

PART - A : GENERAL INTELLIGENCE & REASONING

Directions : In questions no. 1 to 3, select the related letters/word/number from the given alternatives.

1. Wine : Grape :: Whiskey : ?
 (A) Oats (B) Apple
 (C) Orange (D) Potato
2. 600 : 2000 :: ? : 9000
 (A) 5400 (B) 5600
 (C) 3000 (D) 3600
3. XZG : CAT :: DOG : ?
 (A) OWT (B) WLT
 (C) TIW (D) GAD

Directions : In questions no. 4 and 5, which one set of letters when sequentially placed at the gaps in the given letter series shall complete it ?

4. _aabab_ab_ab_bba
 (A) abaa (B) abba
 (C) bbua (D) baaa
5. aa_bua_aaa_ba_ba
 (A) abaa (B) babb
 (C) abba (D) abab

Directions : In questions no. 6 to 9, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

6. deb, ijg, nol, ?, xvy
 (A) rsq (B) stp
 (C) stq (D) rsp
7. C2E, E5H, G12K, I27N, ?
 (A) K58Q (B) I57Q
 (C) I58P (D) J58Q
8. BEH, DGJ, NQT, ?
 (A) JMP (B) RMO
 (C) TKL (D) GHD
9. ZA₅, Y₄B, XC₆, W₃D, ?
 (A) V₂E (B) VE₅
 (C) VE₇ (D) E₇V

Directions : In questions no. 10 to 14, find the odd word/number pair from the given alternatives.

10. (A) Gouggle (B) Firefox
 (C) Internet Explorer (D) Chrome
11. (A) Ally (B) Antagonist
 (C) Opponent (D) Adversary
12. (A) Rhombus (B) Diagonal
 (C) Pentagon (D) Circle
13. (A) 234, 342 (B) 354, 543
 (C) 543, 453 (D) 243, 432
14. (A) Mudumalai (B) Thekkady
 (C) Vedanthangal (D) Bandipur
15. Find the correct set of numbers from the given alternatives.
 (4, 3, 2), (16, 9, 4), (256, 81, 16),
 (65536, ?, ?)
 (A) 1486, 97 (B) 190, 20
 (C) 6651, 286 (D) 6561, 256

Directions : In questions no. 16 to 21, select the missing number from the given responses.

16. 6, 14, 30, ?
 (A) 27 (B) 33
 (C) 54 (D) 29
17.

4	5	10
36 2	49 2	? 2

 (A) 100 (B) 64
 (C) 144 (D) 55
18.

16	32	48	64
17	34	51	68
18	36	54	?

 (A) 74 (B) 76
 (C) 77 (D) 72
19. 2311, 4529, ?, 8989
 (A) 5662 (B) 6755
 (C) 7243 (D) 6353
20. 21, 30, 38, ?, 51, 56, 60
 (A) 55 (B) 45
 (C) 80 (D) 35

21.	5	1	25
	6	2	18
	10	4	25
	3	3	?

- (A) 3 (B) 4
(C) 10 (D) 9

22. Naseebah runs for 10 km in the eastern direction. She then turns left and starts walking for 6 km. Again, she turns left and starts running for 6 km. Then she turns left and walks again for 6 km. How far is she from the starting point?

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

23. In the following problem,

- = stands for \div
+ stands for $-$
 \times stands for $=$
 $-$ stands for $>$
 $>$ stands for $+$
 $<$ stands for \times
 \div stands for $<$

When these new symbols are substituted, only one will be wrong. Identify the *wrong* one.

- (A) $4 < 2 > 5 + 8 \times 5$
(B) $4 > 2 < 5 + 8 - 5$
(C) $4 < 2 + 5 + 8 \times 5$
(D) $4 = 2 + 5 > 8 \times 5$

24. Six girls are standing in such a way that they form a circle, facing the centre. Subbu is to the left of Pappu, Revathi is between Subbu and Nisha, Aruna is between Pappu and Keerthana. Who is to the left of Pappu?

- (A) Nisha (B) Aruna
(C) Subbu (D) Keerthana

Directions : In questions no. 25 to 27, from the given alternatives select the word which *cannot* be formed using the letters of the given word.

25. INTERNATIONAL

- (A) LATTER (B) TERMINAL
(C) ORIENTAL (D) RATIONALE

26. DEPRECIATE

- (A) CREDIT (B) PRIDE
(C) PEACE (D) REPRIEVE

27. TENDENTIOUS

- (A) TENT (B) STUDENT
(C) INTENTION (D) DENTIST

28. You have to follow the symbolic interpretation to solve the question.

- $+$ = Greater than \times = Equal to
 $-$ = Not less than L = Not equal to
 $|$ = Less than
 ϕ = Not greater than

Then if $A - B \phi C$, which of the following is implied?

- (A) $A + B - C$ (B) $A \phi B | C$
(C) $A | B + C$ (D) $A | B | C$

29. If Λ stands for $+$, Q stands for $-$, V stands for \times , R stands for \div , then what is the value of the given equation?

$$225 R 5 A 64 Q 13 V 6 = ?$$

- (A) 476 (B) 576
(C) 376 (D) 15

30. If each of the letters in the English alphabet is assigned an even numerical value beginning $A = 2$, $B = 4$ and so on, what will be the total value of the letters for the word INDIA?

