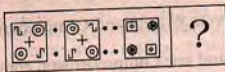


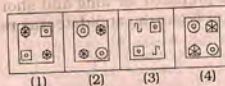
PART-I GENERAL INTELLIGENCE

Directions (1-10) : In each of the following questions, select the related letters/ word/number/figure from the given alternatives.

1. Question Figures



Answer Figures



2. Stethoscope : Heartbeat :: ? : Temperature

- (1) Heat (2) Mercury
(3) Scale (4) Thermometer

3. Spring : Summer ::

- (1) Sunday : Monday
(2) Thursday : Wednesday
(3) Tuesday : Friday
(4) Friday : Monday

4. BYW : DWU :: FUS : ?

- (1) ESQ (2) GST
(3) HSQ (4) EST

5. JLNP : OMKI :: SUWY : ?

- (1) MLKI (2) PLHD
(3) XVTR (4) PGHI

6. NUMBER : UNBMR :: GHOST : ?

- (1) HOGST (2) HOGTS
(3) HGOTS (4) HGSOT

7. 520 : 738 :: ? : 350

- (1) 220 (2) 222
(3) 230 (4) 248

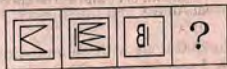
8. 423 : 657 :: 534 : ?

- (1) 678 (2) 867
(3) 768 (4) 876

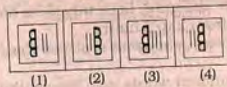
9. 13 : 24 :: ? : ?

- (1) 45 : 79 (2) 56 : 78
(3) 35 : 59 (4) 57 : 68

10. Question Figures



Answer figures



11. To which general class do the following words belong ? Rivers, Glaciers, Sea-waves

- (1) Underground water
(2) Wind
(3) Erosion agents
(4) Weathering agents

Directions (12 - 17) :

In each of the following questions, find the odd word/letters/figure/number letter pair from the given responses.

12.



- (1) Insurance
(2) Provident Fund
(3) Salary
(4) Shares

14. (1) Play - Actor
(2) Building - Architect
(3) Craft - Artisan
(4) Cloth - Skirt

15. (1) EGKQ (2) CEIO
(3) LNQW (4) PRVB

16. (1) 357 (2) 581
(3) 698 (4) 784

17. (1) 392-21 (2) 483-15
(3) 602-42 (4) 917-35

Directions : A series of figures is given which can be grouped into classes. Select the group into which the figures can be classified from the given responses.



- (1) 146, 35, 278
(2) 258, 138, 46
(3) 37, 145, 258
(4) 258, 16, 47

Directions : From among the given alternatives select the one in which the set of numbers is most like the set of numbers given in the question.

19. Given set : (2, 10, 28)
(1) (4, 20, 56)
(2) (7, 42, 49)
(3) (12, 24, 48)
(4) (9, 27, 81)

20. In the following question, increasing number of letters are skipped in between adjacent letters in a series. Which of the following series fulfils this rule ?

- (1) BGMTA (2) BGMSZ
(3) BGMTB (4) BGLRY

Directions : Which one of the given responses would be a meaningful order of the following words ?

21. 1. Amoeba 2. Oyster
3. Worm 4. Cow
(1) 1, 3, 2, 4 (2) 1, 2, 3, 4
(3) 4, 3, 2, 1 (4) 3, 2, 4, 1

22. Arrange the following words in a dictionary order :

1. Intricate
2. Interview
3. Intransigent
4. Interrogation
5. Intravenous
(1) 2, 4, 5, 3, 1
(2) 5, 3, 1, 2, 4
(3) 4, 2, 3, 5, 1
(4) 3, 5, 2, 1, 4

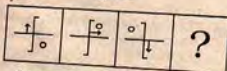
Directions : Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

23. a e b d f j g i k o l n
 (1) c m h (2) c h m
 (3) c g m (4) c j l

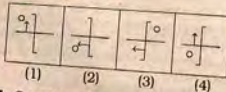
Directions (24-30) : In each of the following questions, find the missing number/ letters/figure from the given responses.

24. 5255, 5306, ____, 5408, 5459
 (1) 5057 (2) 5357
 (3) 2257 (4) 5157
25. b 3 P, c 6 R, d 12 T, e 24 V ?
 (1) f 48 X (2) f 46 X
 (3) f 48 W (4) g 48 X

26. Question Figures



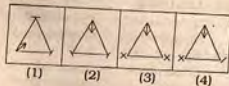
Answer Figures



27. Questions Figures



Answer Figures



28. $\frac{c}{6} \cdot \frac{e}{10} \cdot \frac{g}{14} \cdot \frac{i}{18} \cdot ?$

- (1) $\frac{k}{22}$ (2) $\frac{k}{11}$
 (3) $\frac{p}{22}$ (4) $\frac{p}{11}$

29. BDFH, IKMO, PRTV, ?

- (1) WYAC (2) WXYA
 (3) WXYZ (4) WYXA
30. 2, 65, 7, 59, 12, 53, 17, 47
 (1) 15, 42 (2) 17, 45
 (3) 17, 47 (4) 18, 48

31. A father's age is one more than 5 times of his son's age. After 3 years, the father's age would be

2 less than four times the son's age. Find the present age of the father.

