Part – I
GENERAL INTELLIGENCE

1. If the word PRINCIPAL is written as LAPICNIRP, how ADOLESCENCE can be written in that code ?
(A) ECNCESELODA
(B) ECNECSLEODA
(C) ECNSCEELODA
(D) ECNECSELODA

J = 1 K = 2 L = 5 M = 7

2. Let
N = 11 O = 13 P = 17
Find the letter to be inserted in the box in the relation given :
$(N \times \square + M) \div K = 31$
(A) L (B) P (C) J (D) O

3. Some equations are solved on the basis of a certain system. On the same basis, find out the correct answer for the unsolved equation.
$2 \times 3 \times 4 = 432$, $5 \times 6 \times 7 = 765$
$7 \times 8 \times 9 = 987$, $2 \times 5 \times 7 = ?$
(A) 572 (B) 752 (C) 725 (D) 257

4. The overall rainfall in certain region of India decreases year after year. Find out from the data the trend in decrease.

Year	Rainfall (in mm)
2009	26
2010	25
2011	23
2012	20
2013	16
2014	11
2015	?

(A) 6 mm (B) 7 mm
(C) 5 mm (D) 8 mm

5. If PALE is coded as 2134, EARTH is coded as 41590, how is PEARL coded as ?
(A) 29530 (B) 24153
(C) 25413 (D) 25430

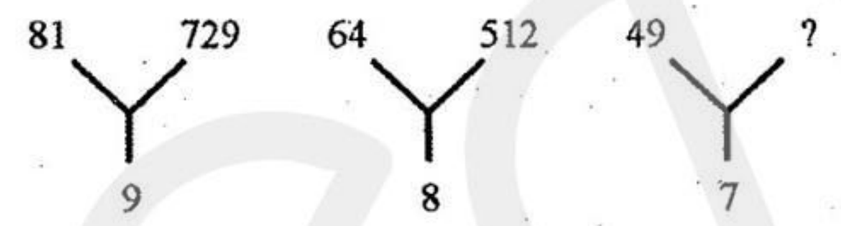
Directions : In Question Nos. **6** & **7**, select the missing number from the given responses.

6.

		18			11			6			12	
9	38	6	19	32	9	26	44	3	9	?	20
		17			11			15			8	

(A) 9 (B) 40 (C) 7 (D) 36

7.



(A) 444 (B) 515
(C) 343 (D) 373

8. A cyclist rides 40 kms to the east, turns north and rides 20 kms, again turns left and rides 20 kms. How far is he from the starting point ?
(A) 0 km (B) 10 kms
(C) 20 kms (D) 30 kms

9. Raju was to go to the planetarium. So he walked 1.5 kms towards east from the place and then turned to right and walked 2.5 kms and then turned towards east walked 1 km. and turned to south and walked 4 kms and reached the place by walking 2.5 kms towards west. What distance is he from the starting point ?
(A) 6.5 kms (B) 9.5 kms
(C) 10 kms (D) 30 kms

Directions (Q. Nos. **10** & **11**) : Three statements are given followed by two/four conclusions I, II, III & IV. You have to consider the three 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.

10. **Statements :**

1. All clerks are superintendents.
2. All superintendents are managers.
3. All managers are supervisors.

Conclusions :

I. All supervisors are clerks.
II. Some clerks are supervisors.
III. Some managers are clerks.
IV. All superintendents are clerks.

(A) Only conclusion I.
(B) Only conclusion II.
(C) Only conclusion III.
(D) Only conclusion IV.

11. **Statements :**

1. Rabindranath Tagore wrote many poems.
2. Every poet has aesthetic knowledge.
3. Aesthetic is a part of axiological study.

Conclusions :

I. Rabindranath Tagore did different axiological study.
II. He followed the base of logic and ethics.

(A) Only conclusion I.
(B) Both conclusions I and II.
(C) Only conclusion II.
(D) None of these

Directions : In Question Nos. **12** to **20**, select the related letter/word/number from the given alternatives.

12. Qualm : Nausea : : Burn : ?
(A) Fresh (B) Sear
(C) Sensible (D) Wet

13. Heart : Cardiologist : : Kidney : ?
(A) Endocrinologist (B) Orthodontist
(C) Nephrologist (D) Neurologist

14. DEF : EFD : : FGH : ?
(A) FHG (B) HGF
(C) HFG (D) GHF

15. AZB : CYD : : EXF : ?
(A) GWH (B) FGV
(C) TMR (D) QSV

16. HGUOR : HTOOMS : : ? : REDNET
(A) TOUGH (B) THOUG
(C) HUGOT (D) HGUOT

17. 7 : 24 : : ?
(A) 30 : 100 (B) 23 : 72
(C) 19 : 58 (D) 11 : 43

18. 12 : 140 : : 156 : ?
(A) 1820 (B) 1500
(C) 1250 (D) 1121

19. 64 : 4 : : ? : 9
(A) 18 (B) 729
(C) 81 (D) 144

20. Maharashtra : India : : Texas : ?
(A) Canada (B) Mexico
(C) Brazil (D) USA

Directions : In Question Nos. **21** to **28**, find the odd word/number/letters/number pair from the given alternatives.

21. (A) Polaris (B) Nike
(C) Crux (D) Phoenix

22. (A) Chameleon (B) Crocodile
(C) Alligator (D) Locust

23. (A) B C D G (B) G I J L
(C) P R S U (D) U W X Z

24. (A) M K H B D (B) G F K H C
(C) B D F A T (D) X V R P I

25. (A) D C E B (B) P N Q S T
(C) V K H G M (D) W P Z L H

26. (A) 1625 (B) 3649
(C) 6481 (D) 5025

27. (A) 512 (B) 625
(C) 1296 (D) 2401

28. (A) Poland (B) Korea
(C) Spain (D) Greece

29. Find the wrong number in the series :
30, 27, 36, 45, 72
(A) 30 (B) 27 (C) 36 (D) 72

Directions : In Question Nos. **30** to **32**, which one of the given responses would be a meaningful order of the following ?