- (A) 74 (B) 94
(C) 72 (D) 86

31. If 'STYLE' is written as PQVIB, how can 'SMELL' be written in that code?

- (A) PVHII (B) PJHII
(C) PJBII (D) PVBII

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

$$8 * 6 * 96 * 2 = 0$$

- (A) $- \times \div$ (B) $\div - \times$
(C) $\times \div -$ (D) $\times - \div$

33. If P denotes \div , Q denotes \times , R denotes $+$ and S denotes $-$, then $12 Q 15 P 3 R 4 S 6 = ?$

- (A) 58 (B) 68
(C) 70 (D) 57

34. A boy was misdirected from his way while returning to his home from his school. In order to reach his home, he first moved 3 km in south direction and then turned to his left and moved 2 km in straight direction on the road leading to the east. From there, he moved to his left and walked 3 km. After this, he again turned to his left and moved 1 km. Finally he reached his home. The home of the boy was in which direction from his school ?

- (A) North (B) East
(C) South (D) West

35. Ram walks 10 m South from his house, turns left and walks 25 m, again turns left and walks 40 m, then turns right and walks 5 m to reach the school. In which direction is the school from his house ?

- (A) North-East (B) East
(C) North (D) South-West

36. If SENT is written as '+ ^ x -' and ANT is written as '+ x -', then how is TEN written in that code ?

- (A) * - x (B) - x ^
(C) x + - (D) - ^ x

Directions : In questions no. 37 and 38, a statement is given followed by two conclusions/assumptions. You have to consider the statement to be true even if it seems to be at variance from commonly known facts. You have to decide which of the given conclusions/assumptions, if any, follow from the given statement.

37. **Statement :**

If people are intelligent they should be creative.

Assumptions :

- I. Creativity and intelligence are related.
II. Creative people are intelligent.

- (A) Only assumption II is valid
(B) Both assumptions I and II are valid
(C) Both assumptions I and II are invalid
(D) Only assumption I is valid

38. **Statement :**

A friend in need is a friend indeed.

Conclusions :

- I. All are friends in good times.
II. Enemies in bad times are not friends.

- (A) Only conclusion II follows
(B) Both conclusions I and II follow
(C) Neither conclusion I nor II follows
(D) Only conclusion I follows

39. Which of the four cubes given in the answer figure can be created by folding the design in question figure ?

Question figure :



Answer figures :



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

40. The figure below is a drawing of a pile of blocks. When taken apart, how many blocks would be there ?

Question figure :



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

41. In the given figure, the triangle represents people who visited Mysore, the circle represents people who visited Ooty, the square represents people who visited Munnar. The portion which represents people who visited both Mysore and Ooty is



- (A) B (B) C
(C) D (D) G
42. Which one of the following diagrams represents the correct relationship among Poison, Bio-products and Food?



43. In the following diagram, the triangle represents Mothers, circle represents Teachers and the rectangle stands for Women. Which letter (out of A, B, C and D) represents women who are mothers as also teachers?



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

44. Which of the answer figures is not made up of only the components of the key figure (question figure)?

Question figure :



Answer figures :



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

Directions : In questions no. 45 and 46, which answer figure will complete the pattern in the question figure?

45. Question figure :



Answer figures :



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

46. Question figure :



Answer figures :



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

47. A word is represented by only one set of numbers as given in any one of the alternatives. The sets of numbers given in the alternatives are represented by two classes of alphabets as in the matrix given below. The columns and rows of matrix are numbered from 1 to 6. A letter from the matrix can be represented first by its row and next by its column, e.g., 'A' can be represented by 42, 46, 62, etc. and 'P' can be represented by 15, 43, etc. Similarly, you have to identify the set for the word 'SNOW'.

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

- (A) 16, 56, 46, 35
- (B) 21, 23, 54, 52
- (C) 21, 14, 22, 56
- (D) 21, 56, 62, 44

48. From the answer figures, find out the figure which is the exact mirror image of the question figure, when the mirror is placed on the line 'MN'.

Question figure :



Answer figures :



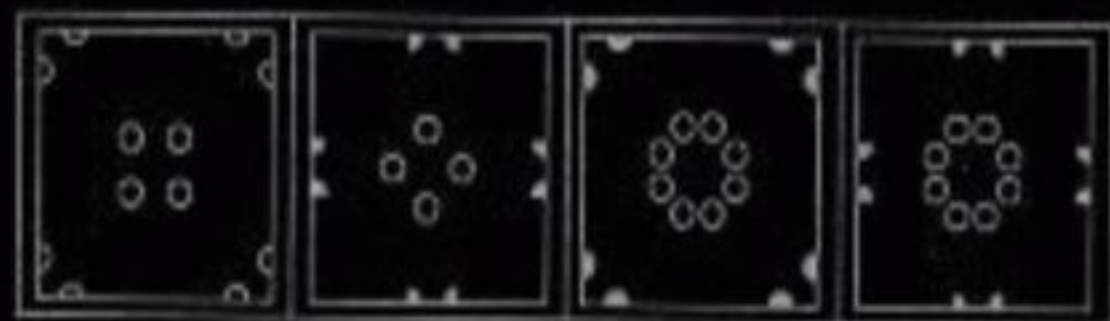
- (A)
- (B)
- (C)
- (D)

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

Question figures :



Answer figures :



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

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

Question figure :



Answer figures :



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

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39. From the given alternatives, select the word which *cannot* be formed using the letters given in the words.

CHIEF MINISTER

- (A) THIEF (B) SISTER
(C) FISH (D) NEST

Directions : In questions no. 40 and 41, find the missing number in the series.

40. 1234 (36) 5678
2345 (?) 6789

- (A) 44 (B) 41
(C) 40 (D) 33

41. 1, 5, 14, 30, 55, ?

- (A) 90 (B) 91
(C) 95 (D) 93

42. A series is given with one term missing. Choose the correct alternative from the given ones that will complete the series.