- (1) 30 years (2) 40 years
 (3) 31 years (4) 29 years
32. Six persons A, B, C, D, E, F sit in 2 rows, 3 in each. If E is not at any end, D is second to left of F, C is neighbour of E and is sitting diagonally opposite to D and B is neighbour of F, who will be opposite to B ?

- (1) A (2) E
 (3) C (4) D
33. A is the father of B, C is the daughter of B, D is the brother of B, E is the son of A. What is the relationship between C and E ?

- (1) Brother and sister
 (2) Cousins
 (3) Niece and uncle
 (4) Uncle and aunt

Directions (34 - 35) : In each of the following questions, from the given alternatives select the word which **cannot** be formed using the letters of the given word.

34. REPUBLICAN
 (1) CLIP (2) PURE
 (3) ANKLE (4) BANE
35. ESTRANGE
 (1) GENERATE
 (2) SERGEANT
 (3) REAGENTS
 (4) GREAT
36. If SEVEN is coded as 23136 and EIGHT as 34579, what will be the code for NINE ?
 (1) 6463 (2) 6364
 (3) 6346 (4) 6436
37. In a code language, the following alphabets are coded in a particular way :

A	B	C	D	E	G	N	R	L	M
†	‡	‡	‡	‡	‡	‡	‡	‡	‡

Which word can be decoded from the following ?
 ‡ ‡ ‡ ‡ ‡ ‡ ‡ ‡ ‡ ‡

(1) GARAGE (2) GARDEN
 (3) GARGLE (4) GAMBLE

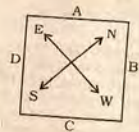
38. Which one of the following is correct ?
 $96 * 6 * 8 * 2$
 (1) $\div, =, \times$ (2) $\times, =, +$
 (3) $=, +, \times$ (4) $=, \times, \div$
39. Some equations are solved on the basis of certain systems. On the same basis find out the correct answer from amongst the four alternatives for the unsolved equa-

a = 12 (390) 8, b = 7 (134) 5,
 c = 5 (?) 12
 (1) 299 (2) 289
 (3) 279 (4) 280

Directions : Find the missing number from the given responses.

40. 1 3 7
 2 4 4
 4 5 9
 3 2 3
 50 70 ?
 (1) 23 (2) 115
 (3) 118 (4) 220

41. In a square-shaped field A, B, C, D persons are standing at the middle of each side. You have to bear in mind the directions to be followed as shown in the figure.



If A moves clockwise $2\frac{1}{2}$ sides and D moves anti-clockwise $2\frac{1}{2}$

- sides they will be in
 (1) South and West region
 (2) North and East region
 (3) South and North region
 (4) North and West region
42. My friend and I started simultaneously towards each other from two places 100 m apart. After walking 30 m, my friend turns left and goes 10m, then he turns right and goes 20 m and then turns right again and comes back to the road on which he had started walking, if we walk with the same speed, what is the distance between us at this point of time ?
 (1) 50 m (2) 20 m
 (3) 30 m (4) 40 m
43. Two positions of a cubical block are given below, each face having a number of small triangles. In another position of the cube, if there is one triangle at the bottom, how many triangles will be there on the top face ?



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

44. Choose from the four answer figures, the figure that will be formed when the question figure is folded into a box.



Answer figures



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

Directions (45 - 46) : In each of the following questions of the following, a statement is followed by two conclusions I and II. You have to consider the statement to be true, even if it seems to be at variance from commonly known facts. You are to decide which of the given conclusions can definitely be drawn from the given statements. Indicate your answer.

45. **Statement :** Religious minded and God fearing people will not cheat.

Conclusions :

- I. Those who cheat are atheists.
II. Religion nurtures virtues.

- (1) Only I follows
(2) Only II follows
(3) Both I and II follow
(4) Neither I nor II follows

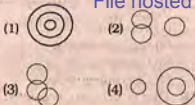
46. **Statement :** India is a multilingual country. Hindi is the national language of India.

Conclusions :

- I. All Indians should learn many languages.
II. To be an Indian one needs to learn Hindi.

- (1) Only I follows
(2) Only II follows
(3) Neither I nor II follows
(4) Both I and II follow

47. Which one of the following four diagrams represent correctly the relationship between Musicians, Instrumentalists, Violinists ?

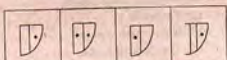


48. Which answer figure will complete the question figure ?

Question Figure

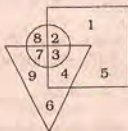


Answer Figures



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

49. In the following figure in a garden, square represents the area where Jackfruit trees are grown; circle represents Mango trees and triangle represents Coconut trees. Which number represents the common area in which all types of trees are grown ?