30. 1. Adulthood 2. Infancy
3. Childhood 4. Adolescence
(A) 1, 3, 4, 2 (B) 2, 3, 4, 1
(C) 2, 4, 3, 1 (D) 1, 2, 3, 4

31. 1. Curd 2. Milk 3. Butter milk
4. Cow 5. Ghee 6. Butter
(A) 2, 5, 6, 4, 1, 3 (B) 4, 6, 2, 1, 3, 5
(C) 4, 2, 1, 3, 6, 5 (D) 2, 6, 4, 5, 3, 1

32. 1. Reading 2. Listening
3. Writing 4. Speaking
(A) 4, 2, 1, 3 (B) 2, 4, 3, 1
(C) 2, 4, 1, 3 (D) 4, 3, 2, 1

Directions : In Question Nos. **33** to **37**, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

33. R, O, L, I, F, ?
(A) C (B) A (C) E (D) I

34. 3, 15, 4, 16, 5, 17, 6, ?, 7
(A) 12 (B) 13 (C) 15 (D) 18

35. 68, 81, 96, ?, 132
(A) 105 (B) 110 (C) 113 (D) 130

36. 121, 253, 374, 495, ?
(A) 565 (B) 523
(C) 5116 (D) 5102

37. CE, GI, KM, OQ, ?
(A) TW (B) TV (C) SU (D) RT

38. Mani is double the age of Prabhu. Ramona is half the age of Prabhu. If Mani is sixty, find out the age of Ramona.
(A) 20 (B) 15 (C) 10 (D) 24

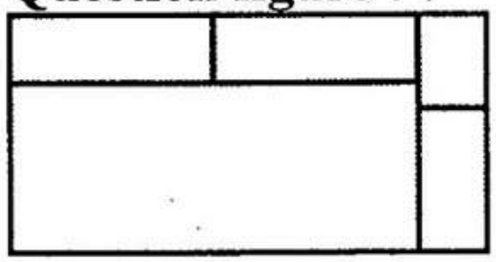
39. A family consisted of a man, his wife, his three sons, their wives and three children in each son's family. How many members are there in the family ?
(A) 12 (B) 13 (C) 15 (D) 17

40. From the given alternatives select the word which cannot be formed using the letters of the given word :
INFLATIONARY
(A) FLAIR (B) FAULTY
(C) NATIONAL (D) RATION

41. Which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?
__ cb __ ca __ bacb __ ca __ bac __ d
(A) b a d d d b (B) b b b d d d
(C) a d d d d b (D) a d d b b b

42. How many rectangles are there in the question figure ?

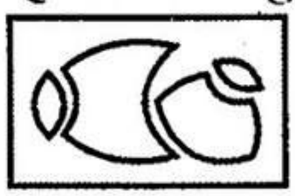
Question figure :



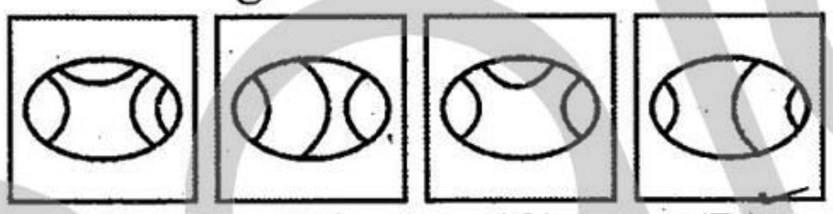
(A) 6 (B) 7 (C) 8 (D) 9

43. Among the four answer figures, which figure can be formed from the cut-pieces given below in the question figure ?

Question figure :



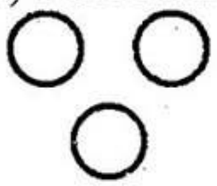
Answer figures :

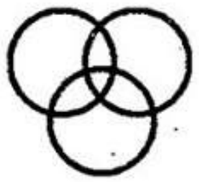


(A) (B) (C) (D)

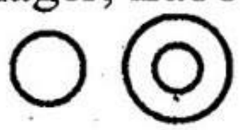
Directions : In Question Nos. **44** and **45** which one of the following diagrams represents the correct relationship among :

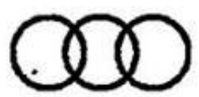
44. Lion, Fox and Carnivorous

(A)  (B) 

(C)  (D) 

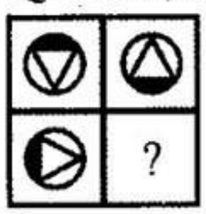
45. Manager, Labour Union and Worker

(A)  (B) 

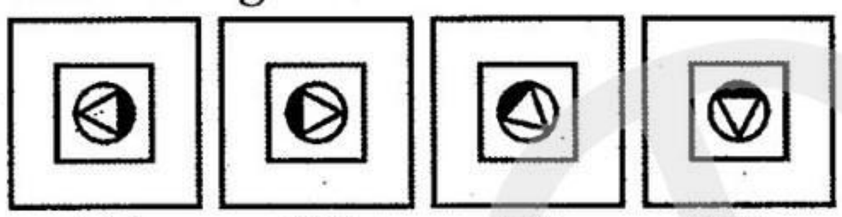
(C)  (D) 

46. Which answer figure will complete the question figure ?

Question figure :



Answer figures :

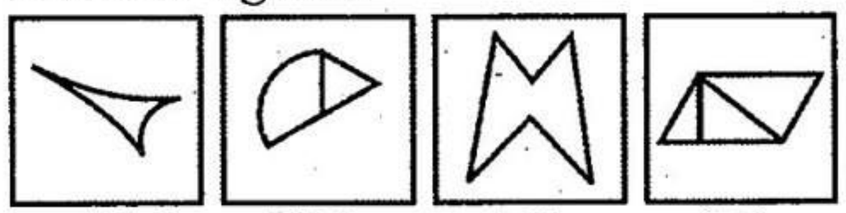


(A) (B) (C) (D)

47. Which of the answer figures is embedded in the question figure ?

Question figure :

