sin\left(\frac{B + C}{2}\right)$ is equal to

(A) $\sec \frac{B}{2}$ (B) $\sec \frac{A}{2}$

(C) $\csc \frac{A}{2}$ (D) $\cos \frac{A}{2}$

113. What is the position of the circumcentre of an obtuse-angled triangle ?

(A) It lies inside the triangle

(B) It lies outside the triangle

(C) It is the mid-point of the largest side

(D) It is the vertex opposite to the largest side

114. For real a, b, c if $a^2 + b^2 + c^2 = ab + bc + ca$, the value of $\frac{a+c}{b}$ is

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

115. If $\frac{x}{3} + \frac{3}{x} = 1$ then the value of x^3 is

(A) 0   (B) –27   (C) 27   (D) 1

116. If $p^3 - q^3 = (p-q)\{(p-q)^2 - xpq\}$, then the value of x is

(A) 1   (B) 3   (C) –3   (D) –1

117. If $x + y = 2a$, then the value of $\frac{a}{x-a} + \frac{a}{y-a}$ is

(A) –1   (B) 0   (C) 1   (D) 2

118. $9x^2 + 25 - 30x$ can be expressed as the square of

(A) $3x + 5$ (B) $3x^2 - 25$

(C) $-3x - 5$ (D) $3x - 5$

119. D and E are mid-points of sides AB and AC respectively of the $\triangle ABC$. A line drawn from A meets BC at H and DE at K. $AK : KH =$

(A) $1 : 2$ (B) $1 : 1$

(C) $2 : 1$ (D) $1 : 3$

120. Simon purchased a bicycle for ₹ 6810. He had paid a VAT of 13·5%. The list price of the bicycle was

(A) ₹ 5970·50   (B) ₹ 6696·50

(C) ₹ 6000   (D) ₹ 6140

121. There is 10% loss if an article is sold at ₹ 270. Then the cost price of the article is

(A) ₹ 320   (B) ₹ 300

(C) ₹ 270   (D) ₹ 250

122. An epidemic broke out in a village in which 5% of the population died. Of the remaining, 20% fled out of panic. If the present population is 4655, then the population of the village originally was

(A) 6000   (B) 6125

(C) 5995   (D) 5955

123. 50% of a number when added to 50 is equal to the number. The number is

(A) 50   (B) 75

(C) 100   (D) 150

124. A student goes to school at the rate of $2\frac{1}{2}$ km/hr and reaches 6 minutes late. If he travels at the speed of 3 km/hr he is 10 minutes early. What is the distance to the school ?

(A) 1 km   (B) 4 km

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

125. A train passes an electrical pole in 20 seconds and passes a platform 250 m long in 45 seconds. Find the length of the train

(A) 300 m   (B) 200 m

(C) 400 m   (D) 250 m

126. The total discount on ₹ 1860 due after a certain time at 5% is ₹ 60. Find the time after which it is due

(A) 9 months   (B) 10 months

(C) 8 months   (D) 7 months

127. The difference between simple interest and the true discount on ₹ 2400 due 4 years hence at 5% per annum simple interest is

(A) ₹ 30   (B) ₹ 80

(C) ₹ 50   (D) ₹ 70

128. In a business A and C invested amounts in the ratio $2 : 1$ whereas A and B invested amounts in the ratio $3 : 2$. If their annual profit be ₹ 157300, then B's share in the profit is

(A) ₹ 24200   (B) ₹ 36300

(C) ₹ 48000   (D) ₹ 48400

129. The ratio of two numbers is $3 : 4$ and their L.C.M is 120. The sum of numbers is

(A) 70   (B) 35

(C) 140   (D) 105

130. The mean high temperature of the first four days of a week is 25°C whereas the mean of the last four days is 25·5°C. If the mean of the whole week is 25·2°C then the temperature of the 4th day is

(A) 25°C   (B) 25·2°C

(C) 25·5°C   (D) 25·6°C

131. A shop of electronic goods is closed on Monday. The average sales per day for remaining six days of a week is ₹ 15640 and the average sale of Tuesday to Saturday is ₹ 14124. The sales on Sunday is

(A) ₹ 21704   (B) ₹ 23220

(C) ₹ 20188   (D) Data inadequate

132. The greatest four digit number which is exactly divisible by each one of the numbers 12, 18, 21 and 28 is

(A) 9828   (B) 9288

(C) 9882   (D) 9928

133. If $\sqrt{33} = 5.745$, then the value of $\sqrt{\frac{3}{11}}$ is nearly

(A) 0·5223   (B) 6·32

(C) 1   (D) 2·035

134. The difference between the greatest and the least four digit numbers that begins with 3 and ends with 5 is

(A) 990   (B) 900

(C) 999   (D) 909

135. The sum of the perfect squares between 120 and 300 is

(A) 1400   (B) 1296

(C) 1204   (D) 1024

136. The number of pair of positive integers whose sum is 99 and HCF is 9 is

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

137. A and B can do a piece of work in 15 days. B and C can do the same work in 10 days and A and C can do the same in 12 days. Time taken by A, B and C together to do the job is

