

Directions (1-6) : In following questions, select the related word/letter/ number from the given alternatives.

1. 5 : 11 :: 19 : ?
(a) 23 (b) 13
(c) 17 (d) 29
2. 36 : 121 :: 6 : ?
(a) 10 (b) 11
(c) 12 (d) 13
3. Mole : Animal :: Locust : ?
(a) Birds (b) Insects
(c) Tools (d) Stationery
4. Book : Pages :: Cinema : ?
(a) Story (b) Songs
(c) Actor (d) Film strip
5. DTGC : WAZV :: HLOG : ?
(a) SLQR (b) SZBR
(c) SAZR (d) HAOR
6. PALE : LEAP :: POSH : ?
(a) POHS (b) SHOP
(c) HSOP (d) SHPO

Directions (7-12): In following questions, select the one which is different from the other three responses.

7. (a) AYBZ (b) BXCXY
(c) DVEW (d) MPON
8. (a) BAD (b) GEM
(c) SIT (d) OWL
9. (a) 8354 (b) 7431
(c) 6421 (d) 5410
10. (a) 4-16 (b) 9-81
(c) 12-144 (d) 16-256
11. (a) Sublimation
(b) Projection
(c) Rationalisation
(d) Respiration

12. (a) Violet (b) Indigo
(c) Yellow (d) Green
13. Arrange the following words as per order in the English dictionary :
1. Real 2. Really
3. Reality 4. Reliability
5. Reliance
(a) 1, 2, 5, 3, 4 (b) 1, 2, 4, 3, 5
(c) 5, 2, 3, 4, 1 (d) 1, 3, 2, 4, 5

14. Which one of the given responses would be a meaningful order of the following ?
1. Family 2. Community
3. Member 4. Locality
5. Country
(a) 3, 1, 2, 4, 5 (b) 3, 1, 2, 5, 4
(c) 3, 1, 4, 2, 5 (d) 3, 1, 4, 5, 2

Directions (15-18): In following questions, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

15. PBD, REH, THL, ?
(a) UVW (b) MNO
(c) UVX (d) VKP
16. 20, 44, ?, 116, 164
(a) 72 (b) 74
(c) 76 (d) 78
17. 10, 18, 34, ?, 130, 258
(a) 32 (b) 60
(c) 68 (d) 66
18. ML, NO, KJ, PQ, IH, ?
(a) RS (b) GI
(c) RH (d) RK
19. In a queue Soma is 7th from the back and Sohan is 6th from the front. If Neha is standing between

them, then what is the minimum number of persons standing in the queue ?

- (a) 8 (b) 10
(c) 12 (d) 14
20. From the given alternatives, select the word which **cannot** be formed using the letters of the given word.

EMPOWERMENT

- (a) Power (b) Mean
(c) Men (d) Ten
21. A group of alphabets, are given with each being assigned a number. These have to be unscrambled into a meaningful word and the correct order of letters may be indicated from the given responses.

C C H S A T R
1 2 3 4 5 6 7

- (a) 1 3 5 7 4 6 2
(b) 4 5 6 1 2 3 7
(c) 4 1 3 2 5 6 7
(d) 4 1 7 5 6 2 3
22. Pointing at a photograph, Ramu said, "His father is the only son of my mother." The photograph belongs to whom ?
(a) Ramu
(b) Ramu's brother
(c) Ramu's father
(d) Ramu's son
 23. A person is asked to state his age in years. His reply is, "Take my age three years hence and multiply it by 3 and then subtract three times my age three years ago

and you will know how old I am." What is the age of the person ?

- (a) 18 years
(b) 20 years
(c) 24 years
(d) 32 years

24. If in a code language MACHINE is coded as 19-7-9-14-15-20-11, then how would DANGER be coded in that code language ?

- (a) 11-7-20-16-11-24
(b) 13-7-20-9-11-25
(c) 10-7-20-13-11-24
(d) 13-7-20-10-11-25

25. If in a code language TEACHER is written as PACKRAT and FIGURE as LQDZCTA, how can FATHER be written in that code ?

- (a) LCPRAT (b) LQDCFA
(c) QCPRAT (d) LCDRAT

Directions (26-27) : In these questions given below, some equations are solved on the basis of a certain system. On the same basis, find out the correct answer for the unsolved equation.

26. If

$$57842 = 14$$

$$\text{and } 62735 = 41$$

$$\text{then } 53649 = ?$$

- (a) 27 (b) 52
(c) 39 (d) 46

27. $5 \times 4 \times 3 = 4253$, $7 \times 3 \times 4 = 3494$,
 $9 \times 4 \times 5 = ?$

- (a) 4815 (b) 8145
(c) 9425 (d) 9165

28. Select the correct combination of mathematical signs to replace * signs and to balance the given equation.

$$2 * 4 * 6 * 2 * 12$$

- (a) $\times + - =$ (b) $\times - + =$
(c) $+ \times - =$ (d) $+ - + =$

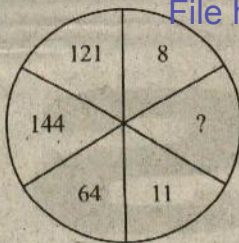
29. If ' \times ' means \div , ' $-$ ' means \times , ' \div ' means $+$ and ' $+$ ' means $-$, then find the value of the given equation.

$$(3 - 15 \div 11) \times 8 + 6 = ?$$

- (a) 8 (b) 0
(c) 4 (d) 1

Directions (30-31) : In following questions, select the missing number from the given responses.

30.



- (a) 9 (b) 12
(c) 14 (d) 7

31.