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

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

50. **Question Figure**



Answer Figures



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

Directions (51-55) : In the following questions, some of the sentences have errors and some have none. Find out which part of a sentence has an error. The number of that part is the answer. If there is no error, your answer is (4) i.e. No error.

51. The Secretariat (1)/ comprises of (2)/ many air-conditioned rooms. (3)/ No error (4)
52. It is high time (1)/ he stood on his own (2)/ two legs. (3)/ No error (4)
53. You should avoid (1)/ to travel (2)/in the rush hour. (3)/ No error (4)
54. There is (1)/ only one of his novels (2)/ that are interesting. (3)/ No error (4)
55. He denied (1)/ to have (2)/ been there. (3)/ No error (4)

Directions (56-60) : In the following questions, out of the four alternatives, choose the one which best expresses the same meaning of the given word.

56. **DECREPITUDE**

- (1) disease (2) coolness
(3) crowd
(4) feebleness

57. **TRANSITION**

- (1) position (2) translation
(3) change (4) movement

58. **ACCUSED**

- (1) indicated (2) indicted
(3) induced (4) instigated

59. **BECKONED**

- (1) accused (2) called
(3) sent (4) acquitted

60. **GENUINE**

- (1) generous (2) healthy
(3) natural (4) original

Directions (61-65) : In the following questions, choose the word **opposite** in meaning to the given word.

61. **ABUNDANT**

- (1) short (2) limited
(3) petty (4) meagre

62. **HARASS**

- (1) reward (2) praise
(3) flatter (4) relieve

63. **CHARMING**

- (1) insolent
(2) indignant
(3) repulsive
(4) handicapped

64. GRUESOME

- (1) attractive (2) beneficial
(3) gracious (4) amicable

65. DESPISE

- (1) appease (2) flatter
(3) admire (4) appreciate

Directions (66-70) : In the following questions, four alternatives are given for the idiom/phrase in **bold** in the sentence. Choose the alternative which best expresses the meaning of the idiom/phrase.

66. The student is on the verge of breakdown.

- (1) on the brink of
(2) at the outset of
(3) in the midst of
(4) at the risk of

67. My repeated attempts to get refund from the civic authorities were of no avail.

- (1) unsuccessful
(2) postponed
(3) useless
(4) delayed

68. He was progressing by leaps and bounds because of his hardwork.

- (1) rapidly (2) slowly
(3) peacefully (4) strongly

69. To emerge out of thin air means to

- (1) appear suddenly
(2) descend gradually
(3) fall down quickly
(4) enter from space

70. The news of the accident came as a bolt from the blue.

- (1) something unexpected
(2) something unpleasant
(3) something horrible
(4) something unexpected and unpleasant

Directions (71-75) : In the following questions, out of the four alternatives, choose the one which can be substituted for the given words/sentence.

71. A short stay at a place

- (1) Halt
(2) Interlude
(3) Intermission
(4) Sojourn

72. A raised place on which offerings to a god are made

- (1) Mound (2) Chapel
(3) Altar (4) Archives

73. To talk much without coming to

- the point
(1) Verbosity
(2) Garrulousness
(3) Loquacity
(4) Circumlocution

74. That which can be easily broken

- (1) Brittle
(2) Attempt
(3) Cemetery
(4) Breakable

75. A place where a wild animal lives

- (1) Forest (2) Stable
(3) Lair (4) Sanctuary

Directions (76-80) : In the following questions, 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.

76. One should keep one's promise

- (1) One's promise should be kept by us.
(2) One's promise has to be kept.
(3) A promise should be keeping
(4) A promise should be kept.

77. Who is creating this mess ?

- (1) Who has created this mess ?
(2) By whom has this mess been created ?
(3) By whom this mess is being created ?
(4) By whom is this mess being created ?

78. The clown was being laughed at by them.

- (1) They were laughing at the clown.
(2) They were laughing on the clown.
(3) They laughed at the clown.
(4) The clown was laughed at by them.

79. I saw him leaving the house.

- (1) He had been seen leaving the house.
(2) He was seen to be leaving the house.
(3) He was seen to be leaving the house.
(4) He was seen leaving the house by me.

80. A lion may be helped even by a little mouse.

- (1) A little mouse may even help a lion.
(2) Even a little mouse may help a lion.
(3) A little mouse can even help a lion.

(4) Even a little mouse ought to help a lion.

Directions (81-85) : In each of the following questions, a part of the sentence is printed in **bold**. Below are given alternatives to the **bold** part at (1), (2) and (3) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (4).

81. The only way to solve the racial problem is by education

- (1) because of (2) thanks to
(3) on account of
(4) No improvement

82. He may be poor now but he appears to be rich.

- (1) to seem rich
(2) rich to be
(3) to have been rich
(4) No improvement

83. The suspected couple was taken away from the airport through a side entrance to the police station for interrogation.