23, 51, 108, 225, , 936

- (A) 327 (B) 628
(C) 459 (D) 531

43. Find the odd one from the given alternatives.

- (A) Aerogramme
(B) Inland letter
(C) Envelope
(D) Scribbling pad

Directions : In questions no. 44 to 46, find the related word from the given alternatives.

44. Page : Pen :: Computer : ?

- (A) Cartridge (B) Keyboard
(C) Monitor (D) CPU

45. Philatelist : Stamps :: ?

- (A) Runner : Sneakers
(B) Numismatist : Coins
(C) Astrologer : Predictions
(D) Carpenter : Saw

46. Wimbledon Trophy : Tennis ::
Walker Cup : ?

- (A) Polo (B) Wrestling
(C) Golf (D) Hockey

47. If in a language VARANASI is coded as WBSBOBTJ, which word would be coded as BMJSBHI ?

- (A) ALIRAGHI (B) ALIARIHI
(C) ALIGRAH (D) ALIGARH

48. B is South-West of A, C is to the East of B and South-East of A and D is to the North of C in line with B and A. In which direction of A is D located ?

- (A) East (B) South-West
(C) North-East (D) North

49. Six persons A, B, C, D, E and F are walking in a line. C is in front of B. D is behind A, but in front of C. E is behind A, but in front of D. F is in front of A. Who is walking on the extreme back ?

- (A) C (B) F
(C) D (D) B

50. Raju introduced a man, "He is my daughter's maternal uncle's nephew's grandfather." How is Raju related with the man ?

- (A) Maternal uncle (B) Brother-in-law
(C) Father-in-law (D) Son-in-law

PART - B : GENERAL AWARENESS

51. Value-added means value of
 (A) goods and services less depreciation
 (B) goods and services less cost of intermediate goods and services
 (C) output at factor cost
 (D) output at market prices
52. The difference between GNP and NNP equals
 (A) transfer payments (B) depreciation
 (C) corporate profits (D) personal taxes
53. Who decides a 'bill' is a money bill?
 (A) Chairman of Rajya Sabha
 (B) President
 (C) Prime Minister
 (D) Speaker of Lok Sabha
54. Which of the following countries is regarded as the home of 'Fabian Socialism' ?
 (A) France (B) Italy
 (C) Russia (D) England
55. Stagflation refers to a situation which is characterised by
 (A) inflation and rising employment
 (B) inflation and rising unemployment
 (C) stagnant employment and deflation
 (D) deflation and rising unemployment
56. The demand for necessities is
 (A) inelastic
 (B) perfectly elastic
 (C) elastic
 (D) perfectly inelastic
57. The balance of payments of a country is in equilibrium when the
 (A) demand for the domestic currency is the highest
 (B) demand for the domestic currency is the lowest
 (C) demand as well as supply of the domestic currency are the highest
 (D) demand for the domestic currency is equal to its supply
58. For which tax, was constitutional status given much later after its introduction in a small way in 1994 - 95 ?
 (A) Taxes on Services (B) Income Tax
 (C) Customs Duty (D) Corporation Tax
59. The first Sultan who requested and obtained letters of investiture from the Caliph (Khalifa) was
 (A) Firuz Tughluq (B) Alauddin Khilji
 (C) Iltutmish (D) Balban
60. The Buddhist monk who spread Buddhism in Tibet was
 (A) Asanga (B) Padmasambhava
 (C) Nagarjuna (D) Ananda
61. In 1937, an educational conference endorsing Gandhi's proposals for 'basic education' through the vernacular medium was held at
 (A) Ahmedabad (B) Wardha
 (C) Surat (D) Bombay
62. "What is the Third Estate?" pamphlet - associated with the French Revolution, was written by
 (A) Joseph Foulon (B) Abbe Sieyes
 (C) Marquis Lafayette (D) Edmund Burke
63. Gandhi's Salt Satyagraha was a part of
 (A) Non-Cooperation Movement
 (B) Civil Disobedience Movement
 (C) Champaran Satyagraha
 (D) Quit India Movement
64. Which of the following high dignitaries, who are not members of Parliament, has the right to address it ?
 (A) Solicitor General of India
 (B) Chief Election Commissioner of India
 (C) Chief Justice of India
 (D) Attorney General of India
65. The Declaration of American Independence was based on the theory of
 (A) Legal Rights
 (B) Natural Rights
 (C) Civil Rights
 (D) Moral Rights

66. The technology that is used to establish wireless networking is
 (A) MATLAB (B) Bluetooth
 (C) TCP/IP (D) J2ME
67. What is USB ?
 (A) Universal Serial Bus
 (B) Urgent Sent Bit
 (C) Ultimate Service Bit
 (D) Universal Sent Bit
68. In a period from Li to F, ionisation potential
 (A) decreases
 (B) remains same
 (C) cannot be predicted
 (D) increases
69. Which of the following metals can deposit copper from copper sulphate solution ?
 (A) Iron (B) Gold
 (C) Platinum (D) Mercury
70. The atmospheric layer farthest from the Earth's surface is known as
 (A) Ionosphere (B) Mesosphere
 (C) Stratosphere (D) Exosphere
71. The temperate grasslands of South America are called
 (A) Downs (B) Steppes
 (C) Prairies (D) Pampas
72. Contours are the lines which are drawn joining places having
 (A) equal air pressure
 (B) equal temperature
 (C) equal height from mean sea level
 (D) equal rainfall
73. Soil formed by leaching and oxidation is
 (A) Red soil
 (B) Montane soil
 (C) Black soil
 (D) Laterite soil
74. Which strait separates Australia and Tasmania ?
 (A) Palk (B) Berring
 (C) Bass (D) Bab-el-Mandeb
75. In plant - water relationships, symbol ' ψ_w ' is used to represent
 (A) Solute potential (B) Osmosis
 (C) Osmotic pressure (D) Water potential
76. A molecule in plants comparable to haemoglobin in animals is
 (A) Chlorophyll (B) Carotene
 (C) Cytochrome (D) Cellulose
77. An Antigen is
 (A) the stimulus for Antibody formation
 (B) the residue of an Antibody
 (C) the result of Antibody
 (D) the opposite of Antibody
78. Blood does not coagulate inside the body due to the presence of
 (A) Heparin (B) Fibrin
 (C) Plasma (D) Haemoglobin
79. Leech is an ectoparasite on cattle, which is
 (A) Sanguivorous (B) Herbivorous
 (C) Carnivorous (D) Omnivorous
80. How many chambers does a mammalian heart have ?
 (A) 2 (B) 3
 (C) 4 (D) 1
81. When Arsonic atoms are added to Germanium lattice it becomes a/an
 (A) Intrinsic semiconductor
 (B) Extrinsic semiconductor
 (C) Insulator
 (D) Superconductor
82. Photon is the fundamental unit/quantum of
 (A) magnetism (B) light
 (C) gravitation (D) electricity
83. A liquid disturbed by stirring comes to rest due to
 (A) viscosity (B) centripetal force
 (C) density (D) surface tension
84. The nuclear particle having no mass and no charge, but only spin is
 (A) meson (B) electron
 (C) proton (D) neutrino