(A) 8 days   (B) 9 days

(C) 4 days   (D) 5 days

138. A pipe can fill a tank in 24 hrs. Due to a leakage in the bottom, it is filled in 36 hrs. If the tank is half full, how much time will the leak take to empty the tank ?

(A) 24 hrs   (B) 36 hrs

(C) 72 hrs   (D) 48 hrs

139. TF is a tower with F on the ground. The angle of elevation of T from A is $x°$ such that $\tan x° = \frac{2}{5}$ and $AF = 200$ m. The angle of elevation of T from a nearer point B is $y°$ with $BF = 80$ m. The value of $y°$ is

  (A) 30°   (B) 60°

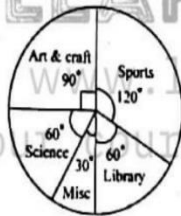 (C) 45°   (D) 75°

140. The value of

$$\left(\frac{\sin 47°}{\cos 43°}\right)^2 + \left(\frac{\cos 43°}{\sin 47°}\right)^2 - 4\cos^2 45° \text{ is}$$

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

141. If $\sin\theta + \cos\theta = \sqrt{2}\, \sin(90° - \theta)$ then $\cot\theta$ is equal to

  (A) $\sqrt{2}$ (B) $\sqrt{2} - 1$

  (C) 0   (D) $\sqrt{2} + 1$

The pie chart shows how the school funds is spent under different heads in a certain school. Using the pie chart answer the question Nos. 142 to 146.

142. What percentage of the total expense is spent on library?

  (A) 20   (B) 16·6   (C) 24·3   (D) 24

143. Which heads have the same amount of expenditure?

  (A) Sports and Science

  (B) Misc and Library

  (C) Library and Science

  (D) Science and Misc

144. Which head has the maximum expenditure?

  (A) Art and Craft   (B) Sports

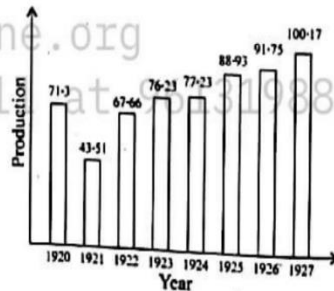 (C) Science   (D) Library

145. Which head uses 25% of the funds?

  (A) Art and Craft   (B) Sports

  (C) Library   (D) Misc

146. What is the ratio of expenditure on sports to that on art and craft?

  (A) 2 : 1   (B) 1 : 1

  (C) 4 : 3   (D) 1 : 4

The following table shows the World production of steel in 1920 – 1927. Study the table and answer question Nos. 147 to 150.

Year	1920	1921	1922	1923	1924	1925	1926	1927
Production (million tons)	71·3	43·51	67·66	76·23	77·23	88·93	91·75	100·17

147. The number of years during which the company has its production less than the average production during 1920 – 1927 is approximately

  (A) 6   (B) 4   (C) 3   (D) 2

148. The difference of the production of steel in the year 1923 and 1924 is x% of 1927. Then the value of x is approximately

  (A) 1   (B) ·01   (C) ·1   (D) ·001

149. The ratio of production of steel in the year 1924 and 1925 to that of 1923 and 1927 is

  (A) 2077 : 2205   (B) 2205 : 2077

  (C) 2005 : 2077   (D) 2205 : 2007

150. The average production of steel is

  (A) 75·13   (B) 76·09

  (C) 77·10   (D) 74·07

For Visually Handicapped/Cerebral Palsy Candidates Only

142. The graph of the linear equation $3x + 4y = 12$ intersects y-axis at the point

  (A) (4, 0)   (B) (0, 3)

  (C) (0, 4)   (D) (3, 0)

143. The point of the form $(a, -a)$ always lies on the line

  (A) $x = a$ (B) $y = -a$

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

144. The co-ordinates of the point P is (–5, 8); PN is perpendicular to the x-axis. The co-ordinates of N is

  (A) (–5, 0)   (B) (5, 0)

  (C) (8, 0)   (D) (–8, 0)