- (1) whisked (2) rushed
(3) guided
(4) No improvement

84. She left the room feeling contrite.

- (1) sorry for what she had done
(2) rather ill
(3) extremely irritated
(4) No improvement

85. The transport workers have organised a strike asking for more salary.

- (1) demanding
(2) begging
(3) requesting
(4) No improvement

Directions (86-90) : In the following questions, sentences are given with blanks to be filled in with appropriate word (s). Four alternatives are suggested for each question. Choose the correct alternative out of the four.

86. I complimented him ___ his success in the examination.

- (1) at (2) on
(3) about (4) for

87. Security arrangements have been tightened up in all ___ areas.

- (1) sensible
(2) sensual
(3) sensitive
(4) sensational

88. The dramatist must cater to the taste of the audience.
- (1) to (2) over
(3) into (4) for
89. Suitable steps are taken to bring _____ the cost of living.
- (1) up (2) over
(3) on (4) down

90. If I had worked here, I _____ very high marks in the examination.
- (1) scored (2) would score
(3) could score
(4) would have scored

Directions (91-95) : In the following questions, you have a brief passage with five questions following the passage. Read the passage carefully and choose the best answer to each question out of the four alternatives.

Faith in progress is deep within our culture. We have been taught to believe that our lives are better than the lives of those who came before us. The ideology of modern economics suggests that material progress has yielded enhanced satisfaction and well-being. But much of our confidence about our own well-being comes from the assumption that our lives are easier than those of earlier generations.

The lives of the so-called primitive peoples are thought to be harsher their existence dominated by the 'incessant quest for food'. In fact, primitives did very little work. By contemporary standards we'd have to judge them very lazy.

The key to understanding why these 'stone-age people' failed to act like us - increasing their work effort to get more things - is that they had limited desires. In the race between wanting and having, they had kept their wanting low - and, in this way ensured their own kind of satisfaction. They were materially poor by contemporary standards, but in at least one dimension - time - we have to count them richer.

91. What is the basis for progress and growth according to the writer ?
- (1) Faith in progress is deep-rooted in our culture
(2) We have been taught that progress in necessary

- (3) Material progress increases our strength
(4) We have assumed to progress
92. What does the writer attribute to modern economics ?
- (1) That our lives are easier than before
(2) The progress is a natural process
(3) That material progress leads to higher satisfaction and well-being
(4) That it forces us to assume progress

93. What is the writer's image of the primitive people ?
- (1) Their life was harsh
(2) They did no work
(3) They were lazy
(4) Search for food was their primary focus in life

94. What is the key to understanding the primitive people's behaviour according to the passage ?
- (1) They had no desires
(2) They had everything they needed
(3) They had limited desires
(4) They kept their wants high

95. How does the writer appreciate the primitives ?
- (1) They have a low degree of wants
(2) They are the masters of their time owing to their contentedness
(3) They are materially poor
(4) They are highly satisfied

Directions (96-100) : In the following questions a group of four words are given. In each group one word is misspelt. Find the misspelt word.

96. (1) ordinal (2) cardinal
(3) ancastry (4) heritage
97. (1) purview
(2) provisions
(3) confidence
(4) pakage
98. (1) negotiations (2) disclosure
(3) accident (4) essential
99. (1) financial (2) interview
(3) securities (4) mechanism
100. (1) apparently
(2) manufacture
(3) aggregate
(4) quartar

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QUANTITATIVE APTITUDE

101. If $x = 2 + \sqrt{3}$ then $x^3 + \frac{1}{x^3} = ?$

(1) 50 (2) 52
(3) 54 (4) 56

102. If $\frac{9^{n+1} \times (3^{-n/2})^{-2} - (27)^n}{3^{3n} \times 2^3} = \frac{1}{27}$ then $m - n = ?$

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

103. If the product of two numbers is 2160 and HCF is 6, then the ratio of HCF and LCM is
- (1) 21 : 60 (2) 60 : 21
(3) 1 : 60 (4) 60 : 1

104. The next term of the sequence 3, 14, 39, ... is
- (1) 42 (2) 53
(3) 65 (4) 84

105. The value of $\frac{\sqrt{0.2304} + \sqrt{0.1764}}{\sqrt{0.2304} - \sqrt{0.1764}}$ is

(1) 6 (2) 28
(3) 18 (4) 15

106. P and Q can finish a work in 15 and 10 days respectively. Q starts the work and leaves it after 5 days. The number of days in which P can complete the work is
- (1) $7\frac{1}{2}$ days (2) $7\frac{1}{2}$ days
(3) 8 days (4) 9 days

107. A tank can be filled by pipe A in 2 hours and by pipe B in 3 hours. An outlet C can empty the tank in 6 hours. If all the three are opened simultaneously, the tank will be filled in
- (1) 1 hour (2) $1\frac{1}{2}$ hours
(3) 2 hours (4) $1\frac{1}{3}$ hours

108. The difference (in rupees) in discounts between two successive discounts of 8% each and a single discount of 16% on ₹1,000 is
- (1) 64 (2) 6.40
(3) 4.60 (4) 46

109. If a shopkeeper marks the price of goods 50% more than their

cost price and allows a discount of 40%, what is his gain or loss percent?