85. Who was the captain of the West Indies Cricket team, which won the T-20 World Cup 2012 ?
 (A) Marlon Samuels (B) D. Bravo
 (C) Ravi Rampaul (D) Chris Gayle
86. Which football player has won the FIFA World Player Award (FIFA Ballon d'Or) for four years in a row ?
 (A) Lionel Messi
 (B) Michel Platini
 (C) Andres Iniesta
 (D) Cristiano Ronaldo
87. Which among the following is used to dilute oxygen in the gas cylinders used by divers ?
 (A) Helium (B) Neon
 (C) Krypton (D) Argon
88. Which one of the following does *not* form oxyacid ?
 (A) Nitrogen (B) Fluorine
 (C) Sulphur (D) Chlorine
89. The release of which of the following into ponds and wells helps in controlling mosquitoes ?
 (A) Dogfish (B) Gambusia fish
 (C) Snail (D) Crab
90. The ambient air is stable when the ambient lapse rate is
 (A) Sub-adiabatic (B) Super-adiabatic
 (C) Neutrally stable (D) Hyper-adiabatic
91. Exposure to mixtures of chemicals are greater than expected on the basis of effects of exposure to each chemical individually. This is known as
 (A) Synergism (B) Independent
 (C) Additives (D) Antagonism
92. The filter over which sewage is sprinkled is called as
 (A) Contact bed
 (B) Intermittent sand filter
 (C) Trickling filter
 (D) Percolating filter
93. Who is the author of the book "A Cricketing Life" ?
 (A) Kapil Dev
 (B) Tony Greig
 (C) Christopher Martin Jenkins
 (D) Sunil Gavaskar
94. Which country has three capitals viz. Administrative, Legislative and Judicial ?
 (A) Canada (B) South Africa
 (C) Chile (D) Malaysia
95. How many countries in Africa are members of the Organisation of Petroleum Exporting Countries (OPEC) ?
 (A) Two (B) Three
 (C) Four (D) One
96. Who is the Chairman of the 14th Finance Commission ?
 (A) M. Govinda Rao
 (B) Dr. Y.V. Reddy
 (C) D. Subba Rao
 (D) Montek Singh Ahluwalia
97. The largest coral reef in the world is found near the coast of
 (A) Sri Lanka (B) Cuba
 (C) Brazil (D) Australia
98. Which one of the following Indian World Heritage Sites is *not* in Madhya Pradesh ?
 (A) Sanchi Stupa
 (B) Rock Shelters of Bhimbetka
 (C) Khajuraho Temples
 (D) Sun Temple, Konark
99. Who won the "Miss World" title for 2012 ?
 (A) Wenxia Yu (B) Ivian Sarcos
 (C) Alexandria Mills (D) Vanya Mishra
100. Who was the first Hindi writer to receive Jnanpith Award ?
 (A) Dr. Ramdhari Singh Dinkar
 (B) S.H. Vatsyayan
 (C) Mahadevi Verma
 (D) Sumitranandan Pant

