

PART - (a)

GENERAL INTELLIGENCE

Directions for question number 1 to 9:

Select the related word/letters/number from the given alternatives:

1. TAP : PAT :: DAM : ?
(A) BUND (B) MAD
(C) STOP (D) AMD
2. 8 : 18 :: 24 : ?
(A) 38 (B) 32
(C) 44 (D) 43
3. 08 : 09 :: ? : 25
(A) 64 (B) 16
(C) 27 (D) 36
4. ABC : HIJ :: OPQ : ?
(A) WVX (B) VWX
(C) XWV (D) VXW
5. 6 : 35 :: 9 : ?
(A) 18 (B) 27
(C) 53 (D) 72
6. Library : Books :: Bank : ?
(A) Cheque (B) Loan
(C) Money (D) Account
7. Child : Father :: Book : ?
(A) Author (B) Publisher
(C) Editor (D) Library
8. SIN : CRIME :: ?
(A) MAN : ANIMAL
(B) HOME : COURT
(C) MORALITY : LEGALITY
(D) JURY : PRIEST
9. CEGI : XVTR :: DFHJ : ?
(A) XTRT (B) XQOM
(C) ZVSO (D) WUSQ

Directions for question number 10 to 18:

Select the one which is different from the other three responses.

10. (A) Work - Leisure
(B) Day - Night
(C) Expedite - Procrastinate
(D) Frequently - Always
11. (A) 46, 24 (B) 62, 32
(C) 56, 30 (D) 74, 38
12. (A) RPSZ (B) AIUE
(C) QRTM (D) NQMR
13. (A) 441 (B) 256
(C) 481 (D) 361
14. (A) EBD (B) IFH
(C) URT (D) YWX
15. (A) Cricket (B) Hockey
(C) Shuttle Cock (D) Tennis
16. (A) BCDE (B) JKLM
(C) STVU (D) WXYZ
17. (A) 3216 (B) 2338
(C) 3205 (D) 2015
18. (A) SUNFLOWER OIL
(B) COCONUT OIL
(C) PALMOIL
(D) SANDAL WOOD OIL

SPACE FOR ROUGH WORK

Directions for question number 19 and 20 :

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

19. (1) Hundred (2) Unit
(3) Thousand (4) Tens
(5) Lakh
(A) 2, 4, 1, 3, 5 (B) 4, 1, 3, 2, 5
(C) 5, 1, 2, 3, 4 (D) 5, 1, 3, 4, 2
20. (1) Lucknow (2) Uttar Pradesh
(3) India (4) World
(5) Asia
(A) 1, 2, 3, 5, 4 (B) 4, 1, 2, 3, 5
(C) 5, 1, 2, 3, 4 (D) 5, 1, 3, 2, 4
21. Which will appear 4th in the English dictionary ?
(A) QUICK (B) QUESTION
(C) QUALITY (D) QUIT
22. Which one set of letters when sequentially placed at the gaps in the given letter-series shall complete it ?
- A' B - B' AA' - BB' - A
(A) A' BAB' (B) A' B' AB
(C) A B A B (D) AB' A' B

Directions for question number 23 to 26 :

Choose the correct alternative from the given ones that will complete the series.

23. 3, 7, 13, 21, 31, ?
(A) 33 (B) 36
(C) 41 (D) 43
24. FUGT, HSIR, JQKP, ?
(A) KNLO (B) LNNM
(C) LOMM (D) LOMN
25. ACE, GIK, MOQ, ?
(A) SUW (B) XYZ
(C) ABC (D) DFG