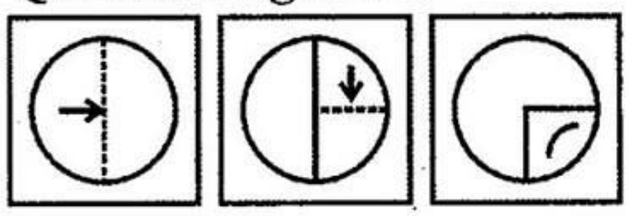
Answer figures



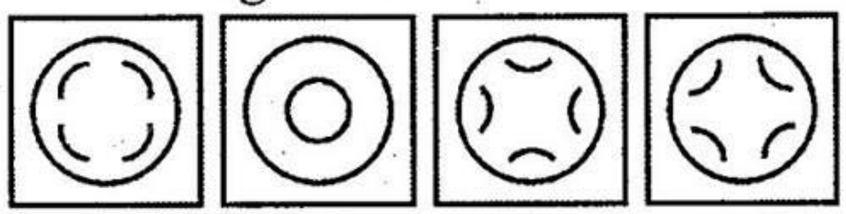
(A) (B) (C) (D)

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

Question figures :



Answer figures :

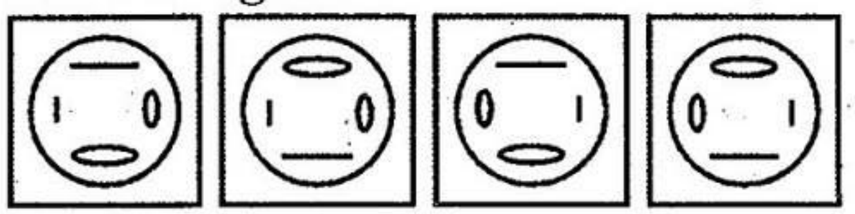


(A) (B) (C) (D)

49. If a mirror is placed on the line MN, 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-I are numbered from 0 to 4 and that of Matrix-II are numbered from 5 to 9. A letter from these matrices can be represented first by its row and next by its column, e.g., A can be represented by 01, 20, 42 etc. and H can be represented by 65, 57, 98 etc. Similarly, you have to identify the set for the word given in the question.

FAITH

Matrix-I

	0	1	2	3	4
0	F	A	N	O	I
1	I	O	F	A	N
2	A	N	O	I	F
3	O	F	I	N	A
4	N	I	A	F	O

Matrix-II

	5	6	7	8	9
5	S	E	H	B	T
6	H	S	E	T	B
7	B	T	S	E	H
8	E	H	T	B	S
9	T	S	E	H	B

(A) 24, 31; 10, 59, 57
(B) 12, 20, 40, 68, 65
(C) 31, 34, 23, 76, 79
(D) 43, 42, 41, 78, 89

For Visually Handicapped Candidates Only

Directions : In Question Nos. **42** to **45**, select the related word/letters/number from the given alternatives.

42. Earthworm : Mud : : Crab : ?
(A) Sea (B) Water
(C) Sand (D) Bank

43. Peacock : India : : Bear : ?
(A) Australia (B) America
(C) Russia (D) England

44. UTS : EDC : : WVU : ?
(A) XWV (B) WYZ
(C) SJM (D) RPO

45. 3 : 11 : : 5 : ?
(A) 18 (B) 27 (C) 15 (D) 31

Directions : In Question Nos. **46** and **47**, find the odd word/number/letters/number pair from the given alternatives.

46. (A) Potassium (B) Gallium
(C) Germanium (D) Zirconium

47. (A) Tomato (B) Cucumber
(C) Gourd (D) Potato

48. Choose the correct alternative from the given ones that will complete the series :
FDBZ, GECA, MKIG, PNLJ, ___?___
(A) WVTR (B) WUSQ
(C) WUSR (D) JHFD

Directions : In Question Nos. **49** and **50**, find which one is different from the rest of the following.

49. 1, 4, 9, 16, 25, 36, 49, 64, 81, 100, 111
(A) 25 (B) 111 (C) 36 (D) 100

50. 2, 2, 4, 12, 48, 192, 1440
(A) 48 (B) 192 (C) 12 (D) 1440

Part – II
ENGLISH LANGUAGE

Directions : In Question Nos. **51** to **55**, 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.

51. He is <u>cool about working</u> at night.
(A) ready to work
(B) not ready to work
(C) excited about working
(D) grudgingly working

52. You cannot <u>throw dust into my eyes.</u>
(A) terrify me
(B) cheat me
(C) hurt me
(D) abuse me

53. He spoke well though it was his <u>maiden speech</u>.
(A) long speech
(B) first speech
(C) brief speech
(D) emotional speech

54. The students were <u>all ears</u>, when the speaker started talking about the changes in the exam.
(A) smiling
(B) silent
(C) restless
(D) attentive

55. In his <u>salad days</u> he was quite a dandy.
(A) childhood
(B) adolescence
(C) school days
(D) old age

Directions : In Question Nos. **56** to **60**, 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.

56. The mother with her children <u>were</u> expected.
(A) was
(B) will
(C) have
(D) No improvement

57. Sohan <u>is pleased</u> at the news yesterday.
(A) has been pleased
(B) had been pleased
(C) was pleased
(D) No improvement

58. She did not like the movie, <u>nor I did</u>.
(A) nor did I.
(B) nor I like it.
(C) nor did I like it.
(D) No improvement

59. Old habits die <u>hardly</u>.
(A) hard
(B) too hard
(C) much hardly
(D) No improvement

60. One cannot be indifferent to one's health, <u>can't one</u>
(A) can't be ?
(B) can one ?
(C) isn't it ?
(D) No improvement

Directions : In Question Nos. **61** to **65**, out of the four alternatives choose the one which can be substituted for the given words/sentence.

61. Wild imagination.
(A) Whim (B) Fantasy
(C) Fancy (D) Memory

62. A poem of fourteen lines.
(A) Ballad (B) Psalm
(C) Sonnet (D) Carol

63. Incapable of error.
(A) Erroneous (B) Incorrigible
(C) Unbeatable (D) Infallible

64. One who believes everything he or she hears.
(A) Credulous (B) Credible
(C) Creditable (D) Credential

65. An allowance made to a wife by her husband, when they are legally separated.
(A) Alimony (B) Parsimony
(C) Matrimony (D) Honorarium

Directions : In Question Nos. **66** to **70**, 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.