145. $\sqrt{0.9} \times \sqrt{1.6}$ is equal to

  (A) 0·12   (B) 1·2

  (C) 0·75   (D) 12

146. If $x + \sqrt{x^2 - 9} = 9$, then the value of $x - \sqrt{x^2 - 9}$ is

  (A) 1   (B) 2

  (C) 7   (D) 9

147. If $\tan\theta = \frac{15}{8}$ for a positive acute angle θ, the value of $\sin\theta$ is

  (A) $\frac{8}{15}$ (B) $\frac{15}{17}$

  (C) $\frac{17}{15}$ (D) $\frac{8}{17}$

148. In a triangle, the angles are in the ratio 4 : 5 : 9. The circular measure of the smallest angle is

  (A) $\frac{\pi}{2}$ radian   (B) $\frac{2\pi}{9}$ radian

  (C) $\frac{5\pi}{18}$ radian   (D) $\frac{5\pi}{9}$ radian

149. The volumes of two spheres are in the ratio 64 : 27. The ratio of their surface areas is

  (A) 1 : 2   (B) 2 : 3

  (C) 9 : 16   (D) 16 : 9

150. The area of an equilateral triangle whose perimeter is 18 cm, is

  (A) $9\sqrt{3}$ sq. cm   (B) $3\sqrt{3}$ sq. cm

  (C) 12 sq. cm   (D) 50 sq. cm

PART – IV : GENERAL AWARENESS

151. A bullet of mass m and velocity a is fired into a large block of wood of mass M. The final velocity of the system is