60	55	25
77	71	?
12	11	5

- (a) 44 (b) 31
(c) 43 (d) 35

32. Ayush start walking straight from point A to point B at a distance of 16 km. He turned left and walked straight 10 km, again turned left and walked straight 16 km, again turned to his right and walked straight 6 km. How far was he from his starting point ?

- (a) 10 km (b) 4 km
(c) 16 km (d) 0 km

33. Six boys stand in a row - A, B, C, D, E and F. B is between F and D; E is between A and C; A does not stand next to either F or D. C does not stand next to D. Then F is between which of the following pairs of boys ?

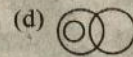
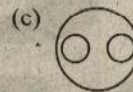
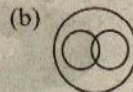
- (a) B and D
(b) B and A
(c) B and C
(d) B and E

34. Jyoti started early in the morning on the road opposite to the sun. After some time, she turned to her left and walked. Again she turned to her left, walked and again turned to her left. Which side was she facing ?

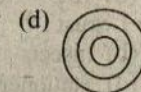
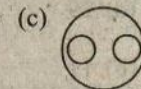
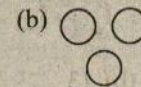
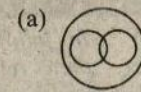
- (a) West (b) North
(c) East (d) South

35. Which of the following figures best represents the relationship amongst the three classes ?

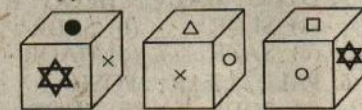
Classroom Practice Sheet



36. Which one of the following diagrams best represent the relationship among Sisters, Women, Mothers ?

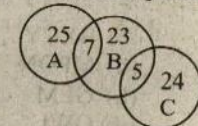


37. Three different positions of a cube are as shown below. What symbol is opposite to the cross ?



- (a) Circle (b) Dot
(c) Square (d) Star

38. Study the following figures and answer the question given below :



A (25) \longrightarrow Rich Persons

B (23) \longrightarrow Footballers

C (24) \longrightarrow Economically Weaker Persons

How many rich persons are footballers ?

- (a) 25 (b) 23
(c) 7 (d) 5

Directions (39-40) : In following questions, one/two statement(s) are given, followed by two/four conclusions I, II, III and IV. You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You have to decide which of the given conclusions, if any, follow from the given statements.

39. Statement :

Rain falls from cloudy sky.

Conclusions :

- I. Cloudy sky always brings rain.
 - II. Sunny sky can never bring rain.
- (a) Only conclusion I follows
 (b) Only conclusion II follows
 (c) Both conclusions I and II follow
 (d) Neither conclusion I nor II follows

40. Statements :

- 1. Some doctors are students.
- 2. All students are boys.

Conclusions:

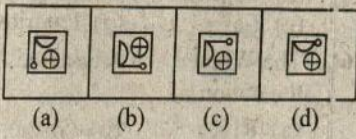
- I. All the doctors are boys.
 - II. Some boys are doctors.
 - III. Some boys are students.
 - IV. All students are doctors.
- (a) Only conclusion I follows
 (b) Only conclusions I, II and III follow
 (c) All conclusions follow
 (d) Only conclusions II and III follow

Directions (41-42) : In following questions, which answer figure will complete the pattern in the question figure ?

41. Question figure :



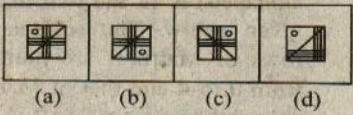
Answer figures :



42. Question figure :



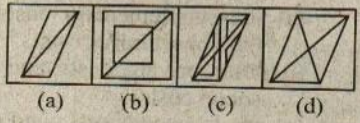
Answer figures :



43. Question figure :



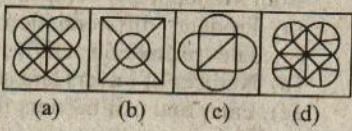
Answer figures :



44. Question figure :

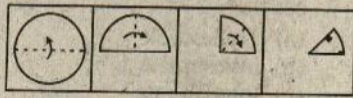


Answer figures :

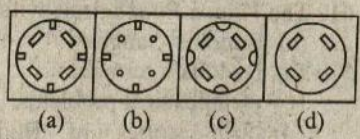


Directions (45-46) : In following questions, a piece of paper is folded and cut as shown below in the question figures. From the given answer figures, indicate how it will appear when opened.

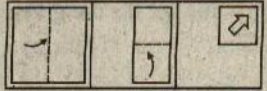
45. Question figures :



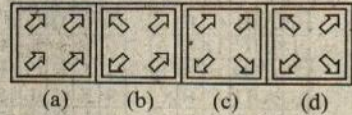
Answer figures :



46. Question figures :

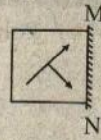


Answer figures :

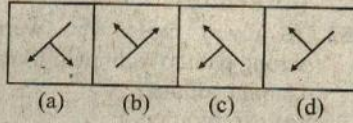


Directions (47-48) : In following questions, if a mirror is placed on the line MN, then which of the answer figures is the correct image of the given figure ?

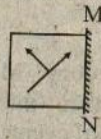
47. Question figure :



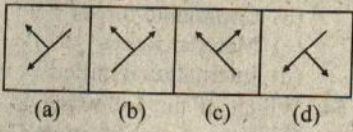
Answer figures :



48. Question figure :



Answer figures :



49. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in the 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. 'C' can be represented by 02, 11, 20, etc., and 'J' can be represented by 58,

66, 75, etc. Similarly, you have to identify the set for the given word 'BAG'.