66. (A) Emphetic (B) Emphattic
(C) Emphatick (D) Emphatic

67. (A) Mountainer (B) Mountaineer
(C) Mounteener (D) Mountineer

68. (A) Happened (B) Happenned
(C) Hapened (D) Hapenned

69. (A) Sentimantalist (B) Sentimentelist
(C) Sentimentalist (D) Santimentalist

70. (A) Laibertarian (B) Libertarian
(C) Liebertarian (D) Liberterian

Directions : In Question Nos. **71** to **80**, in the following passage some of the words have been left out. Read the passage carefully and choose the correct answer to each question out of the four alternatives and fill in the blanks.

Delhi **71** the capital of India. People from all parts of the country and the world **72** to Delhi. There **73** many historical buildings. People **74** the Rajghat, Shantivan and Vijayghat. We visited Delhi last year **75** our cousins. There **76** many other historical cities. Agra **77** one of them. We **78** visit Agra and Jaipur next time. The Red Fort of Delhi and the Hawa Mahal of Jaipur were **79** famous for their Mughal **80** Rajasthani architecture respectively.

71. (A) was (B) are
(C) is (D) were

72. (A) came (B) comes
(C) come (D) coming

73. (A) has (B) were
(C) is (D) are

74. (A) visit (B) visited
(C) visiting (D) visits

75. (A) for (B) on
(C) of (D) with

76. (A) is (B) are
(C) were (D) was

77. (A) are (B) was
(C) is (D) were

78. (A) will (B) would
(C) could (D) can

79. (A) much (B) very
(C) too (D) more

80. (A) either (B) because
(C) or (D) and

Directions : In Question Nos. **81** to **85**, 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 errors, blacken the oval corresponding to (D) in the Answer Sheet.

81. In India, / (A) there are / (B) many poors. / (C) No error (D)

82. I worked / (A) as medical representative / (B) for eight months. / (C) No error (D)

83. Shakespeare has written / (A) many plays / (B) as well as some poetries. / (C) No error (D)

84. Neither of the girls / (A) were willing to / (B) accept the proposal. / (C) No error (D)

85. A interesting book / (A) 'A Tale of two / (B) cities' / (C) was written by Alexander Dumas / (D) No error

Directions : In Question Nos. **86** to **90**, sentences 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.

86. Throw a stone _____ the fierce dog.

(A) at (B) upon

(C) on (D) above

87. Is not learning superior _____ wealth ?

(A) than (B) from

(C) by (D) to

88. A group of agitators ____ the mob to break down the Vice-Chancellor's door.

(A) wished (B) excited

(C) threatened (D) incited

89. Turn the lights _____ before you go to bed.

(A) on (B) off

(C) out (D) down

90. There is no _____ evidence to support your assertion.

(A) facile (B) fictitious

(C) facetious (D) factual

Directions : In Question Nos. **91** to **95**, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

91. Superfluous

(A) Essential

(B) Excess

(C) Unwanted

(D) Necessary

92. Equilibrium

(A) Work out

(B) Disturb

(C) Imbalance

(D) Unevenness

93. Immortal

(A) Eternal

(B) Permanent

(C) Deathly

(D) Temporary

94. Focus

(A) Disappear

(B) Disperse

(C) Link

(D) Layer

95. Veteran

(A) Activist

(B) Enthusiast

(C) Novice

(D) Master

Directions : In Question Nos. **96** to **100** out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

96. Sporadic

(A) Timely

(B) Scattered

(C) Frequent

(D) Irrelevant

97. Persevere

(A) Fickle

(B) Persist

(C) Constant

(D) Polite

98. Petition

(A) Rotation

(B) Administration

(C) Appeal

(D) Vocation

99. Proposition

(A) Intimation

(B) Protestation

(C) Proposal

(D) Invitation

100. Vivacious

(A) Imaginary

(B) Lively

(C) Perceptible

(D) Languid

Part – III
QUANTITATIVE APTITUDE

101. If $\frac{x}{xa + yb + zc} = \frac{y}{ya + zb + xc} = \frac{z}{za + xb + yc}$ and $x + y + z \neq 0$, then each ratio is

(A) $\frac{1}{a - b - c}$ (B) $\frac{1}{a + b - c}$

(C) $\frac{1}{a - b + c}$ (D) $\frac{1}{a + b + c}$

102. If $x = p + \frac{1}{p}$ and $y = p - \frac{1}{p}$, then value of $x^4 - 2x^2y^2 + y^4$ is

(A) 24 (B) 4 (C) 16 (D) 8

103. If $x = 3 + 2\sqrt{2}$, then $\frac{x^6 + x^4 + x^2 + 1}{x^3}$ is equal to

(A) 216 (B) 192 (C) 198 (D) 204

104. The perimeters of two similar triangles ΔABC and ΔPQR are 36 cm and 24 cm respectively. If PQ = 10 cm, the AB is

(A) 15 cm (B) 12 cm
(C) 14 cm (D) 26 cm

105. If the sides of a right-angled triangle are three consecutive integers, then the length of the smallest side is

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

106. Two circles intersect each other at the points A and B. A straight line parallel to AB intersects the circles at C, D, E and F. If CD = 4.5 cm, then the measure of EF is

(A) 1.50 cm (B) 2.25 cm
(C) 4.50 cm (D) 9.00 cm

107. Which one of the following is true ?

(A) $\sqrt{5} + \sqrt{3} > \sqrt{6} + \sqrt{2}$

(B) $\sqrt{5} + \sqrt{3} < \sqrt{6} + \sqrt{2}$

(C) $\sqrt{5} + \sqrt{3} = \sqrt{6} + \sqrt{2}$

(D) $(\sqrt{5} + \sqrt{3})(\sqrt{6} + \sqrt{2}) = 1$

108. In ΔABC, D and E are two points on the sides AB and AC respectively so that DE $\parallel$ BC and $\frac{AD}{BD} = \frac{2}{3}$. Then $\frac{\text{the area of trapezium DECB}}{\text{the area of } \Delta ABC}$ is equal to

(A) $\frac{5}{9}$ (B) $\frac{21}{25}$ (C) $1\frac{4}{5}$ (D) $5\frac{1}{4}$

109. The value of $\frac{\sin 25° \cos 65° + \cos 25° \sin 55°}{\tan^2 70° - \operatorname{cosec}^2 20°}$ is

(A) – 1 (B) 0 (C) 1 (D) 2

110. If θ is a positive acute angle and $4\cos^2\theta - 4\cos\theta + 1 = 0$, then the value of $\tan(\theta - 15°)$ is equal to