PART - C : QUANTITATIVE APTITUDE

- 101.** 2 men and 3 boys can do a piece of work in 10 days while 3 men and 2 boys can do the same work in 8 days. In how many days can 2 men and 1 boy do the work ?
 (A) $12\frac{1}{2}$ days (B) 2 days
 (C) 8 days (D) 7 days
- 102.** The perimeter of a rectangular plot is 48 m and area is 108 m^2 . The dimensions of the plot are
 (A) 27 m and 4 m
 (B) 18 m and 6 m
 (C) 36 m and 3 m
 (D) 12 m and 9 m
- 103.** If the total surface area of a hemisphere is 27π square cm, then the radius of the base of the hemisphere is
 (A) $3\sqrt{3}$ cm (B) 9 cm
 (C) $9\sqrt{3}$ cm (D) 3 cm
- 104.** A positive integer when divided by 425 gives a remainder 45. When the same number is divided by 17, the remainder will be
 (A) 9 (B) 10 (C) 11 (D) 8
- 105.** $(256)^{0.16} \times (256)^{0.09}$ is
 (A) 16 (B) 64
 (C) $256 \cdot 25$ (D) 4
- 106.** A can do a piece of work in 6 days. B is 25% more efficient than A. How long would B alone take to finish this work ?
 (A) $5\frac{1}{4}$ days (B) $2\frac{2}{3}$ days
 (C) $4\frac{4}{5}$ days (D) $3\frac{1}{3}$ days
- 107.** A, B and C can do a piece of work in 20, 30 and 60 days respectively. In how many days can A do the work if he is assisted by B and C on every third day ?
 (A) 15 days (B) 20 days
 (C) 10 days (D) 12 days
- 108.** The ratio of number of balls in bags x, y is 2 : 3. 5 balls are taken from bag y and are dropped in bag x. Number of balls are equal in each bag now. Number of balls in each bag now is
 (A) 30 (B) 25
 (C) 45 (D) 20
- 109.** Divide ₹ 2,600 among A, B, C in the ratio $\frac{1}{2} : \frac{1}{3} : \frac{1}{4}$. Find the share of each.
 (A) ₹ 600, ₹ 800, ₹ 1,200
 (B) ₹ 800, ₹ 600, ₹ 1,200
 (C) ₹ 1,200, ₹ 600, ₹ 800
 (D) ₹ 1,200, ₹ 800, ₹ 600
- 110.** The radius of a circle is a side of a square. The ratio of the areas of the circle and the square is
 (A) $\pi : 2$ (B) $2 : \pi$
 (C) $1 : \pi$ (D) $\pi : 1$
- 111.** How much percent more than the cost price should a shopkeeper mark his goods so that after allowing a discount of 25% on the marked price, he gains 20% ?
 (A) 60% (B) 55%
 (C) 70% (D) 50%
- 112.** An article is marked at ₹ 5,000. The shopkeeper allows successive discounts of x%, y%, z% on it. The net selling price is
 (A) ₹ $\frac{(100-x)(100-y)(100-z)}{200}$
 (B) ₹ $\frac{(100-x)(100+y)(100-z)}{200}$
 (C) ₹ $\frac{(100-x)(100+y)(100+z)}{200}$
 (D) ₹ $\frac{(100+x)(100+y)(100-z)}{200}$
- 113.** A shopkeeper offers a discount of 10% on his articles. The marked price of the article is ₹ 450. The selling price should be
 (A) ₹ 405 (B) ₹ 400
 (C) ₹ 395 (D) ₹ 410