Matrix-I

	0	1	2	3	4
0	A	B	C	D	E
1	B	C	D	E	A
2	C	D	E	A	B
3	A	D	E	B	C
4	E	A	C	D	B

Matrix-II

	5	6	7	8	9
5	G	H	I	J	K
6	I	J	K	G	H
7	J	K	G	H	I
8	K	G	J	H	I
9	J	H	I	K	G

- (a) 10, 30, 55
 (b) 86, 01, 21
 (c) 66, 77, 89
 (d) 40, 12, 34

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 the 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. 'B' can be represented by 02, 13, 31, etc.,

and 'P' can be represented by 53, 67, 75, etc. Similarly, you have to identify the set for the given word 'CARE'.

Matrix-I

	0	1	2	3	4
0	A	C	B	D	E
1	C	A	D	B	E
2	E	A	B	D	C
3	D	B	E	C	A
4	A	B	C	D	E

Matrix-II

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

- (a) 10, 00, 65, 20
 (b) 40, 41, 44, 96
 (c) 20, 30, 00, 55
 (d) 01, 21, 75, 14

PART - B : GENERAL KNOWLEDGE AND GENERAL AWARENESS

51. Who is the father of Political Science ?
 (a) Plato
 (b) Aristotle
 (c) Machiavelli
 (d) Rousseau
52. To divert those who were on wrong path to right path Mahatma Gandhi adopted :
 (a) Non-violence
 (b) Trusteeship
 (c) Radical anarchism
 (d) Satyagraha
53. On what basis does Marx's dialectical materialism interpret and analyse the social events ?
 (a) Political forces
 (b) Communal forces
 (c) Material forces
 (d) International milieu
54. Which of the following is **not** a function of the Election Commission of India ?
 (a) To prepare electoral list
 (b) To encourage candidates to seek election
 (c) To conduct election for different posts and bodies
 (d) To hear petitions against irregularities in elections
55. Who presides over the joint sittings of Parliament ?
 (a) Speaker of Lok Sabha
 (b) Vice President
 (c) President
 (d) Prime Minister
56. "Transitory" income represents :
 (a) Permanent income

- (b) Regular income
 (c) Current income
 (d) Future income
57. The total costs of production of a firm consist of :
 (a) the supplementary costs and the opportunity costs
 (b) total private costs and total social costs
 (c) total fixed costs and total variable costs
 (d) the average costs and the marginal costs
58. Which of the following factors differentiate Perfect competition from Monopolistic competition ?
 (a) Product differentiation and sales promotion activities
 (b) Number of buyers and sellers
 (c) Entry and exit barriers for the firms
 (d) Cost and revenue functions
59. Interest Rate policy is a part of :
 (a) Fiscal policy
 (b) Industrial policy
 (c) Monetary policy
 (d) None of the above
60. Deficit financing directly influences the :
 (a) Trade cycle
 (b) Investment
 (c) Interest rate
 (d) Money supply
61. The *Vinaya Pitaka* deals with :
 (a) Buddhist Sangha
 (b) Buddha's sermons
 (c) metaphysical problems
 (d) birth stories of Buddhist monks

62. The foreign traveller who visited Vijayanagar during the reign of Deva Raya II was :
 (a) Fahien
 (b) Nuniz
 (c) Nicolo Conti
 (d) Hiuen-Tsang
63. Match the following treaties with whom they were concluded by the English :
 a. Treaty of Allahabad
 b. Treaty of Fyzabad
 c. Treaty of Surat
 d. Treaty of Seringapatam
 1. Raghunatha Rao
 2. Tipu
 3. Shah Alam
 4. Asaf-ud-daulah
 (a) a-3, b-4, c-2, d-1
 (b) a-4, b-3, c-1, d-2
 (c) a-3, b-4, c-1, d-2
 (d) a-4, b-1, c-2, d-3
64. The ratio of population and the land area is defined as :
 (a) Distribution
 (b) Density
 (c) Growth
 (d) Concentration
65. The molten rock inside the Earth is called :
 (a) Pumice (b) Magma
 (c) Lava (d) Laterite
66. The Wular Lake originated due to the action of :
 (a) River (b) Glacier
 (c) Tectonism (d) Volcano