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

111. If $(r\cos\theta - \sqrt{3})^2 + (r\sin\theta - 1)^2 = 0$, then the value of $\frac{r\tan\theta + \sec\theta}{r\sec\theta + \tan\theta}$ is equal to

(A) $\frac{4}{5}$ (B) $\frac{5}{4}$ (C) $\sqrt{3}/4$ (D) $\sqrt{5}/4$

112. A vertical pole and a vertical tower are standing on the same level ground. Height of the pole is 10 metres. From the top of the pole the angle of elevation of the top of the tower and angle of depression of the foot of the tower are 60° and 30° respectively. The height of the tower is

(A) 20 m (B) 30 m
(C) 40 m (D) 50 m

113. The sum of the interior angles of a polygon is 1440°. The number of sides of the polygon is

(A) 6 (B) 9 (C) 10 (D) 12

114. The first term of an Arithmetic Progression is 22 and the last term is – 11. If the sum is 66, the number of terms in the sequence are
(A) 10 (B) 12 (C) 9 (D) 8

115. The H.C.F. and L.C.M. of two numbers are 44 and 264 respectively. If the first number is divided by 2, the quotient is 44. The other number is
(A) 147 (B) 528 (C) 132 (D) 264

116. A teacher wants to arrange his students in an equal number of rows and columns. If there are 1369 students, the number of students in the last row are
(A) 37 (B) 33 (C) 63 (D) 47

117. If $\frac{x}{y}=\frac{4}{5}$, then the value of $\left(\frac{4}{7}+\frac{2y-x}{2y+x}\right)$ is
(A) $\frac{3}{7}$ (B) $1\frac{1}{7}$ (C) 1 (D) 2

118. A and B working separately can do a piece of work in 9 and 15 days respectively. If they work for a day alternately, with A beginning, then the work will be completed in
(A) 10 days (B) 11 days
(C) 9 days (D) 12 days

119. Ram left $\frac{1}{3}$ of his property to his widow and $\frac{3}{5}$ of the remainder to his daughter. He gave the rest to his son who received ₹ 6,400. How much was his original property worth ?
(A) ₹ 16,000 (B) ₹ 32,000
(C) ₹ 24,000 (D) ₹ 1,600

120. If the sum of the dimensions of a rectangular parallelepiped is 24 cm and the length of the diagonal is 15 cm, then the total surface area of it is
(A) 420 cm^2 (B) 275 cm^2
(C) 351 cm^2 (D) 378 cm^2

121. Area of a regular hexagon with side 'a' is
(A) $\frac{3\sqrt{3}}{4}a^2$ sq.unit (B) $\frac{12}{2\sqrt{3}}a^2$ sq.unit
(C) $\frac{9}{2\sqrt{3}}a^2$ sq.unit (D) $\frac{6}{\sqrt{2}}a^2$ sq.unit

122. The marked price of a saree is ₹ 200. After allowing a discount of 20% on the marked price, the shopkeeper makes a profit of ₹ 16. Find the gain percent.
(A) $11\frac{1}{9}\%$ (B) $9\frac{1}{11}\%$
(C) 11% (D) 8%

123. The marked price of an item is twice the cost price. For a gain of 15%, the discount should be
(A) 7.5% (B) 20.5%
(C) 32.5% (D) 42.5%

124. Two numbers are in the ratio 3 : 5. If 9 is subtracted from each, the new numbers are in the ratio 12 : 23. The small number is
(A) 27 (B) 33 (C) 49 (D) 55

125. If $x : y = 5 : 2$, then $(8x + 9y) : (8x + 2y)$ is
(A) 22 : 29 (B) 26 : 61
(C) 29 : 22 (D) 61 : 26

126. Two pipes A and B can fill a tank in 36 min. and 45 min. respectively. Another pipe C can empty the tank in 30 min. First A and B are opened. After 7 minutes, C is also opened. The tank is filled up in
(A) 39 min. (B) 46 min.
(C) 40 min. (D) 45 min.

127. 3 years ago the average age of a family of 5 members was 17 years. A baby having been born, the average age of the family is the same today. The present age of the baby is
(A) 1 year (B) 1½ years
(C) 2 years (D) 3 years

128. A total profit of ₹ 3,600 is to be distributed amongst A, B and C such that A : B = 5 : 4 and B : C = 8 : 9. The share of C in the profit is
(A) ₹ 1,200 (B) ₹ 1,500
(C) ₹ 1,650 (D) ₹ 1,700

129. A man sold his watch at a loss of 5%. Had he sold it for ₹ 56.25 more, he would have gained 10%. What is the cost price of the watch (in ₹) ?
(A) 370 (B) 365 (C) 375 (D) 390

130. 1% of 1% of 25% of 1000 is
(A) .025 (B) .0025
(C) .25 (D) .000025

131. The population of a village increases by 5% annually. If its present population is 4410, then its population 2 years ago was
(A) 4500 (B) 4000
(C) 3800 (D) 3500

132. A is twice as fast as B and B is thrice as fast as C is. The journey covered by C in 1½ hours will be covered by A in
(A) 15 minutes (B) 20 minutes
(C) 30 minutes (D) 1 hour

133. A sum of ₹ 210 was taken as a loan. This is to be paid back in two equal instalments. If the rate of interest be 10% compounded annually, then the value of each instalment is
(A) ₹ 127 (B) ₹ 121 (C) ₹ 210 (D) ₹ 225

134. The average salary of all the workers in a workshop is ₹ 8,000. The average salary of 7 technicians is ₹ 12,000 and the average salary of the rest is ₹ 6,000. The total number of workers in the workshop is
(A) 20 (B) 21 (C) 22 (D) 23

135. The external fencing of a circular path around a circular plot of land is 33 m more than its interior fencing. The width of the path around the plot is
(A) 5.52 m (B) 5.25 m
(C) 2.55 m (D) 2.25 m

136. A horse takes 2½ seconds to complete a round around a circular field. If the speed of the horse was 66 m/sec, then the radius of the field is,
[Given $\pi = \frac{22}{7}$]
(A) 25.62 m (B) 26.52 m
(C) 25.26 m (D) 26.25 m