26. 30, 68, 130, 222, __?__, 520, 738.
(A) 420 (B) 350
(C) 250 (D) 280
27. In a certain code "KINDLE" is coded as "ELDNIK" how is "EXOTIC" coded in that code?
(A) EXOTLC (B) CXOTIE
(C) COXITE (D) CITOXE
28. Devendra is older by 4 years to Rajendra. After 16 years Devendra will be thrice his present age and Rajendra will be five times of his present age. How old would Rajendra be after 16 years?
(A) 30 years (B) 25 years
(C) 24 years (D) 20 years
29. From the given alternatives select the word which cannot be formed by using the letters of the given word.
MORTGAGE
(A) AROMA (B) GEAR
(C) ROAM (D) GRATE
30. From the given alternatives select the word which can be formed by using the letters of the given word.
RECOMMENDATION:
(A) COMMUNICATE (B) MEDIATES
(C) MEDICO (D) REMINDER
31. Hari is older than Chaman. Vijai is older than Satish. Mukesh is not as old as Vijai but is older than Chaman. Satish is not as old as Chaman. Who is the youngest?
(A) Hari (B) Mukesh
(C) Chaman (D) Satish

SPACE FOR ROUGH WORK

32. Find the wrong number in the given series.
225, 336, 447, 555, 669

- (A) 225 (B) 447
(C) 555 (D) 669

33. If HIGH is written as 8978 then DEAF = ?

- (A) 1342 (B) 1432
(C) 4516 (D) 4615

Directions for question number 34 and 35:

Select the missing number from the given responses.

34. $\begin{matrix} 8 & 7 & 5 \\ 10 & 7 & 5 \\ 9 & 7 & ? \end{matrix}$

- (A) 2 (B) 5
(C) 1 (D) 25

35. $\begin{matrix} 9 & 5 & 4 & 10 \\ 8 & 7 & 6 & 9 \\ 12 & 6 & 8 & ? \end{matrix}$

- (A) 8 (B) 9
(C) 10 (D) 12

36. Arun walks to north 30 mts. moves left and walks 40 mts. He again turns left and walks 30 mts. He finally turns left and walks 50 mts. Now how far Arun is from the starting point.

- (A) 50 mts. (B) 40 mts
(C) 30 mts (D) 10 mts

37. Avinash travelled towards south for 1 km. He turned right and travelled for one more kilometre. He again turned right and travelled 2 kilometres. In which direction is he from the starting point ?

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

38. If A for additions, M for Multiplication, D for Division, G for Greater than, L for Less than, then which of following will be logically correct ?

- (A) 4A 5D 3G 6A 2M 3
(B) 4A 5M 4L 6D 2A 8
(C) 4D 2A 4G 6D 2A 4
(D) 4A 3M 2L 4D 2M 6

39. Balu's house is 300 metres away from that of Sam. Balu stays 300 metres South West of Sam's house. Raju resides 600 metres North East of Balu. Then where is the position of Sam's house in relation to Raju's ?

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

40. Ramesh is the brother of Amit. Sushma is the sister of Satish. Amit is the son of Sushma. How is Ramesh related to Sushma ?

- (A) Father (B) Brother
(C) Son (D) Nephew

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

$$24 * 2 * 4 * 3$$

- (A) = ÷ × (B) + ÷ =
(C) ÷ = × (D) = × ÷

42. Some equations are solved on the basis of a certain system. On the same basis find out the correct answer for the unsolved equation.

$$3 \times 5 \times 7 = 15, 2 \times 4 \times 6 = 12, 4 \times 7 \times 9 = ?$$

- (A) 28 (B) 21
(C) 20 (D) 18

SPACE FOR ROUGH WORK

Directions for question number 43 and 44:

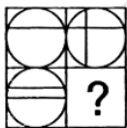
Two statements are given followed by two conclusions (I) and (II). You have to consider the statements to be true even if they seem to be at variance from commonly known facts. You are to decide which of the given conclusions, if any, follow from the given statements. Indicate your answer.

43. **Statements :** Latha is a beautiful and intelligent girl. She is very good.
- Conclusion : (I)** All beautiful girls are intelligent.
- (II)** Beauty and intelligence are the essential factors of goodness.
- (A) Only conclusion (I) follows.
 (B) Only conclusion (II) follows.
 (C) Both conclusion (I) & (II) follow.
 (D) Neither conclusion (I) nor (II) follow.