67. A proclamation imposing "President's Rule" in a State under Article 356 should be ratified by the Parliament if it is to continue beyond :
 (a) One month (b) Two months (c) Six months (d) One year
68. The Tenth Schedule of the Constitution of India incorporates :
 (a) National languages of India (b) Administration of Scheduled and Tribal areas (c) Allocation of seats in the Council of States (d) Anti-defection law
69. For which one of the following taxes, was Constitutional provision made much later after its initial introduction in a small way in 1994 - 95 ?
 (a) Corporation Tax (b) Taxes on Services (c) Income Tax (d) Customs Duty
70. Who propounded the "advaita" philosophy ?
 (a) Ramanuja (b) Sankaracharya (c) Vallabhacharya (d) Madhavacharya
71. Which Mughal Emperor's Court did Sir Thomas Roe visit ?
 (a) Humayun (b) Jahangir (c) Shah Jahan (d) Akbar
72. Interferons are :
 (a) Anti-viral agents (b) Anti-bacterial agents (c) Anti-fungal agents (d) Anti-helminthic agents
73. Zoonosis is a disease, which is naturally transmitted from :
 (a) Animal to animal (b) Animal to humans (c) Humans to animal (d) Primary host to secondary host
74. In the human body, which one of the following organs is responsible for maintaining water balance ?
 (a) Heart (b) Liver (c) Kidney (d) Lungs
75. Electrons in the atom are held in the atom due to :
 (a) Nuclear forces (b) Coulomb's forces (c) Vander Waal's forces (d) Gravitational forces
76. What is the main reason for the shining of diamond ?
 (a) Refraction (b) Total internal reflection (c) Reflection (d) Interference
77. Which one of the following natural regions is known as the "Bread Basket" of the world ?
 (a) Steppe region (b) Mediterranean region (c) Monsoon region (d) Equatorial region
78. During 2012-13, which one of the following has emerged as India's top farm export commodity ?
 (a) Cardamom (b) Guar gum (c) Basmati rice (d) Raw cotton
79. The plant hormone that regulates phototropism is :
 (a) Auxins (b) Gibberellins (c) Cytokinins (d) Abscisic acid
80. Sea turtle lays its eggs :
 (a) in sea (b) in estuarine water (c) in fresh water pockets on the shore (d) on land
81. Which antibody is the mediator of allergic response ?
 (a) IgG (b) IgE (c) IgA (d) IgM
82. Natural rubber is a polymer of :
 (a) Ethylene (b) Neoprene (c) Isobutane (d) Isoprene
83. Benzene exhibits :
 (a) Mesomerism (b) Tautomerism (c) Electromerism (d) Nuclear isomerism
84. Caffeine is :
 (a) 1:2:5- trihydroxy-xanthine (b) 2:6- dihydroxy-purine (c) 1:3:7- trimethyl-xanthine (d) 2:4- dihydroxy-xanthine
85. Which one of the following is **not** a site for **in situ** method of conservation of flora ?
 (a) Biosphere Reserve (b) Botanical Garden (c) National Park (d) Wild-life Sanctuary
86. Which one of the following statements about Compressed Natural Gas (CNG) is **not** correct ?
 (a) CNG is obtained during the refining of crude oil. (b) CNG is environmentally much cleaner than the other fossil fuels. (c) CNG comprises primarily methane. (d) Unlike LPG, it is not liquified.
87. Oil-film on water shows colour due to :
 (a) Dispersion (b) Interference (c) Diffraction (d) Polarization
88. MCB's which are used in place of main fuses in household wiring circuits are known as :
 (a) Microwave circuit breakers (b) Miniature circuit breakers (c) Micro circuit breakers (d) Magnetic circuit breakers
89. Symbol used in flow chart for repetition of a loop is :
 (a) Rectangle (b) Parallelogram (c) Circle (d) Hexagon
90. Magnetic tape can serve as :
 (a). Input media (b) Output media (c) Secondary storage media (d) All of the above
91. Tetraethyl lead is :
 (a) a solvent (b) a petroleum additive (c) an oxidising agent (d) a fire-extinguisher
92. Which was the venue for the 100th Science Congress held in the first week of January 2013 ?
 (a) Bengaluru (b) Chennai (c) Jaipur (d) Kolkata

93. Who held the office of the Prime Minister of Britain continuously for the longest duration in the 20th century ?
 (a) Winston Churchill
 (b) Clement Attlee
 (c) Harold Wilson
 (d) Margaret Thatcher
94. Who is the first recipient of the Annual Tagore Award for Cultural Harmony ?
 (a) Pandit Ravi Shankar
 (b) Pandit Bhimsen Joshi
 (c) Ela Bhatt
 (d) Nirbhaya
95. The first book of non-fiction written by Chetan Bhagat is :
 (a) Five Point Someone

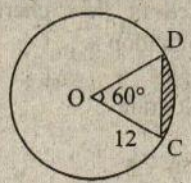
- (b) The 3 Mistakes of My Life
 (c) What Young India Wants
 (d) Julia Gillard
 (c) Angela Merkel
 (d) None of the above
97. Use of microbes to clean up the pollutants is termed as :
 (a) Tyndallisation
 (b) Bioprocessing
 (c) Bioremediation
 (d) Bioprospecting
98. Who is the Chairman of the 14th Finance Commission ?
 (a) Montek Singh Ahluwalia
 (b) D. Subba Rao
 (c) Y. Venugopal Reddy
 (d) Govinda Rao

99. Which one of the following specialised agencies of U.N. is **not** in Geneva ?
 (a) International Labour Organisation
 (b) World Meteorological Organisation
 (c) World Trade Organisation
 (d) International Civil Aviation Organisation
100. Which one of the following teams won the inaugural Hockey India League (HIL) in February 2013 ?
 (a) Delhi Wave Riders
 (b) Ranchi Rhinos
 (c) Uttar Pradesh Wizards
 (d) Jaypee Punjab Warriors

PART - C : QUANTITATIVE APTITUDE

101. 3 men and 8 women together can do a certain work in 12 days, while 2 men and 7 women can do it in 16 days. 8 men and 8 women working together will complete this work in :
 (a) 4 days (b) 5 days
 (c) 6 days (d) 8 days

102. The following figure is of a circle with centre O and radius 12 units. The area of the shaded region, in square units, is :



- (a) $24\pi - 36\sqrt{3}$
 (b) $24\pi + 36\sqrt{3}$
 (c) $144\pi - 36\sqrt{3}$
 (d) $144\pi + 36\sqrt{3}$
103. Solid spheres of diameter 3 cm are dropped into a cylindrical vessel and are fully submerged. The diameter of the base of the cylindrical vessel is 9 cm. The number of spheres dropped if the water-level in the vessel rises by 10 cm is :
 (a) 35 (b) 40
 (c) 42 (d) 45

104. Ratio of the radii of the bases of two right circular cones is 3 : 4 and that of their heights is 4 : 3. Then the ratio of their respective volumes is :
 (a) 1 : 1 (b) 3 : 2
 (c) 2 : 3 (d) 3 : 4