137. A flask in the shape of a right circular cone of height 24 cm is filled with water. The water is poured in a right circular cylindrical flask whose radius is $\frac{1}{3}^{rd}$ of the radius of the base of the circular cone. Then the height of the water in the cylindrical flask is
(A) 32 cm (B) 24 cm
(C) 48 cm (D) 72 cm

138. If the three medians of a triangle are same, then the triangle is
(A) equilateral (B) isosceles
(C) right-angled (D) obtuse-angled

139. If $x + \frac{1}{x} = 3$, then the value of $\frac{3x^2 - 4x + 3}{x^2 - x + 1}$ is
(A) 4/3 (B) 3/2 (C) 5/2 (D) 5/3

140. The area of a square park is 25 sq. km. The time taken to complete a round of the field once, at a speed of 3 km/hour is
(A) 4 hours 60 minutes
(B) 4 hours 50 minutes
(C) 6 hours 40 minutes
(D) 5 hours 40 minutes

141. The length of the shadow of a vertical tower on level ground increases by 10 metres when the altitude of the sun changes from 45° to 30°. Then the height of the tower is

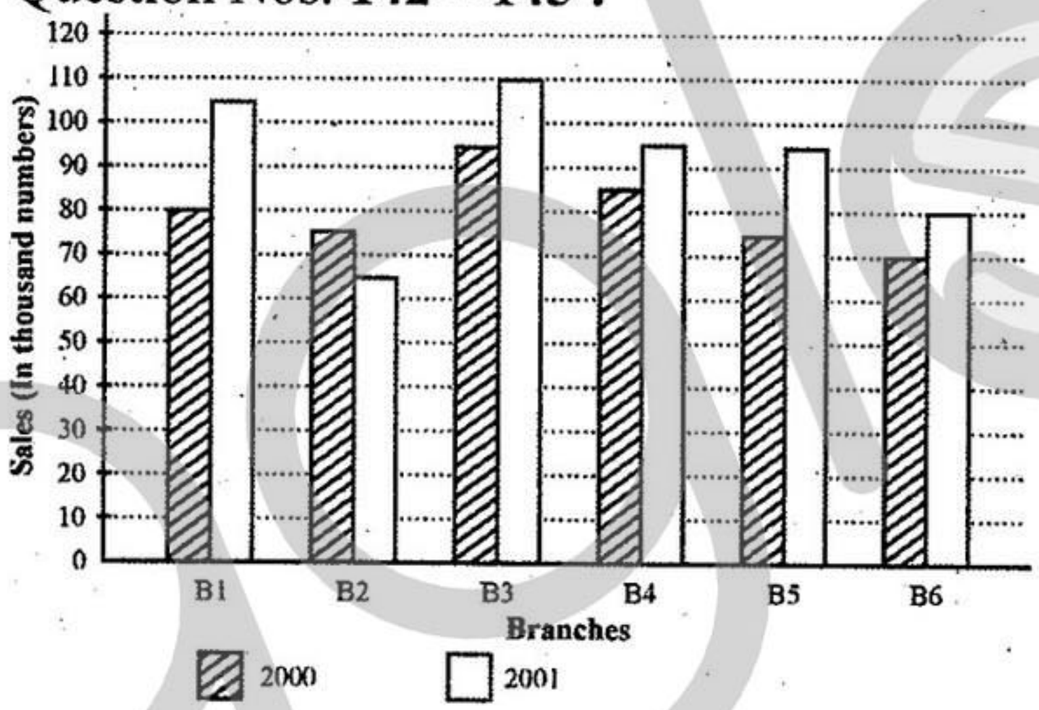
(A) $5(\sqrt{3}+1)$ metres

(B) $5(\sqrt{3}-1)$ metres

(C) $5\sqrt{3}$ metres

(D) $\frac{5}{\sqrt{3}}$ metres

Sales of Books (in thousand numbers) from Six Branches – B1, B2, B3, B4, B5 and B6 of a Publishing Company in 2000 and 2001. Study the graph and answer Question Nos. **142 – 145 :**



142. Total sale of branches B1, B3 and B5 together for both the years (in thousand numbers) is

(A) 250 (B) 310

(C) 435 (D) 560

143. Find the ratio of the total sales of branch B2 for both years to the total sales of branch B4 for both years.

(A) 2 : 3 (B) 3 : 5

(C) 4 : 5 (D) 7 : 9

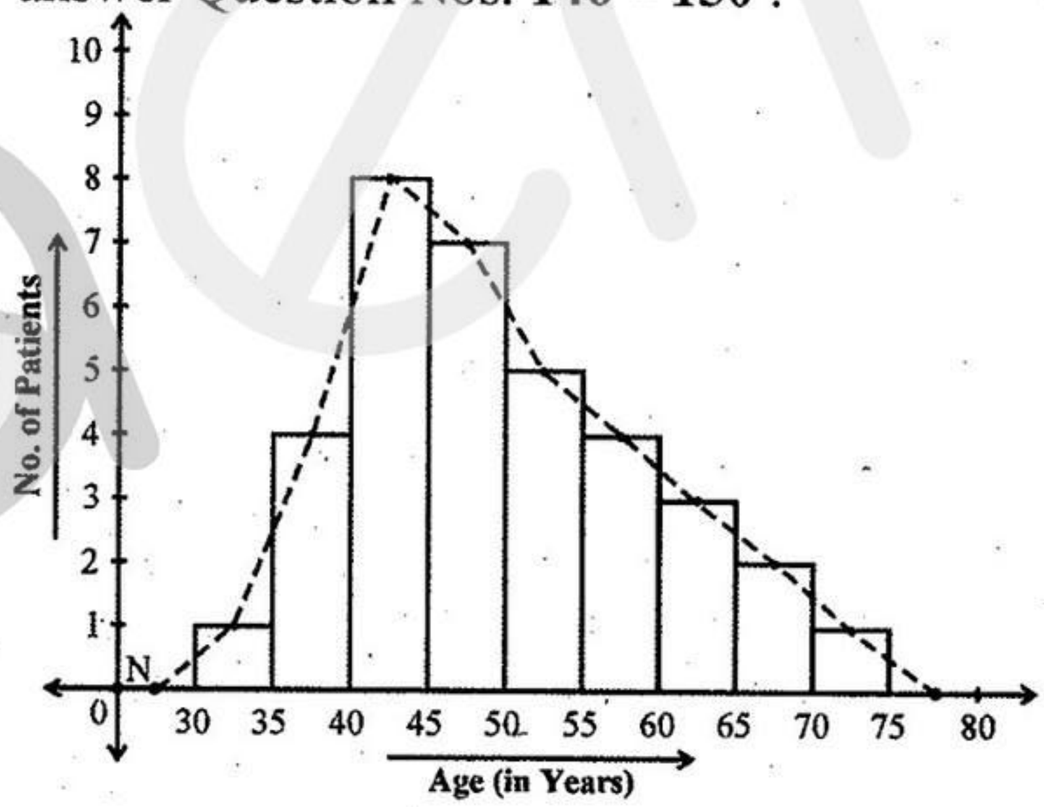
144. Percentage of the average sale of branches B1, B2 and B3 in 2001 and the average sale of branches B1, B3 and B6 in 2000