- (1) Gain 10% (2) Gain 15%
(3) Loss 15% (4) Loss 10%

110. Two numbers are in the ratio 9 : 16. If each number is increased by 15, then the ratio becomes 2 : 3. The numbers are
(1) 18 and 32 (2) 24 and 36
(3) 36 and 48 (4) 27 and 48
111. The weights of zinc, copper and aluminium in an alloy are in the ratio 2 : 3 : 7. In the alloy weighing 48 kg, the difference in weights of zinc and aluminium is
(1) 5 kg (2) 16 kg
(3) 20 kg (4) 4 kg
112. A cricketer scored 180 runs in the first test and 258 runs in the second. How many runs should he score in the third test so that his average score in the three tests would be 230 runs?
(1) 210 (2) 245
(3) 270 (4) 252
113. The average weight of 8 persons is increased by 2.5 kg when one of them whose weight is 56 kg is replaced by a new man. The weight of the new man is
(1) 20 kg (2) 64 kg
(3) 58.5 kg (4) 76 kg
114. A bought a computer system for ₹40,000 and sold it to B at a loss of 4%. If B sold it to C for ₹40,320, profit percent for B is
(1) 4 (2) 5
(3) 3 (4) 6
115. If $x^2 = y + z$, $y^2 = x + z$ and $z^2 = x + y$, then $\frac{3}{x+1} + \frac{3}{y+1} + \frac{3}{z+1} = ?$
(1) 2 (2) 3
(3) 4 (4) $\frac{1}{3}$
116. Out of a total population of 5,000 people in a village, men increased by 10% and women by 15%. Now the total population becomes 5,600 in a year. The women population in the village was originally
(1) 2,000 (2) 3,000
(3) 4,000 (4) 3,500

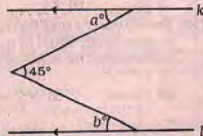
117. Ratan's expenditure and savings are in the ratio 5 : 1. If his salary is increased by 25% and savings by 15%, the percentage increase in his expenditure is
(1) 18% (2) 27%
(3) 28% (4) 32%
118. Cyclist A started his journey on cycle at 7.30 a.m. at a speed of 8 km/hr. After 30 minutes, cyclist B started from the same place but with a speed of 10 km/hr. At what time did B overtake A?
(1) 8 a.m. (2) 10 a.m.
(3) 9 a.m. (4) 9.30 a.m.
119. If the simple interest on a certain sum of money for three years is ₹225 and the compound interest on the same sum at the same rate for 2 years is ₹153, then the principal invested, in rupees, is
(1) 1,500 (2) 2,250
(3) 3,000 (4) 1,875
120. If from a point inside an equilateral triangle, the lengths of perpendiculars on the sides are 5 cm, 10 cm, and 15 cm, respectively, then the height of the triangle is
(1) 10 cm (2) 30 cm
(3) 40 cm (4) 20 cm
121. The areas of a square and a rectangle with equal perimeter are denoted by S and R respectively. Which one of the following is correct?
(1) S = R (2) S > R
(3) S < R (4) S = 2R
122. If the radius of a circle is increased by 10%, then percentage of increase of its area is
(1) 12 (2) 15
(3) 17 (4) 21
123. Semi-vertical angle of a right circular cone is 30°. If the ratio of the numerical value of the volume and slant surface area be 1 : 3, the radius of the base is
(1) 1 unit (2) $\frac{2}{\sqrt{3}}$ units
(3) $\sqrt{3}$ units (4) 3 units
124. If the height and radius of a hemisphere and a right circular cylinder are respectively equal, then ratio of the volume of the hemisphere and the cylinder is

125. Each of the five angles of a polygon is equal to 172° and the other angles are 160° each. The number of sides of the polygon is
(1) 20 (2) 21
(3) 22 (4) 23
126. The volume of a solid hemisphere is numerically equal to its total surface area. Its radius is
(1) 3 units (2) $\frac{1}{2}$ units
(3) $4\frac{1}{2}$ units (4) 9 units
127. If $x = 2t$ and $y = \frac{2t-1}{3}$, then what is the value of t for which $x = y$ holds?
(1) $\frac{1}{4}$ (2) $-\frac{1}{2}$
(3) $\frac{1}{3}$ (4) $-\frac{1}{4}$
128. If x and y be two real numbers and $x + y = 8$, then the greatest value of xy is
(1) 12 (2) 15
(3) 16 (4) 18
129. If $x = \frac{\sqrt{5+1}}{\sqrt{5-1}}$, value of $x^2 + x - 1$ is
(1) $\sqrt{5}$ (2) $\sqrt{5} + 1$
(3) $-\sqrt{5}$ (4) 0
130. The value of k for which the system of equations $x + 2y = 5$, $3x + ky + 15 = 0$ has no solution, is
(1) 6 (2) -6
(3) 2 (4) -2
131. Equations of the straight lines containing two sides of a right-angled triangle are given by $y = x$ and $y = 0$. Of the following, the equation which cannot represent the third side is
(1) $x = 5$ (2) $x = 2$
(3) $x = 0$ (4) $x = -3$
132. If in any triangle ABC, the base BC is produced in both ways, the sum of the exterior angles at B and C is