105. If $x = \sqrt[3]{3}$, $y = \sqrt[4]{4}$ and $z = \sqrt[6]{6}$, then :
 (a) $x < y$ (b) $y < z$
 (c) $z < x$ (d) $x = y = z$

106. When a positive whole number is divided by 56, the remainder obtained is 29. If the number is divided by 8, the remainder will be :
 (a) 6 (b) 7
 (c) 4 (d) 5

107. Two non-zero numbers are such that their difference, their sum and their product are in the ratio of 1 : 5 : 36. The sum of the numbers is :
 (a) 40 (b) 45
 (c) 50 (d) 30

108. The value of $\sqrt{0.0001} + \sqrt{0.00000064}$ is :
 (a) 0.9 (b) 0.003
 (c) 0.03 (d) 0.3

109. The value of $1 + \frac{2}{2 + \frac{3}{3 - \frac{5}{4}}}$ is :

- (a) $\frac{4}{7}$ (b) $\frac{7}{4}$
 (c) $\frac{20}{13}$ (d) $\frac{40}{13}$

110. Ramesh is thrice as good a workman as Bipan and is therefore able to finish a piece of work in 40 days less than Bipan. Find the time in which they can do it working together.
 (a) 10 days (b) 15 days
 (c) 20 days (d) 25 days

111. A and B are two alloys of gold and copper prepared by mixing them in the ratio 7 : 2 and 7 : 11 respectively. If equal quantities of the two alloys are melted to form a new alloy C, the ratio of gold and copper in C is :
 (a) 5 : 6 (b) 6 : 5
 (c) 5 : 7 (d) 7 : 5

112. The surface of a sphere is coloured in black and white in the ratio of 2 : 3 by area. If the ratio of black and white in one hemisphere be 1 : 4, then the ratio of black and white in the other hemisphere is :
 (a) 3 : 2 (b) 5 : 3
 (c) 3 : 4 (d) 4 : 3

113. Six men A, B, C, D, E, F agree with a seventh man G to provide a

sum of money among them. A, B, C, D, E, F are to subscribe ₹ 100 each and G is to pay ₹ 30/- more than the average of the seven. The whole sum (in ₹) to be provided is :

- (a) 730 (b) 700
(c) 735 (d) 695

114. A train travels from place A to place B at an average speed of 80 km/hour and returns at a speed of 70 km/hour. Average speed of the whole journey (in km/hour) is :

- (a) 75 (c) $74\frac{2}{3}$
(b) $74\frac{1}{3}$ (d) $75\frac{2}{3}$

115. A man makes a profit of 20% on selling an article even after deducting his trading expenses of 40% on the selling price. The percentage by which the selling price exceeds the cost price is :

- (a) 40 (b) 60
(c) 80 (d) 100

116. The length and breadth of a rectangle are in the ratio 5 : 3. If each of the sides of the rectangle is extended by 4 cm, the ratio of the length and breadth becomes 8 : 5. The change in area of the rectangle, in cm^2 , is :

- (a) 640 (b) 540
(c) 400 (d) 300

117. If the radii and the heights of a hemisphere, a circular cylinder and a cone be all equal, the ratio of their volumes is :

- (a) 3 : 1 : 2 (b) 3 : 2 : 1
(c) 1 : 2 : 3 (d) 2 : 3 : 1

118. Each side of a square is 3 cm. The area of an equilateral triangle whose height is equal to the diagonal of the given square is :

- (a) $\frac{2\sqrt{3}}{3}$ sq cm (b) $\frac{3\sqrt{2}}{5}$ sq cm
(c) $\frac{3\sqrt{2}}{2}$ sq cm (d) $6\sqrt{3}$ sq cm

119. The surface area of a solid metallic sphere is 1256 sq cm. If it is melted and recasted into solid right-circular cones of radius 2.5 cm and height 8 cm, then the

number of cones recasted is (Take $\pi = 3.14$) :

- (a) 60 (b) 70
(c) 80 (d) 90

120. When a producer allows 36% commission on the retail price of his product, he earns a profit of 8.8%. What would be his profit percent if the commission is reduced by 24% ?

- (a) 49 (b) 49.6
(c) 50 (d) 20

121. Successive discounts of 20%, 25% and 10% on, an article is equal to a discount of :

- (a) 40% (b) 46%
(c) 55% (d) 60%

122. The area (in square units) bounded by the straight line representing $3x + 5y = 12$ with the co-ordinate axes is :

- (a) 3.8 (b) 5.8
(c) 4.8 (d) 6.8

123. Simplified form of

$$\frac{(x^2 - y^2)^3 + (y^2 - z^2)^3 + (z^2 - x^2)^3}{(x - y)^3 + (y - z)^3 + (z - x)^3}$$

is :

- (a) $(x - y)(y - z)(z - x)$
(b) $(x + y)(y - z)(z + x)$
(c) $(x - y)(y + z)(z + x)$
(d) $(x + y)(y + z)(z + x)$

124. One of the factors of

$$(25x^2 - 1) + (1 + 5x)^2$$

- is :
(a) $5 + x$ (b) $5 - x$
(c) $5x - 1$ (d) $10x$

125. If $x = \frac{\sqrt{3}}{2}$, then the value of

$$\frac{\sqrt{1+x} - \sqrt{1-x}}{\sqrt{1+x} + \sqrt{1-x}}$$

is :

- (a) $\frac{1}{\sqrt{3}}$ (b) $\sqrt{3}$
(c) $\frac{2}{\sqrt{3}}$ (d) $\frac{\sqrt{3}}{2}$

126. ABCD is a cyclic trapezium and $AB \parallel CD$. If AB be the diameter of the circle and $\angle CAB = 30^\circ$, then $\angle ADC$ is :

- (a) 60° (b) 80°
(c) 100° (d) 120°

127. The circumcentre of the triangle ABC is O. If $\angle BAC = 75^\circ$, \angle

$\angle BCA = 65^\circ$, the measure of \angle

OAC is :

- (a) 40° (b) 50°
(c) 80° (d) 100°

128. The selling price of 12 pens is equal to the cost price of 20 pens. Then the profit percentage is :

- (a) 40 (b) $66\frac{2}{3}$
(c) 55 (d) $55\frac{2}{3}$

129. Due to a 40% increase in the price of books I was able to get eight books less for ₹ 84/- than I had before. Find the original price of each book.