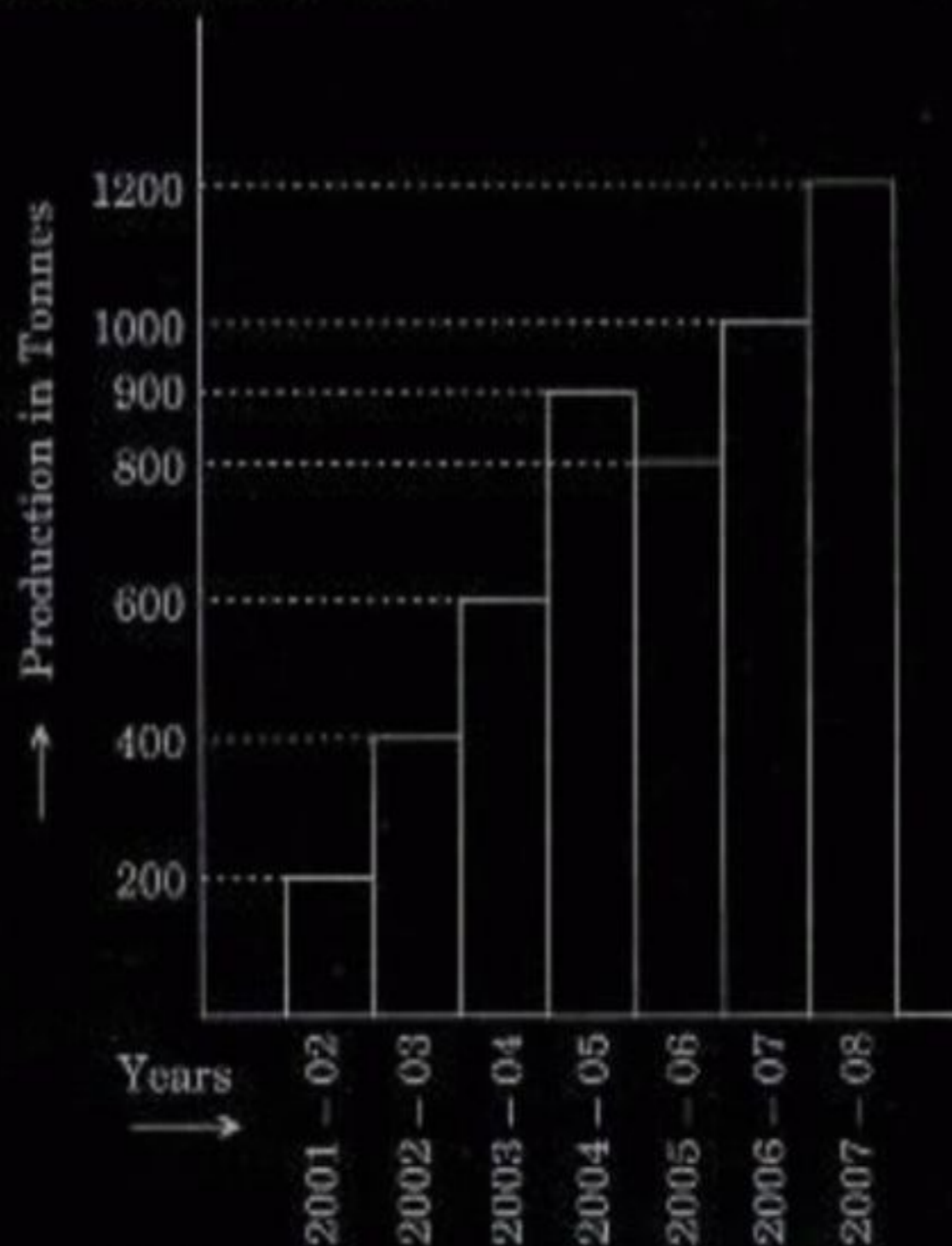
114. If $(a + b + c) = 0$, then $\left(\frac{a^2}{bc} + \frac{b^2}{ca} + \frac{c^2}{ab}\right)$ is
 (A) 0 (B) 1 (C) 3 (D) -1
115. If x and y are positive real numbers and $xy = 8$, then the minimum value of $2x + y$ is
 (A) 10 (B) 8 (C) 9 (D) 17
116. The graphs of $2x + 1 = 0$ and $3y - 9 = 0$ intersect at the point
 (A) $(-\frac{1}{2}, -3)$ (B) $(-\frac{1}{2}, 3)$
 (C) $(\frac{1}{2}, -3)$ (D) None of these
117. In triangle ABC, $\angle BAC = 75^\circ$, $\angle ABC = 45^\circ$. \overline{BC} is produced to D. If $\angle ACD = x^\circ$, then $\frac{x}{3}\%$ of 60° is
 (A) 15° (B) 24° (C) 30° (D) 48°
118. Out of four numbers, the average of the first three is 15 and that of the last three is 16. If the last number is 19, the first is
 (A) 16 (B) 18 (C) 19 (D) 15
119. In a family of 5 members, the average age at present is 33 years. The youngest member is 9 years old. The average age of the family just before the birth of the youngest member was
 (A) 25 years (B) 24 years
 (C) 30 years (D) 29 years
120. A dishonest dealer professes to sell his goods at the cost price but uses a false weight of 850 g instead of 1 kg. His gain percent is
 (A) $71\frac{11}{17}\%$ (B) $11\frac{11}{17}\%$
 (C) $17\frac{12}{17}\%$ (D) $17\frac{11}{17}\%$
121. In a college, 40% of the students were allotted group A, 75% of the remaining were given group B and the remaining 12 students were given group C. Then the number of students who applied for the groups is
 (A) 80 (B) 92 (C) 100 (D) 60
122. A train 150 metres long crosses a milestone in 15 seconds and crosses another train of the same length travelling in the opposite direction in 12 seconds. The speed of the second train in km/hr is
 (A) 54 (B) 58 (C) 52 (D) 56
123. A person can row a distance of one km upstream in ten minutes and downstream in four minutes. What is the speed of the stream?
 (A) 9 km/h (B) 5.6 km/h
 (C) 4.5 km/h (D) 4 km/h
124. A certain sum of money will be doubled in 15 years at the rate of simple interest percent per annum of
 (A) 6 (B) $6\frac{2}{3}$ (C) 25 (D) $5\frac{1}{2}$
125. A fraction becomes $\frac{9}{11}$, if 2 is added to both the numerator and the denominator. If 3 is added to both the numerator and the denominator it becomes $\frac{5}{6}$. What is the fraction?
 (A) $\frac{5}{9}$ (B) $\frac{7}{10}$ (C) $\frac{7}{9}$ (D) $\frac{3}{7}$
126. If $x = 1 - \sqrt{2}$, the value of $\left(x - \frac{1}{x}\right)^3$ is
 (A) $2\sqrt{2}$ (B) 1
 (C) -8 (D) 8
127. If $\frac{a}{b} + \frac{b}{a} - 1 = 0$, then the value of $a^3 + b^3$ is
 (A) 1 (B) -1 (C) 3 (D) 0
128. If $x + \frac{1}{x} = 99$, find the value of

$$\frac{100x}{2x^2 + 102x + 2}$$
 (A) $\frac{1}{3}$ (B) $\frac{1}{4}$ (C) $\frac{1}{6}$ (D) $\frac{1}{2}$
129. If $x = 3 + 2\sqrt{2}$, then the value of $x^2 + \frac{1}{x^2}$ is
 (A) 32 (B) 34 (C) 36 (D) 30

130. In an isosceles triangle, if the unequal angle is twice the sum of the equal angles, then each equal angle is
 (A) 30° (B) 90° (C) 120° (D) 60°
131. At an instant, the length of the shadow of a pole is $\sqrt{3}$ times the height of the pole. The angle of elevation of the Sun at that moment is
 (A) 45° (B) 60° (C) 75° (D) 30°
132. If θ is positive acute angle and $3(\sec^2 \theta + \tan^2 \theta) = 5$, then which one is true?
 (A) $\cos 2\theta = \tan \theta$
 (B) $\cos 2\theta = \cos \theta$
 (C) $\cos 2\theta = \sin 2\theta$
 (D) $\cos 2\theta = \sin \theta$
133. Two circles touch each other externally. The distance between their centres is 7 cm. If the radius of one circle is 4 cm, then the radius of the other circle is
 (A) 4 cm (B) 2 cm
 (C) 3.5 cm (D) 3 cm
134. In a ΔABC , $AB = AC$ and BA is produced to D such that $AC = AD$. Then the $\angle BCD$ is
 (A) 80° (B) 90° (C) 100° (D) 60°
135. In a right-angled triangle ABC , $\angle ABC = 90^\circ$, $AB = 5$ cm and $BC = 12$ cm. The radius of the circumcircle of the triangle ABC is
 (A) 6.5 cm (B) 7 cm
 (C) 7.5 cm (D) 6 cm
136. If the circumradius of an equilateral triangle ABC be 8 cm, then the height of the triangle is
 (A) 8 cm (B) 12 cm
 (C) 16 cm (D) 6 cm
137. Two circles intersect at A and B . P is a point on produced BA . PT and PQ are tangents to the circles. The relation of PT and PQ is
 (A) $PT > PQ$ (B) $PT = PQ$
 (C) $PT = 2PQ$ (D) $PT < PQ$
138. If O is the circumcentre of ΔABC and $OD \perp BC$, then $\angle BOD$ must be equal to
 (A) $\frac{1}{2} \angle B$ (B) $\frac{1}{2} \angle C$
 (C) $\angle A$ (D) $\frac{1}{2} \angle A$