(1) $\pi - A$ (2) $\pi + A$

(3) $\frac{\pi}{2} + A$ (4) $\pi - \frac{A}{2}$

133. In the figure below, lines k and l are parallel. The value of $a^\circ + b^\circ$ is



- (1) 45° (2) 100°
(3) 180° (4) 360°

134. SR is a direct common tangent to the circles of radii 8 cm and 3 cm respectively, their centres being 13 cm apart. If the points S and R are the respective points of contact, then the length of SR is

- (1) 12 cm (2) 11 cm
(3) 17 cm (4) 10 cm

135. The bisector of the angle BAC of a triangle ABC intersects the side BC at the point D and meets the circumcircle of the ΔABC at E. Then, it is always true that

$AB \cdot AC + DE \cdot AE =$

- (1) AD^2 (2) AE^2
(3) CE^2 (4) CD^2

136. In ΔABC , $\angle B = 90^\circ$, $\angle C = 45^\circ$ and D is the midpoint of AC. If $AC = 4\sqrt{2}$ units, then BD is

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

137. $\sin^2 21^\circ + \sin^2 69^\circ$ is equal to

- (1) 1 (2) 0
(3) $2\sin^2 21^\circ$ (4) $2\sin^2 69^\circ$

138. The angles of elevation of the top of a tower from two points at a distance x and y from the foot of the tower are complementary. The height of the tower is

(1) $\sqrt{\frac{x}{y}}$ (2) $\sqrt{x+y}$

(3) \sqrt{xy} (4) $\frac{x}{y}$

139. The value of $\sin^2 5^\circ + \sin^2 25^\circ + \sin^2 45^\circ + \sin^2 65^\circ + \sin^2 85^\circ$ is equal to

- (1) 1.5 (2) 2
(3) 2.5 (4) 3

140. If $\sin(A+B) = 1$ and $\cos(A-B) =$

$\frac{\sqrt{3}}{2}$, where A and B are positive

acute angles with $A \geq B$, then A and B are

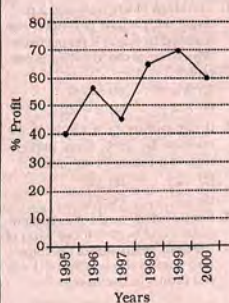
- (1) $A = 75^\circ$, $B = 15^\circ$
(2) $A = 60^\circ$, $B = 30^\circ$
(3) $A = 45^\circ$, $B = 45^\circ$
(4) None of these

141. If $3\sin^2 \alpha + 7\cos^2 \alpha = 4$, then the value of $\tan \alpha$ is (where $0 < \alpha < 90^\circ$)

- (1) $\sqrt{2}$ (2) $\sqrt{5}$
(3) $\sqrt{3}$ (4) $\sqrt{6}$

Directions (142-145) : The following line-graph gives the annual percent profit earned by company during the period 1995-2000. Study the line-graph and answer the questions.

$$\% \text{ Profit} = \frac{\text{Income} - \text{Expenditure}}{\text{Expenditure}}$$



142. Profit earned by the company is maximum in the year

- (1) 1995 (2) 1999
(3) 2000 (4) 1997

143. The period in which the profit of the company has increased fastest is

- (3) 1998-99 (4) 1996-97

144. The range of profit made by the company is (in percentile)

- (1) 25 (2) 20
(3) 15 (4) 30

145. The expenditure of the company during the year 1995 was ₹20 thousand crores. Then the income of the company in that year was (in thousand crore ₹)

- (1) 15 (2) 28
(3) 25 (4) 12

Directions (146-150) : Monthly budget plan of a man, having monthly income ₹18,000 is given below in the pie-chart. Study the pie-chart and answer the questions.