- (a) ₹ 2/- (b) ₹ 3/-
(c) ₹ 4/- (d) ₹ 5/-

130. 30% of the sum of two numbers is equal to 40% of their difference. The ratio of the greater one to the smaller one is :

- (a) 4 : 3 (b) 5 : 2
(c) 7 : 1 (d) 7 : 2

131. A train of length 160 metres crosses platform of length 320 metres in 36 seconds, then the speed of the train, in km/hour, is :

- (a) 40 (b) 45
(c) 60 (d) 48

132. If ₹ 26,000/- is divided into three parts in such a way that the simple interest for 2 years calculated at 4% rate on the first part, at 6% rate on the 2nd part and at 8% rate on the third part are equal to each other, then the first part is equal to :

- (a) ₹ 7,000/-
(b) ₹ 7,500/-
(c) ₹ 10,000/-
(d) ₹ 12,000/-

133. If $b = \frac{1}{a}$ and $a + b = \sqrt{3}$, then the value of $a^3 + b^3 + 2$ will be :

- (a) 2 (b) 1
(c) 5 (d) 3

134. The value of $\sin^2 21^\circ + \sin^2 37^\circ + \sin^2 53^\circ + \sin^2 69^\circ$ is :

- (a) 0 (b) 1
(c) 2 (d) 3

135. Two persons are on opposite sides of a tower. They measure the angle of elevation of the top of the tower as 45° and 30° respectively.

If the height of the tower is 60 m, the distance (in m) between the two men is :

- (a) $60(\sqrt{3}+1)$ (b) $60(\sqrt{3}+2)$
 (c) $60(3+\sqrt{3})$ (d) $60(2\sqrt{3}+1)$

136. In a triangle ABC, $AB = AC$, D is a point on BC. If $\angle ADB = 100^\circ$ and $\angle CAD = 30^\circ$, then the measure of $\angle BAD$ is :

- (a) 10° (b) 30°
 (c) 40° (d) 50°

137. In a triangle PQR, $\angle P = 30^\circ$, $\angle R = 40^\circ$. The sides of the triangle in ascending order of magnitude are :

- (a) $PQ < QR < PR$ (b) $QR < PR < PQ$
 (c) $QR < PQ < PR$ (d) $PQ < PR < QR$

138. In ΔABC , D and E are points on sides AB and AC respectively, such that $DE \parallel BC$ and $AD : DB = 3 : 1$. If $EA = 3.3$ cm, AC is :

- (a) 1.1 cm (b) 4 cm
 (c) 4.4 cm (d) 5.5 cm

139. If $0 < \alpha < 90^\circ$ and $\sec \alpha - \tan \alpha = \frac{3}{5}$, then the value of $\tan \alpha$ is :

- (a) $\frac{8}{15}$ (b) $\frac{5}{3}$
 (c) $\frac{3}{2}$ (d) $\frac{1}{2}$

140. If $\cos^4 \theta - \sin^4 \theta = \frac{2}{3}$, then the value of $1 - 2\sin^2 \theta$ is :

- (a) $\frac{1}{2}$ (b) $\frac{2}{3}$
 (c) $\frac{1}{\sqrt{2}}$ (d) 2

141. The minimum value of $2\sin^2 \theta + 3\cos^2 \theta$ is :

- (a) 1 (b) 2
 (c) 3 (d) 4

Directions (142-145) : Read the following table and answer the questions.

School	Number of students scoring marks above 60%	Percentage of students scoring marks $\leq 60\%$
A	600	60
B	585	50
C	720	60
D	330	75
E	750	40

142. The average number of students scoring marks less than or equal to 60% is :

- (a) 811 (b) 813
 (c) 831 (d) 833

143. In which school is the number of students the largest?

- (a) A (b) C
 (c) D (d) E

144. The total number of students of school A is more than the total number of students of school E by :

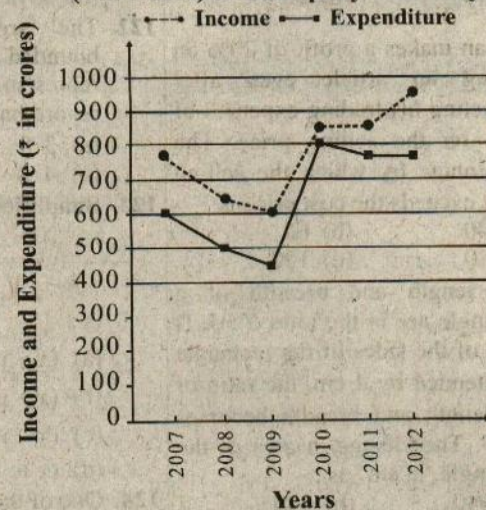
- (a) 16.67% (b) 18%
 (c) 19.3% (d) 20%

145. The ratio of the number of students of schools A and B together scoring marks less than or equal to 60% to the number of students of schools D and E combined scoring marks greater than 60% is :

- (a) 8 : 11 (b) 11 : 8
 (c) 9 : 7 (d) 13 : 9

Directions (146-150) : Read the following graph and answer the questions.