139. The numerical value of $\frac{1}{1 + \cot^2 \theta} + \frac{3}{1 + \tan^2 \theta} + 2 \sin^2 \theta$ will be
 (A) 6 (B) 3 (C) 2 (D) 5
140. The value of $\frac{4}{1 + \tan^2 \alpha} + \frac{1}{1 + \cot^2 \alpha} + 3 \sin^2 \alpha$ is
 (A) 2 (B) 3 (C) 4 (D) -1
141. The value of $3(\sin x - \cos x)^4 + 6(\sin x + \cos x)^2 + 4(\sin^6 x + \cos^6 x)$ is
 (A) 12 (B) 13 (C) 14 (D) 11
142. The value of $\sec \theta \left(\frac{1 + \sin \theta}{\cos \theta} + \frac{\cos \theta}{1 + \sin \theta} \right) - 2 \tan^2 \theta$ is
 (A) 2 (B) 0 (C) 4 (D) 1
143. If $\sin \theta + \operatorname{cosec} \theta = 2$, then the value of $\sin^5 \theta + \operatorname{cosec}^5 \theta$ is
 (A) 0 (B) 2 (C) $\frac{1}{2}$ (D) 1

Directions : Study the chart carefully and answer the questions no. 144 - 147.



The chart shows production of an item (in tonnes) during certain years.

PART - D : ENGLISH COMPREHENSION

Directions : In questions no. 151 to 155, some parts of the sentences have errors and some are correct. Find out which part of a sentence has an error and blacken the oval (●) corresponding to the appropriate letter (A, B, C). If a sentence is free from error, blacken the oval corresponding to (D) in the Answer Sheet.

151. I insisted / on his going / there immediately. / No error.
 (A) (B) (C) (D)
152. We have been knowing / each other / since we were children. / No error.
 (A) (B) (C) (D)
153. Neither of the teams / are sensible enough / to do this task. / No error.
 (A) (B) (C) (D)
154. If I was he, / I wouldn't accept / this project. / No error.
 (A) (B) (C) (D)
155. The teacher advised to / the student to borrow / a book from the library within three days. /
 (A) (B) (C)
 No error.
 (D)

Directions : In questions no. 156 to 160, sentences are given with blanks to be filled with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

156. They reached the railway station before the train _____.
 (A) was leaving (B) had left
 (C) had been left (D) left
157. The Information and Communication Technology has _____ age and employs very highly paid technocrats.
 (A) come through (B) come of
 (C) come upon (D) come out of
158. Many premier educational institutions come forward to have a _____ with flourishing industries.
 (A) tie-on (B) tie-down
 (C) tie-up (D) tie-in

159. All is not well _____ the automobile sector.
 (A) to (B) of
 (C) down (D) in
160. He slipped _____ his old ways and started drinking again.
 (A) in (B) into
 (C) off (D) by

Directions : In questions no. 161 to 163, out of the four alternatives, choose the one which best expresses the meaning of the given word and mark it in the Answer Sheet.

161. Stern
 (A) strict (B) lenient
 (C) young (D) stem
162. Citadel
 (A) palace (B) metropolis
 (C) mansion (D) fortress
163. Aberration
 (A) rationality (B) justification
 (C) intensification (D) deviation

Directions : In questions no. 164 to 166, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

164. Dormant

- (A) domestic (B) active
(C) inactive (D) dorsal

165. Dwindle

- (A) increase (B) decrease
(C) diminish (D) shrink

166. Tranquility

- (A) peace (B) disturbance
(C) quiet (D) serenity

Directions : In questions no. 167 to 171, four alternatives are given for the Idiom/Phrase underlined in the sentence. Choose the alternative which best expresses the meaning of the Idiom/Phrase and mark it in the Answer Sheet.

167. Children complain about their parents' gifts. They should learn not to look a gift horse in the mouth.

- (A) not to find goodness in the gifts
(B) not to look at a horse's mouth
(C) not to find fault with the gifts received
(D) not to ask for more gifts

168. Acquiring a job is a cakewalk for a student who has good academic performance coupled with good attitude.

- (A) an easy achievement
(B) walk away with a cake
(C) a difficult achievement
(D) a walkway made with cakes

169. Let sleeping dogs lie.

- (A) Prevent dog mobility
(B) Do not bring up an old controversial issue
(C) Dogs can raise tempers
(D) Do not allow dogs to stand

170. To get admission in present day educational institutions, all children should be born with a silver spoon in the mouth.

- (A) he born in a rich family
(B) he born to silver spoon manufacturer
(C) always hold a silver spoon
(D) be born with silver spoon

171. 'A man of straw' means

- (A) A very active person
(B) A worthy fellow
(C) An unreasonable person
(D) A man of no substance

Directions : In questions no. 172 to 181, a sentence/part of the sentence is underlined. Below are given alternatives to the underlined sentence/part of the sentence at (A), (B) and (C) which may improve the sentence. Choose the correct alternative. In case no improvement is needed, your answer is (D).