146. Monthly expenditure on food, in rupees, is

- (1) 3,500 (2) 5,250
(3) 4,000 (4) 3,250

147. Monthly savings is more than the monthly expenditure on education by

- (1) ₹750 (2) ₹500
(3) ₹700 (4) ₹450

148. Monthly expenditure on education is less than that on rent by

- (1) ₹750 (2) ₹500
(3) ₹250 (4) ₹200

149. Expenditure on rent is more than that on miscellaneous purpose by

(1) $25\frac{1}{3}\%$ (2) $42\frac{6}{7}\%$

- (3) 62.5% (4) 75%

150. Monthly expenditure on miscellaneous, in rupees, is

- (1) 2,000 (2) 3,500
(3) 2,500 (4) 3,250

GENERAL AWARENESS

151. Which of the following is deducted from GNP to arrive at NNP ?
 (1) Depreciation (2) Interest
 (3) Tax (4) Subsidy
152. Which one is correct about the duration of the Eleventh Five Year Plan?
 (1) 01.01.2005 to 31.12.2010
 (2) 01.04.2007 to 31.03.2012
 (3) 01.01.2006 to 31.12.2011
 (4) 01.04.2006 to 31.03.2011
153. In the first expansion of SAARC which one of the following countries joined as eighth member of SAARC ?
 (1) Myanmar (2) Iran
 (3) Afghanistan (4) Thailand
154. For an inferior good, demand falls when
 (1) price rises (2) income rise
 (3) price falls (4) income falls
155. The marginal propensity to consume lies between
 (1) 0 to 1 (2) 0 to ∞
 (3) 1 to ∞ (4) $-\infty$ to 0
156. Which of the following is an example of Joint-Sector enterprise in India?
 (1) Maruti Udyog Limited
 (2) The Indian Oil Corporation
 (3) Hindustan Antibiotics Ltd.
 (4) Bharat Aluminium Ltd.
157. The idea of Lokpal is taken from
 (1) Britain
 (2) America
 (3) Scandinavian Countries
 (4) France
158. During whose reign did Chengiz Khan attack India's borders in pursuit of Jalauddin?
 (1) Qutb-ud-din Aibak
 (2) Iltutmish
 (3) Balban
 (4) Nasiruddin Khusrau
159. 'Satyameva Jayate', engraved on the Indian emblem is taken from
 (1) Rig Veda
 (2) Matsyapurana
 (3) Bhagavad Gita
 (4) Mundakopanisad
160. Which of the following does not pose a challenge to India?
 (1) Communalism
- (2) Regionalism
 (3) Socialism
 (4) Casteism
161. Which one of the following committees is NOT a Standing Committee of the Parliament?
 (1) Public Accounts Committee
 (2) Estimates Committee
 (3) Committee on Public Undertakings
 (4) Consultative Committee to the Ministry of Finance
162. Which country is following One Party System?
 (1) Mongolia (2) Spain
 (3) Chile (4) China
163. The mountains which are not a part of the Himalayan chain:
 (1) Aravalli (2) Kunlun
 (3) Karakoram (4) Hindukush
164. Match the following :

Dams	Rivers
a. Hirakud	1. Beas
b. Pong Dam	2. Bhagirathi
c. Tehri Dam	3. Ravi
d. Thein Dam	4. Mahanadi
	a b c d
(1) 4 3 1 2	
(2) 4 1 2 3	
(3) 4 3 2 1	
(4) 1 2 4 3	
165. The Revolt of 1857 took place at the following places. Give their correct sequence.
 (1) Jhansi (2) Meerut
 (3) Delhi
 (4) Barrackpore
 (1) 1,2,3,4 (2) 1,2,4,3
 (3) 2,3,4, 1 (4) 4,2,3,1
166. The famous ruler of ancient India who, towards the end of his life, is said to have converted to Jainism, was
 (1) Samudragupta
 (2) Bindusara
 (3) Chandragupta
 (4) Ashoka
167. Which of the following is wrongly matched with his contemporary Mughal King?
 (1) Rana Sanga - Babar
 (2) Prithviraj Chauhan - Akbar
 (3) Jujhar Singh- Shahjahan
 (4) Jaswant Singh - Aurangzeb
168. What is the other name for Vitamin B₂?
- (1) Nicotinic
 (2) Calcium
 (3) Riboflavin (4) Dextrose
169. Cockroach cannot survive in the water because its respiratory organ is
 (1) Gill (2) Trachea
 (3) Book lung
 (4) Pulmonary Sac
170. Mercury poisoning in man causes the disease
 (1) Black lung (2) Arsenicosis
 (3) Minamata (4) Tai-Etai
171. Chromosomes consist of
 (1) DNA and lipids
 (2) RNA and amino acids
 (3) DNA and proteins
 (4) RNA and sugar
172. The yellow colour of urine is due to presence of
 (1) Bile (2) Lymph
 (3) Cholesterol (4) Urochrome
173. Heavy rainfall during the months of October and November is received by
 (1) Gharo, Khasi and Jaintia hills
 (2) Chota Nagpur Plateau
 (3) Coromandel Coast
 (4) Malwa Plateau
174. A crop grown in zaid season is
 (1) Watermelon (2) Soyabean
 (3) Maize (4) Jute
175. Afforestation is the process of
 (1) clearing forests
 (2) planting more trees
 (3) cutting down trees
 (4) collecting forest resources
176. Ozone layer in the outer atmosphere helps us in
 (1) reflecting radio waves and makes radio communication possible
 (2) regulating the temperature of atmosphere
 (3) absorbing cosmic ray particles
 (4) absorbing U-V radiations
177. What is meant by the term "mid-night sun" ?
 (1) Twilight (2) Rising Sun
 (3) Very bright moon
 (4) Sun shining in the polar circle for long time
178. Virus in a computer is a
 (1) Chemical that attacks silicon
 (2) Micro-organism that disturbs integrated circuits