The graph shows income and expenditure (₹ in crores) of a company over the years.



146. In which two years was the income the same ?

- (a) 2007 and 2008 (b) 2008 and 2009
 (c) 2009 and 2010 (d) 2010 and 2011

147. Ratio of total income to total expenditure over the years was :

- (a) 13 : 11 (b) 73 : 75
 (c) 73 : 65 (d) 93 : 77

148. In how many of the given years was the expenditure more than the average expenditure of the given years ?

- (a) 1 (b) 2
 (c) 3 (d) 4

149. The percentage decrease in expenditure from 2008 to 2009 was :

- (a) 10 (b) 11
 (c) 12.5 (d) 16.7

150. The total expenditure of which of the following pairs of years was equal to the income in 2012 ?

- (a) 2007-2008 (b) 2008-2009
 (c) 2009-2010 (d) 2011-2012

Directions (151-155) : In following questions, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and mark corresponding to the appropriate letter (a, b, c). If a sentence is free from error, mark corresponding to (d) in the Answer Sheet.

151. The MD/(a) together with heads of departments/(b) are preparing a new budget/(c). No error (d)
152. You should not only submit/(a) your application but also/(b) your certificates today/(c). No error/(d)
153. This is one of/(a) the most thrilling movies/(b) that have been released recently/(c). No error/(d)
154. Yesterday, I saw a movie/(a) that my friends had seen/(b) the week before/(c). No error/(d)
155. Can I/(a) do this/(b) for you please ?/(c) No error/(d)

Directions (156-160) : In following questions, 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 in the Answer Sheet.

156. We should not spend money uselessly.....luxuries.
(a) for (b) about
(c) with (d) on
157. The two sisters argued with each other over a
(a) time (b) respect
(c) duty (d) trifle
158. After having sought my help.....
(a) my friend left me all alone
(b) I was left all alone by my friend
(c) I was alone
(d) I asked her to leave me alone
159. It was a collision, but the drivers weren't hurt.
(a) top to bottom
(b) head over shoulders
(c) face-to-face
(d) head-on
160. At the time of such crisis, it is important that we and fight our way out.

- (a) hold together
(b) get off
(c) hold back
(d) get away

Directions (161-165) : In following questions, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

161. Zest
(a) nest (b) jest
(c) zeal (d) deal
162. Incite
(a) culminate (b) excavate
(c) denigrate (d) instigate
163. Writhe
(a) squirm (b) garland
(c) wrap (d) move
164. Hegemony
(a) domination (b) extermination
(c) protection (d) patrimony
165. Terrestrial
(a) celestial (b) practical
(c) moral (d) earthly

Directions (166-170) : In following questions, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

166. Ostensible
(a) spiritual (b) actual
(c) partial (d) natural
167. Hazardous
(a) safe (b) dangerous
(c) fast (d) obstructive
168. Obdurate
(a) pliant (b) angry
(c) indifferent (d) calm
169. Charismatic
(a) uninspiring (b) pleasant
(c) dogmatic (d) versatile
170. Fabricated
(a) automatic (b) fantastic
(c) authentic (d) strategic

Directions (171-175) : In following questions, four alternatives are given for the Idiom /Phrase bold in the sentence. Choose the alternative which best expresses the meaning of the Idiom /Phrase and mark it in the Answer Sheet.

171. He pulled all the stops out to clinch the title.
(a) tried whole-heartedly
(b) tried half-heartedly
(c) tried intelligently
(d) tried honestly
172. Whenever I meet a new client I try to break the ice.
(a) to go for a drink and food
(b) to make the atmosphere comfortable
(c) to avoid looking into the eyes
(d) to gain confidence by talking
173. The moment he was asked the question, he developed cold feet.
(a) became nervous
(b) became indignant
(c) became inquisitive
(d) became jovial
174. For all his efforts, his day's performance turned out to be a damp squib.
(a) hugely successful
(b) moderately impressive
(c) totally unimpressive
(d) very meaningful
175. He came hot on the heels of his brother.
(a) ahead of
(b) far behind
(c) closely following
(d) fastened to the heels
- Directions (176-180) :** In following questions, a part of the sentence is bold. Below are given alternatives to the bold part at (a), (b) and (c) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (d).
176. You've been late for a week, you had better mended your ways.
(a) mending
(b) mend
(c) be mending
(d) No improvement
177. When the child was growing up into a little boy, he was relegated to the care of servants.
(a) grew up into a little boy
(b) was grown up into a little boy
(c) grew into a little boy
(d) No improvement

178. What follows is suggestions

given under several heads.

- (a) are suggestions
- (b) is a list of suggestions
- (c) is lot of suggestions
- (d) No improvement

179. The old gentleman **turned up** to be a good friend of my grandfather.

- (a) turned out
- (b) turned over
- (c) turned in
- (d) No improvement

180. As the case is **incourt** let us not discuss it.

- (a) under the judge
- (b) subjudice
- (c) subject to judgement
- (d) No improvement

Directions (181-185) : In following questions, out of the four alternatives, choose the one which can be substituted for the given words/sentence.