(A) 87.5 (B) 75 (C) 77.5 (D) 82.5

145. Find the percentage increase in the sales of books of branch B3 in the year 2001 than the branch B2.

(A) 69.2 (B) 50.8 (C) 40.9 (D) 65.7

The diagram shows the age-distribution of the patients admitted to a hospital in a particular day. Study the diagram and answer Question Nos. **146 – 150 :**



146. Number of patients of age between 55 years to 60 years, who got admitted to the hospital on that day is

(A) 6 (B) 4 (C) 24 (D) 8

147. Total number of patients of age more than 55 years, who got admitted to the hospital is

(A) 4 (B) 7 (C) 9 (D) 10

148. Number of patients of age more than 40 years and less than 55 years, who got admitted to the hospital on that day is

(A) 20 (B) 30 (C) 15 (D) 12

149. Percentage of patients of age less than 45 years, who got admitted to the hospital on that day is approximately equal to
(A) 14% (B) 20% (C) 37% (D) 62%

150. About 11% of the patients who got admitted to the hospital on that particular day were of age
(A) either between 35 years and 40 years or between 55 years and 60 years
(B) between 60 years and 65 years
(C) between 35 years and 40 years
(D) between 35 years and 40 years and between 55 years and 60 years

For Visually Handicapped Candidates Only

142. If the simple interest and compound interest at the same rate of certain amount for 2 years are ₹ 400 & ₹ 420 respectively, then the rate of interest is
(A) 12 % (B) 8 %
(C) 10 % (D) 11 %

143. Three friends divide ₹ 624 among themselves in the ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$; the share of the third friend is
(A) ₹ 288 (B) ₹ 192
(C) ₹ 148 (D) ₹ 144

144. In the expression xy^2, the values of x and y are each decreased by 25%. The value of the expression is decreased by
(A) $\frac{37}{64}$ of its value
(B) $\frac{1}{2}$ of its value
(C) $\frac{27}{64}$ of its value
(D) $\frac{3}{4}$ of its value

145. ₹ 64,000 will amount to ₹ 68,921 at 5% per annum and interest payable half yearly in
(A) $3\frac{1}{2}$ years (B) 2 years
(C) $2\frac{1}{2}$ years (D) $1\frac{1}{2}$ years

146. What is the value of an angle included between x-axis and y-axis in radian ?
(A) $\frac{\pi^c}{6}$ (B) $\frac{\pi^c}{3}$
(C) $\frac{\pi^c}{4}$ (D) $\frac{\pi^c}{2}$

147. The value of $\frac{\tan^2\theta}{1+\tan^2\theta} + \frac{\cot^2\theta}{1+\cot^2\theta}$ is equal to
(A) 0 (B) 1 (C) 2 (D) 3

148. The value of $(1{,}000{,}001)^2 - (999{,}999)^2$ is
(A) 2,000,000 (B) 4,000,000
(C) 6,000,000 (D) 8,000,000

149. The sum of the squares of three consecutive natural numbers is 194. The sum of the numbers is
(A) 24 (B) 27 (C) 21 (D) 30

150. A vessel is in the form of an inverted cone. Its height is 11 cm and radius of its top, which is open, is 2.5 cm. It is filled with water upto the rim. When lead shots, each of which is a sphere of radius 0.25 cm are dropped into the vessel, 2/5 of the water flows out. The number of lead shots dropped into the vessel is
(A) 880 (B) 440 (C) 220 (D) 110

Part – IV
GENERAL AWARENESS

151. The chemical name of "Hypo" commonly used in photography is
(A) Sodium thiosulphate
(B) Silver nitrate
(C) Sodium nitrate
(D) Silver iodide

152. With what bio-region is the term "Steppe" associated ?
(A) Grasslands
(B) Tropical forests
(C) Savanna
(D) Coniferous forests

153. About how much of the world's land area is tropical rainforest ?
(A) 2 percent (B) 7 percent
(C) 10 percent (D) 15 percent

154. According to your text, what can "be thought of as the genetic library that keeps life going on Earth" ?
(A) A bio-engineering lab
(B) Human genes
(C) The human genome project
(D) Biodiversity

155. The world's growing appetite for what food product is a leading cause of tropical deforestation ?
(A) Pork (B) Sugar
(C) Lamb (D) Beef

156. "Life Divine" is a book written by
(A) M.K.Gandhi
(B) Rabindranath Tagore
(C) S. Radhakrishnan
(D) Shri Aurobindo

157. The Oscar Award was won 36 times by
(A) Charlie Chaplin
(B) Alfred Hitchcock
(C) Walt Disney
(D) Akiro Kurosawa

158. The boiling point of water decreases at higher altitudes is due to
(A) low temperature
(B) low atmospheric pressure
(C) high temperature
(D) high atmospheric pressure

159. Who among the following is a famous English writer ?
(A) Amrita Pritam
(B) Mahadevi Verma
(C) Ashapurna Devi
(D) Mulk Raj Anand