- (3) Programme that damages the computer software
 (4) None of the above
- 179.** Which of the following is known as 'grave yard' of RBCs?
 (1) Liver (2) Bone marrow
 (3) Spleen (4) Appendix
- 180.** Water is used in hot water bags because
 (1) It is easily obtained
 (2) It is cheaper and is not harmful
 (3) It has high specific heat
 (4) It is easy to heat water
- 181.** Water drops cannot stick to the oily surface due to
 (1) lack of adhesive force
 (2) surface tension
 (3) cannot mix each other
 (4) water is lighter than oil
- 182.** Which of the following properties is generally found in non-metals?
 (1) Brittleness
 (2) Conductivity
 (3) Ductility
 (4) Malleability
- 183.** Which of the following is the best fuel in terms of energy released per gram of fuel?
 (1) Hydrogen (2) Methane
 (3) Ethanol (4) Butane
- 184.** Who among the following took over as the new Director-General of the Central Reserve Police Force on August 17, 2013?
 (1) Pranay Sahay
 (2) Subhash Joshi
 (3) Dilip Trivedi
 (4) Ajay Chadha
- 185.** Alta Vista is a
 (1) Programme
 (2) Software
 (3) Browser
 (4) Search Engine
- 186.** One carat of diamond is equal to
 (1) 100 mg (2) 150 mg
 (3) 200 mg (4) 250 mg
- 187.** The main use of salt in the diet is to
 (1) increase the solubility of the food particles in water
 (2) produce in small amounts the hydrochloric acid required for the digestion of food

- (3) ease the process of cooking
 (4) make the taste of the food better
- 188.** Which of the following is biodegradable?
 (1) Paper (2) D. D. T
 (3) Aluminium (4) Plastic
- 189.** The longest dam in India is
 (1) Bhakra Dam
 (2) Nagarjuna Sagar Dam
 (3) Hirakud Dam
 (4) Kosi Dam
- 190.** Match the following:
- | Tribes | Regions |
|----------|------------|
| a. Bhil | 1. Terai |
| b. Tharu | 2. Nilgiri |
| c. Gond | 3. Bastar |
| d. Toda | 4. Malwa |
- | | a | b | c | d |
|-----|---|---|---|---|
| (1) | 4 | 1 | 3 | 2 |
| (2) | 1 | 3 | 4 | 2 |
| (3) | 4 | 2 | 1 | 3 |
| (4) | 3 | 1 | 2 | 4 |
- 191.** Which of the following weeds has been found effective in checking water pollution caused by industrial effluents?
 (1) Water hyacinth
 (2) Elephant Grass
 (3) Parthenium
 (4) Both (2) and (3)
- 192.** The World Environment Day is observed on
 (1) 15th June (2) 5th June
 (3) 10th October
 (4) 8th March
- 193.** Electro-static precipitator is used to control
 (1) Chemical Pollutants
 (2) Radio-active Pollutants
 (3) Water Pollutants
 (4) Air Pollutants
- 194.** ATM is the abbreviation for
 (1) Automatic Teller Machine
 (2) Automated Teller Machine
 (3) Authentic Teller Machine
 (4) Authorised Teller Machine
- 195.** Child Sex Ratio as per the provisional results of the 2011 Census in India is
 (1) 927 (2) 924
 (3) 917 (4) 914
- 196.** Which one of the following cities was the venue for the XXX Olympic Games?

- (1) Liverpool (2) Lancashire
 (3) Las Vegas (4) London
- 197.** Which of the following countries re-launched trading of its treasury bond futures on September 6, 2013, 18 years after banning it?
 (1) Japan (2) Brazil
 (3) Mexico (4) China
- 198.** Mudumalai Sanctuary is famous for
 (1) Tigers (2) Bisons
 (3) Birds (4) Elephants
- 199.** The four "Mathas" (Shrines) at Sringeri, Badrinath, Dwarka and Puri were founded by
 (1) Ramanuja (2) Ashoka
 (3) Adi Shankaracharya
 (4) Madhava Vidyaranya
- 200.** Nobel Prize winner Seamus Heaney of Ireland passed away on August 30, 2013 in Dublin. He won the 1995 Nobel Prize in
 (1) Physics (2) Medicine
 (3) Literature (4) Economics