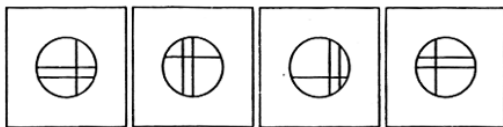
44. **Statements : (1)** All writers are lawyers.
(2) All readers are lawyers.
- Conclusion : (I)** Some lawyers are readers.
(II) Some readers are writers.
- (A) Only conclusion (I) follows.
 (B) Only conclusion (II) follows.
 (C) Both conclusion (I) & (II) follow.
 (D) Neither conclusion (I) nor (II) follow.

45. Which answer figure will complete the pattern in the question figure ?

Question figure

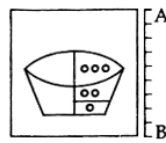


Answer figures

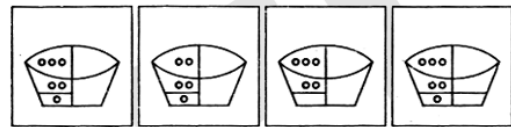


46. Which of the answer figure is exactly the mirror image of the given figure, when the mirror is held on the line AB ?

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 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, 12, 33, etc. and 'K' can be represented by 57, 68, 85, etc. Identify the set for the word EAST.

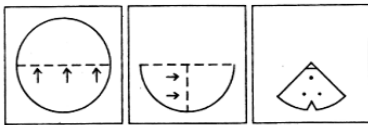
Matrix - I						Matrix - II					
	0	1	2	3	4	5	6	7	8	9	
0	E	A	R	W	P	5	S	B	K	T	C
1	W	P	A	E	R	6	B	C	T	K	S
2	A	W	P	R	E	7	T	S	C	B	K
3	P	R	E	A	W	8	K	T	S	C	B
4	R	E	W	P	A	9	C	K	B	S	T

- (A) 00 12 76 58 (B) 32 34 76 68
 (C) 41 20 77 59 (D) 24 02 55 76

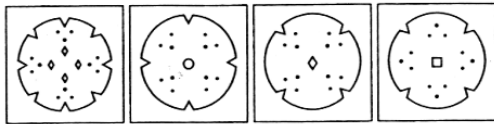
SPACE FOR ROUGH WORK

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

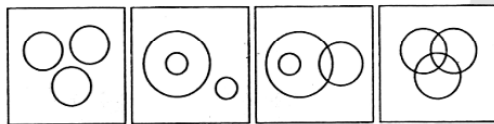


Answer figures



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

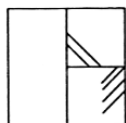
49. Which one of the following diagrams best depicts the relationship among Deer, Rabbit and Tiger?



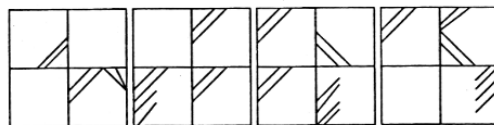
(A) (B) (C) (D)

50. Select the answer figure in which the question figure is hidden/embedded.

Question figure



Answer figures



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

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45. How many 5's immediately preceded by 9 but not immediately followed by 2 are there in the following series?

52 85 92 19 56 16 54 21 59 58 27 95 21

(A) 1 (B) 2
(C) 4 (D) 6

46. 'N' has ₹ 35 more than 'M'. 'M' and 'N' together have a sum of ₹ 99. The amounts with 'M' and 'N' respectively are:

(A) ₹ 32 and ₹ 67 (B) ₹ 33 and ₹ 66
(C) ₹ 36 and ₹ 71 (D) ₹ 66 and ₹ 33

47. Which single letter when prefixed to the following forms new words.

ASH ATE APE

(A) G (B) R
(C) T (D) None or more than one letter

48. Two numbers are in the ratio 4 : 5. If the difference between them is 5, what will be the total of the numbers?

(A) 20 (B) 25
(C) 35 (D) 45

49. In a row Raghu is 7th from the right and Satish is also 7th from the left. When they interchange their positions, Satish becomes 15th from the left. What will be the Raghu's new position from the right?