181. To segregate persons with an infectious disease.

- (a) Quarantine (b) Isolate
- (c) Demarcate (d) Separate

182. One who loves his fellow men :

- (a) Misanthropist
- (b) Philanthropist
- (c) Geologist
- (d) Anthropologist

183. That which cannot be conquered :

- (a) Invulnerable (b) Invincible
- (c) Impregnable (d) Impenetrable

184. Fond of company :

- (a) Social (b) Socialist
- (c) Sociable (d) Socialite

185. The absence of Government in a country :

- (a) Anarchy (b) Dictatorship
- (c) Democracy (d) Theocracy

Directions (186-190) : In following questions, groups of four words are given. In each group, one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

186. (a) Septagenarian

- (b) Septeugenerian
- (c) Septuagenarian
- (d) Septuagencrian

187. (a) Mediterranean

- (b) Mediterranean
- (c) Mediteranean
- (d) Medeterranean

188. (a) Subtelty

- (b) Suttltly
- (c) Subtlety
- (d) Subltly

189. (a) Annihilate (b) Annihilate

- (c) Anihilate (d) Anihelate

190. (a) Encyclopaedia

- (b) Encyclopedea
- (c) Ensycolpidia
- (d) Ensyklopedia

Directions (191-200) : In following questions, you have two passages with 5 questions each. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it in the Answer Sheet.

PASSAGE-I

Like the vice of complaining discussed earlier, it is easy to fall into the habit of condemning others, even those we love most. We criticise the way someone acts or the manner in which she speaks. We focus on the most minute details and find fault with the smallest of issues. But what we focus on grows. And if we keep focusing on a small weakness in someone, it will continue to grow in our minds until we perceive it to be a big problem in that person.

Would you really want to live in a world where everyone looked, acted and thought exactly as you do? It would be a pretty boring place. To live a happier, more peaceful life, begin to see that the richness of our society comes from its diversity. What makes relationships, communities and countries great are not the things that we have in common but the differences that make us unique. Rather than looking for things to criticise in those around you, why not begin to respect the differences?

Often, we perceive in others the weaknesses we most need to address within ourselves. Stop blaming and condemning. Accept complete responsibility for the way things are and resolve to work on changing yourself before seeking to change others. This is one of the truest measures of a person of strong character. As Erica Jong said, "Take your life into your own

hands and what happens is a terrible thing : no one to blame."

191. How should we alter our perspective ?

- (a) We should try to help people solve their problems and not shun the less fortunate.
- (b) We should not look for things to criticise in others, rather we should respect differences.
- (c) We should wish very well for others, from whom we are most different.
- (d) That the event of falling in love includes overlooking the weaknesses in people.

192. What are the consequences of focusing on finding faults with people ?

- (a) That our minds become narrow and we grow pessimistic, not being able to see the good qualities of others.
- (b) That we become too complaining and it becomes too difficult, almost impossible, for people to interact with us.
- (c) If we continuously find fault, small defects begin to loom very large.
- (d) That differences are created between people and consequently, relationships are embittered.

193. What should one do, to achieve a better and a more satisfying life ?

- (a) Realise that the strength of our society comes from diversity.
- (b) Understand that all are one and we are not different from each other.
- (c) Understand that this world is ours and we have to be accountable for our actions.
- (d) Put an end to our expectations and live in harmony with others.

194. What proves that a person has a strong character ?

- (a) That a person, before wanting to effect a change in others, seeks to correct his own weaknesses.
- (b) That he does not fall weak when he needs to take a strong decision.

- (c) That when a person notices a weakness in another person, he does not start disliking him.
- (d) That the person is able to look beyond all differences and turn foes into friends.

195. What is the unique nature of most of our observations about others' weaknesses ?

- (a) That with our strengths are combined our weaknesses which others loath.
- (b) That people keep growing weaker daily with too many failures.
- (c) We see as flaws in others what are really weaknesses in ourselves.
- (d) That we can strengthen people and turn their weaknesses into strengths for us, whenever we need.

PASSAGE-II

The greatest enemy of mankind as people have discovered is not science but war. Science merely reflects the prevailing social forces. It is found that, when there is peace, science is constructive; when there is war it appears to be destructive. The weapons science gives us do not necessarily cause war; they make war increasingly terrible. Till now, it has brought us to the door-step of doom. Our main problem, therefore, is not to curb science but to stop war — to substitute law for force, and international government for

anarchy in the relations of one nation with another. That is a job in which everybody must participate, including the scientists. But the bombing on Hiroshima suddenly woke us up to the fact that we have very little time. The hour is late and our work has scarcely begun. Now we are face-to-face with an urgent question—"Can education and tolerance, understanding and creative intelligence run fast enough to keep us abreast with our own mounting capacity to destroy ?" That is the question which we shall have to answer one way or the other in this generation. Science must help us in arriving at the answer, but the main decision lies within ourselves.

196. According to the writer, the main problem we are faced with is to :

- (a) Stop science from reflecting social forces.
- (b) Stop scientific activities everywhere.
- (c) Abolish war.
- (d) Prevent scientists from participating in destructive activities.

197. Our mounting capacity to destroy can be kept under control by :

- (a) Encouraging social forces.
- (b) Education and broad-mindedness.
- (c) Insight and constructive thinking.
- (d) Both (b) and (c)

198. Which one of the following statements is 'not implied' in the passage ?

- (a) People needlessly blame science for war.
- (b) Science is misused for destructive purposes.
- (c) Neither science nor the weapons it invents add to the horrors of war.
- (d) The role of science in ensuring world peace is subsidiary to that of man.

199. According to the writer, the real enemy of mankind is not science but war, because :

- (a) Science merely invents the weapons with which war is fought.
- (b) Science during wars becomes destructive.
- (c) The weapons that science invents necessarily lead to war.
- (d) The weapons invented by science do not cause war, though these make it more destructive.

200. War can be stopped if :

- (a) Science is not allowed to lead us to utter destruction.
- (b) We replace force and lawlessness by law and international government.
- (c) Science is restricted to be utilised only during war-time.
- (d) Weapons invented by science are not used to launch a war.