160. The President of World Bank is
(A) Jim Yong Kim
(B) Christine Lagarde
(C) Prema Cariappa
(D) Vijay L. Kelkar

161. Tulsidas wrote Ramcharitmanas in the reign of
(A) Babar (B) Akbar
(C) Aurangzeb (D) Jahangir

162. Grammy Award is given in the field of
(A) Acting (B) Music
(C) Singing (D) Boxing

163. The first woman to get the Bharat Ratna Award is
(A) Mother Teresa
(B) Indira Gandhi
(C) Lata Mangeshkar
(D) Sarojini Naidu

164. Karl Marx wrote
(A) Asian Drama
(B) Emma
(C) Das Kapital
(D) Good Earth

165. The religious text of the Jews is named as
(A) The Analectus
(B) Torah
(C) Tripitaka
(D) Zend-Avesta

166. "Meghdoot" was written by
(A) Humayun Kabir
(B) Khushwant Singh
(C) Banabhatta
(D) Kalidasa

167. Other things being equal, a decrease in quantity demanded of a commodity can be caused by
(A) a rise in the price of the commodity
(B) a rise in the income of the consumer
(C) a fall in the price of a commodity
(D) a fall in the income of the consumer

168. Which of the following is not an economic problem ?
(A) Deciding between paid work and leisure.
(B) Deciding between expenditure on one good and the other.
(C) Deciding between alternative methods of personal saving.
(D) Deciding between different ways of spending leisure time.

169. Which of the following occurs when labour productivity rises ?
(A) The equilibrium nominal wage falls
(B) The equilibrium quantity of labour falls
(C) Competitive firms will be induced to use more capital
(D) The labour demand curve shifts to the right

170. Which of the following are consumer semi-durable goods ?
(A) Cars and television sets
(B) Milk and milk products
(C) Foodgrains and other food products
(D) Electrical appliance like fans and electric irons

171. Which of the following statements is correct ?
(A) Most workers will work for less than their reservation wage.
(B) The reservation wage is the maximum amount any firm will pay for a worker.
(C) Economic rent is the difference between the market wage and the reservation wage.
(D) Economic rent is the amount one must pay to enter a desirable labour market.

172. It was decided to observe Mahatma Gandhi's birthday October 2 as the International Nonviolence Day at
(A) International Indology Conference
(B) Satyagraha Centenary Conference
(C) Congress Foundation Day Celebration
(D) None of these

173. Who admits a new State to the Union of India ?
(A) President (B) Supreme Court
(C) Prime Minister (D) Parliament

174. In which year were the States reorganized on a linguistic basis ?
(A) 1951 (B) 1947
(C) 1950 (D) 1956

175. Who has got the power to create All India Services ?
(A) Supreme Court
(B) The Parliament
(C) Council of Ministers
(D) Prime Minister

176. Which one of the following is the most lasting contribution of the Rastrakutas ?
(A) Kailasha Temple
(B) Pampa, Ponna, Ranna, the three writers of Kannada Poetry and Kailasha Temple
(C) Patronage of Jainism
(D) Conquests

177. Ravikirti, a Jain, who composed the Aihole Prashasti, was patronized by
(A) Pulakeshi I (B) Harsha
(C) Pulakeshi II (D) Kharavela

178. The "Mein Kampf" was written by
(A) Hitler (B) Mussolini
(C) Bismarck (D) Mazzini

179. When did the reign of Delhi Sultanate came to an end ?
(A) 1498 A.D. (B) 1526 A.D.
(C) 1565 A.D. (D) 1600 A.D.

180. In the provisional Parliament of India, how many members were there ?
(A) 296 (B) 313
(C) 318 (D) 316

181. Which of the following is the largest Biosphere Reserves of India ?
(A) Nilgiri
(B) Nandadevi
(C) Sundarbans
(D) Gulf of Mannar

182. ISRO's Master Control Facility is in
(A) Andhra Pradesh (B) Orissa
(C) Gujarat (D) Karnataka

183. India is the largest producer and exporter of
(A) Cotton (B) Copper
(C) Tea (D) Mica

184. The soils which are rich in Calcium are known as
(A) Pedocals (B) Pedalfers
(C) Podsols (D) Laterites

185. Cultivable land is defined as
(A) land actually under crops
(B) cultivable waste land + fallow land
(C) old fallow lands + current fallow lands
(D) total fallow lands + net sown area

186. From which part of Opium plant we get morphine ?
(A) Leaves (B) Stem
(C) Bark (D) Fruit coat

187. Which of the following is a Biological method of soil conservation ?
(A) Contour farming
(B) Contour terracing
(C) Gully control
(D) Basin listing

188. Glucose is a type of
(A) Pentose sugar (B) Hexose sugar
(C) Tetrose sugar (D) Diose sugar

189. Number of mitochondria in bacterial cell is
(A) one (B) two
(C) many (D) zero

190. The original founder of the Manuscripts and Editor of Kautilya's Arthashastra was
(A) Srikanta Shastri
(B) Srinivasa Iyangar
(C) R. Shamashastri
(D) William Jones

191. The smallest known prokaryotic organism is
(A) Microcystis (B) Mycoplasma
(C) Bacteria (D) Chlorella

192. Rainbow is formed due to
(A) refraction and dispersion
(B) scattering and refraction
(C) diffraction and refraction
(D) refraction and reflection

193. Golden view of sea shell is due to
(A) Diffraction (B) Dispersion
(C) Polarization (D) Reflection

194. An object covers distance which is directly proportional to the square of the time. Its acceleration is
(A) increasing (B) decreasing
(C) zero (D) constant

195. If the horizontal range of a projectile is four times its maximum height, the angle of projection is
(A) 30° (B) 45°
(C) $\sin^{-1}\left(\frac{1}{4}\right)$ (D) $\tan^{-1}\left(\frac{1}{4}\right)$

196. Which place is called as "Silicon Valley" of India ?
(A) Delhi (B) Pune
(C) Bengaluru (D) Hyderabad

197. Telnet stands for
(A) Telephone Network
(B) Television Network
(C) Teletype Network
(D) Telefax Network

198. Which of the following metals has least melting point ?
(A) Gold (B) Silver
(C) Mercury (D) Copper

199. The gas produced in marshy places due to decomposition of vegetation is
(A) Carbon monoxide
(B) Carbon dioxide
(C) Sulphur dioxide
(D) Methane

200. In cactus, the spines are the modified
(A) stem (B) stipules
(C) leaves (D) buds