172. I wish I knew what is wrong with my car.

- (A) I wish I knew what was wrong with my car.
(B) I wish I had known what is wrong with my car.
(C) I wish I know what is wrong with my car.
(D) No improvement

173. If I had the money I would have bought the house.

- (A) If I have had the money I would have bought the house.
(B) If I had had the money I would have bought the house.
(C) If I have the money I would have bought the house.
(D) No improvement

174. The flag will be risen on the 15th of August.

- (A) The flag will be raised on the 15th of August.
(B) The flag will be roused on the 15th of August.
(C) The flag will be rising on the 15th of August.
(D) No improvement

175. Just before he died, Amar, who is a poet, wrote this poem.

- (A) Amar wrote this poem, who is a poet, just before he died.
(B) Just before he died, Amar, who was a poet, wrote this poem.
(C) Amar, who is a poet, wrote this poem just before he died.
(D) No improvement

176. Some players on the team suffer from chronic knee problems and will not play in the next playoff.
 (A) Some players on the team suffers
 (B) Some player on the team suffered
 (C) Some player on the team suffer
 (D) No improvement
177. Sushma has wisdom, charm and she has a good sense of humour.
 (A) has a good sense of humour
 (B) Sushma had a good sense of humour
 (C) a good sense of humour
 (D) No improvement
178. They knocked down ten houses when they built the new road.
 (A) pulled down (B) ruptured
 (C) removed (D) No improvement
179. Don't sit in the grass. It's wet.
 (A) beside (B) by the side of
 (C) on (D) No improvement
180. The game is more important than the winning of the prize.
 (A) Gaming is more important than winning of the prize.
 (B) The gaming is more important than the winning of the prize.
 (C) The game is more important than winning of the prize.
 (D) No improvement
181. The actor is out of jail, and not exactly a free man, since he will be under house arrest for an additional 90 days.
 (A) if not exactly a free man
 (B) but not exactly a free man
 (C) though exactly a free man
 (D) No improvement

Directions : In questions no. 182 to 188, out of the four alternatives, choose the one which can be substituted for the given words/sentence and indicate it by blackening the appropriate oval (●) in the Answer Sheet.

182. A person of obscure position who has gained wealth
 (A) Sumptuary (B) Extravagant
 (C) Promiscuous (D) Parvenu
183. A study of sounds is known as
 (A) Phonetics (B) Semantics
 (C) Stylistics (D) Linguistics
184. To reduce to nothing
 (A) Annul (B) Cull
 (C) Lull (D) Null
185. An obviously true or hackneyed statement
 (A) Imagism (B) Truism
 (C) Syllogism (D) Iconic
186. Words inscribed on a tomb
 (A) Epistle (B) Epilogue
 (C) Epitaph (D) Epitome
187. The act of producing beautiful handwriting using a brush or a special pen
 (A) Graphics (B) Hieroglyphics
 (C) Calligraphy (D) Stencilling
188. A word composed of the first letters of the words in a phrase
 (A) Anachronism (B) Acronym
 (C) Abridgement (D) Almanac

Directions : In questions no. 189 to 190, four words are given in each question, out of which only one word is correctly spelt. Find the correctly spelt word and mark your answer in the Answer Sheet.

189. (A) bussiness (B) busyness
 (C) bussyness (D) business
190. (A) questionnare (B) questionnaire
 (C) questionnair (D) questionnaire

Directions : In questions no. 191 to 200, you have a passage with 10 questions. Read the passage carefully and choose the best answer to each question out of the four alternatives and mark it by blackening the appropriate oval (●) in the Answer Sheet.

PASSAGE

The postmaster first took up his duties in the village of Ulapur. Though the village was a small one, there was an indigo factory nearby and the proprietor, an Englishman, had managed to get a post office established.

Our postmaster belonged to Calcutta. He felt like a fish out of water in this remote village. His office and living-room were in a dark thatched shed, not far from a green, slimy pond, surrounded on all sides by a dense growth.

The men employed in the indigo factory had no leisure, moreover they were hardly desirable companions for decent folk. Nor is a Calcutta boy an adept in the art of associating with others. Among strangers he appears either proud or ill at ease. At any rate the postmaster had but little company, nor had he much to do.

At times he tried his hand at writing a verse or two. That the movement of the leaves and clouds of the sky were enough to fill life with joy — such were the sentiments to which he sought to give expression. But God knows that the poor fellow would have felt it as the gift of a new life, if some genie of the Arabian Nights had in one night swept away the trees, leaves and all, and replaced them with a macadamised road, hiding the clouds from view with rows of tall houses.

191. Find a word in the passage which is the opposite of 'near'.
- (A) Remote (B) Convenient
(C) Unknown (D) Close

192. Find a word in the passage which means 'the owner of a business'.
- (A) Proprietor (B) Constructor
(C) Entrepreneur (D) Businessman
193. The adjective used to describe the postmaster's living-room is
- (A) deep (B) bright
(C) dark (D) light
194. What does the phrase 'ill at ease' in the passage mean?
- (A) Uneasy (B) Forward
(C) Disease (D) Comfortable
195. What does the phrase 'little company' in the passage mean?
- (A) Business-like
(B) Bad friendship
(C) Hardly any friends
(D) Small business
196. At times the postmaster wrote
- (A) dramas (B) poems
(C) novels (D) short stories
197. The postmaster wrote on the
- (A) beauty of the village
(B) beauty of nature
(C) beauty of himself
(D) beauty of the weather
198. The word 'genie' means
- (A) soul (B) monster
(C) spirit (D) ghost
199. Which factory was situated near the village Ulapur?
- (A) Dyes (B) Chemical
(C) Rubber (D) Clothes
200. What does the idiom 'fish out of water' suggest?
- (A) Amphibious creature
(B) In unfamiliar surroundings
(C) Can die any moment
(D) Grasping for breath