(A) $\dfrac{M}{m+M}a$ (B) $\dfrac{m+M}{m}a$

(C) $\dfrac{m+M}{M}a$ (D) $\dfrac{m}{m+M}a$

152. The intensity ratio of waves is $25 : 9$. What is the ratio of their amplitudes ?

(A) $50 : 18$ (B) $25 : 9$

(C) $5 : 3$ (D) $3 : 5$

153. When number of turns in a coil is tripled, without any change in the length of coil, its self inductance becomes

(A) one-third   (B) three times

(C) six times   (D) nine times

154. Which of the following properties of sound is affected by change in air temperature ?

(A) Amplitude   (B) Frequency

(C) Wavelength   (D) Intensity

155. Which one of the following is odd ?

(A) SMTP   (B) IMAP

(C) POP   (D) SNMP

156. Which of the following memories must be refreshed many times per second ?

(A) Static RAM   (B) Dynamic RAM

(C) EPROM   (D) ROM

157. If there is one million Mg^{2+} ions in $MgCl_2$ how many chloride ions are there ?

(A) Half a million   (B) One million

(C) Two million   (D) Ten million

158. The gas that causes suffocation and death when coal or coke is burnt in a closed room is

(A) carbon monoxide

(B) carbon dioxide

(C) methane

(D) ethane

159. Dry ice is the solid form of

(A) air   (B) carbon dioxide

(C) water   (D) nitrogen

160. The common name of sodium bicarbonate i

(A) baking powder   (B) baking soda

(C) soda lime   (D) soda ash

161. The serious environmental degradation o Maldives is considered to be essentially du to

(A) constant soil erosion

(B) high population density

(C) industrial pollution of water and air

(D) None of the above

162. In which year was the first World Environ mental day observed ?

(A) 1973   (B) 1980

(C) 1972   (D) 1974

163. When and where did the concept of Eart Hour begin ?

(A) In March, 2007 in Sydney, Australia

(B) In April, 2008 in Tokyo, Japan

(C) In June, 2007 in Christ Church, Ne Zealand

(D) In May, 2009 in Colombo, Sri Lanka

164. 'Cloud burst' means

(A) abnormally heavy downpour of ra associated with a thunderstorm

(B) formation of artificial rain

(C) presence of scattered flakes of cloud i the sky

(D) sowing of seeds of a crop in cloud weather

165. Eddie Redmayne won the Oscar (2015) fo Best Actor for which film ?

(A) The Theory of Everything

(B) Birdman

(C) Still Alice

(D) None of the above

166. How many Nobel Prize Awards are awarded each year ?

(A) 6   (B) 8

(C) 5   (D) 10

167. When was the last telegram sent in India ?

(A) July 14, 2013   (B) June 14, 2013

(C) July 30, 2013   (D) August 1, 2013

168. Who wrote the famous novel 'The Guide' ?

(A) Satyajit Ray   (B) R. K. Narayan

(C) Arundhati Roy   (D) Chetan Bhagat

169. The Indian who won the Grammy Award 2015 in the new age album category is

(A) Musician Ricky Kej

(B) Musician A. R. Rehman

(C) Singer Kavita Krishna Murthy

(D) Author Neela Vaswani

170. How many states are there in the Indian Union ?

(A) 28   (B) 29

(C) 30   (D) 27

171. Name the first Asian country to orbit Mars

(A) China   (B) Pakistan

(C) Japan   (D) India

172. Which was the first talkie film made in India ?

(A) Raja Harishchandra

(B) Kisan Kanya

(C) Alam Ara

(D) Mother India

173. Who invented the safety razor ?

(A) Steve Cher   (B) Lar Strauss

(C) Gillette   (D) Steve Job

174. RBI's deadline to exchange pre 2005 currency notes of ₹ 500 and ₹ 1000 is

(A) January 1, 2015

(B) April 1, 2015

(C) March 31, 2015

(D) December 31, 2015

175. National Renewal Fund (NRF) was instituted for the purpose of

(A) rural reconstruction

(B) restructuring and modernisation of industries

(C) providing pension for retiring employees

(D) social security

176. The total utility from 9 units of commodity X is 20 and from 10 units is 15. Calculate the marginal utility from 10th unit

(A) 0·5   (B) 5

(C) −0·5   (D) −5

177. The Industrial Development Bank of India was set up in

(A) July, 1962   (B) July, 1964

(C) July, 1966   (D) July, 1968

178. More than 50% of the world's coal deposits are held by

(A) China, India and USA

(B) China, India and Russia

(C) India, Russia and USA

(D) USA, Russia and China

179. Barter Transactions means

(A) goods are exchanged with goods

(B) money acts as a medium of exchange

(C) coins are exchanged for goods

(D) goods are exchanged with gold

180. Which factor is necessary for the development of democratic institutions ?

(A) Strong military forces

(B) Respect for individual rights

(C) A one-party system

(D) An agricultural economy

181. Who was the first Indian to become member of British Parliament ?

(A) Firozshah Mehta

(B) Surendranath Banerjee

(C) D. Dadabhai Naoroji

(D) D. N. Wacha

182. The idea of Parliamentary form of government is adopted from

(A) US   (B) USSR

(C) UK   (D) Ireland

183. The directive principles incorporated in the Indian Constitution have been inspired by the Constitution of
(A) Ireland   (B) USA
(C) Australia   (D) Canada

184. Who is the founder of the concept 'sarvodaya' ?
(A) Vinobha Bhave
(B) Mahatma Gandhi
(C) Jai Prakash Narayan
(D) K. G. Mushroowala

185. Which US President announced the 'New Deal' for economic recovery in the aftermath of the Great Depression ?
(A) Abraham Lincoln (B) Benjamin Franklin
(C) Roosevelt   (D) J. F. Kennedy

186. The non-cooperation movement was called off due to
(A) Chauri Chaura incident
(B) Jallianwala Bagh tragedy
(C) Poona pact
(D) Gandhi-Irwin pact

187. Who was Akbar's famous revenue minister ?
(A) Tansen
(B) Todarmal
(C) Rana Pratap Singh
(D) Humayun

188. Who among the following rulers abolished Jaziya ?
(A) Aurangzeb   (B) Balban
(C) Akbar   (D) Jehangir

189. The Battle of Plassey was fought between
(A) Sirajuddaula and Robert Clive
(B) Mir Jafar and Robert Clive
(C) Mir Khasim and Robert Clive
(D) None of the above

190. 'Red Data Book' provides an account of
(A) Extinct animals only
(B) Fossil plants
(C) Endangered plants and animals
(D) Endangered plants only

191. Which one of the following is not coal variety ?
(A) Bituminous   (B) Dolomite
(C) Lignite   (D) Peat

192. What is 'Talcher' important for ?
(A) Atomic reactor
(B) Hydro-electricity generation
(C) Heavy water plant
(D) Cable industry

193. The instrument used to measure pressure is
(A) Aneroid Barometer
(B) Anemometer
(C) Hygrometer
(D) Thermometer

194. World's largest producer of coffee is
(A) Brazil   (B) Peru
(C) Argentina   (D) India

195. First human heart transplant was performed in
(A) 1959   (B) 1955
(C) 1967   (D) 1972

196. Soilless agriculture refers to
(A) hydroponics   (B) hygroponics
(C) sericulture   (D) inter-cropping

197. Phycology is the study of
(A) Fungi   (B) Algae
(C) Lichens   (D) Bacteria

198. Which one of the following wood is used in making cricket bats ?
(A) *Cedrus deodara*
(B) *Salix purpurea*
(C) *Morus alba*
(D) *Linun usitatissimum*

199. Which day is observed as World AIDS Day ?
(A) December 20th   (B) March 1st
(C) March 20th   (D) December 1st

200. Pick out the person associated with the coining of the term 'gene' ?
(A) Mendel   (B) Waldeyer
(C) Johannsen   (D) Morgan