(A) 15th (B) 16th
(C) 17th (D) 20th

50. If August First is Sunday in 2004. What day was it in 2003?

(A) Saturday (B) Friday
(C) Tuesday (D) Wednesday

SPACE FOR ROUGH WORK

PART - (b)

GENERAL AWARENESS

51. In which year did Gandhiji start Satyagraha Movement?
(A) 1919 (B) 1927
(C) 1934 (D) 1942
52. An ecosystem consists of:
(A) producers, consumers and decomposers in a particular area.
(B) all the plants and animals of an area.
(C) a living community and its environment.
(D) carnivorous and herbivorous of an area
53. The telephone was invented by:
(A) G. Marconi
(B) Alexander Graham Bell
(C) J.L. Baird
(D) Thomas Barrow
54. The crop mainly grown in hills is:
(A) sweet corn (B) sweet jowar
(C) sweet potato (D) sweet pea
55. Who is called as the 'Prophet of New India' ?
(A) Dayanand Saraswati
(B) Sri Ramakrishna
(C) Raja Ram Mohan Roy
(D) Swami Vivekananda
56. Ethnic group Mongoloids are found in India in:
(A) Southern region
(B) South-central region
(C) North-western region
(D) North-eastern region
57. When a vibrating tuning fork is placed on a table, a loud sound is heard. This is due to:
(A) reflection
(B) refraction
(C) forced vibrations
(D) damped vibrations
58. An insect - catching plant is:
(A) Australian Acacia (B) Smilax
(C) Nepenthes (D) Nerium
59. The method **not** used as a Biological control is:
(A) Use of predators of a pest.
(B) Pheromone traps.
(C) Use of pesticides.
(D) Use of neem extracts.
60. The States in India are demanding greater autonomy from the centre in the _____ field.
(A) Legislative (B) Administrative
(C) Financial (D) All the above
61. Light houses are places with powerful lights to:
(A) guide and resolve traffic jams in crowded metro-cities during nights.
(B) guide and help large crowds at religious gatherings during nights.
(C) indicate to the incoming war-ships, the location of a harbour during night.
(D) guide and warn the ships coming from different directions in the ocean.
62. In a Capitalistic Economy, the Prices are determined by:
(A) Demand and Supply
(B) Government Authorities
(C) Buyers in the Market
(D) Sellers in the Market
63. Who of the following has **not** been an interlocutor on Jammu & Kashmir ?
(A) M.M. Ansari
(B) Radha Kumar
(C) Shujaat Bukhari
(D) Dilip Padgaonkar
64. The Zone of Earth's atmosphere immediately above its surface up to a height of about 16 km above equator and 8 kms over the poles is known as:
(A) Mesosphere (B) Thermosphere
(C) Troposphere (D) Stratosphere

65. The term 'Pitcher' is associated with :
(A) Wrestling (B) Boxing
(C) Baseball (D) Basketball
66. The filament of electric bulb is made up of :
(A) Copper (B) Nichrome
(C) Lead (D) Tungsten
67. Which of the following is called "brown paper" ?
(A) Jute (B) Cotton
(C) Rubber (D) Tea
68. A Secular State is one which :
(A) has no religion of its own
(B) is irreligious
(C) is anti-religion
(D) takes into consideration the religious sentiments of the people
69. What does Jahangir mean ?
(A) National Monarch
(B) The Grand Monarch
(C) Conqueror of the world
(D) Hero of hundred battles
70. Gol Gumbaz is in :
(A) Konark (B) Hyderabad
(C) Puri (D) Bijapur
71. The early Buddhist scriptures were composed in :
(A) Prakrit texts
(B) Pali texts
(C) Sanskrit texts
(D) Pictographical texts
72. In Mohanjadaro, the largest building is :
(A) the great bath
(B) a granary
(C) the Pillared Hall
(D) a two storeyed house
73. Where was the Royal Durbar held on November 1st 1858 to issue the Queen's proclamation ?
(A) Lucknow (B) Cawnpore
(C) Delhi (D) Allahabad
74. Male (Anopheles) mosquito feeds on :
(A) Blood of man
(B) Nectar of flower
(C) Blood of Culex
(D) Blood of Leech
75. Tooth paste is a product sold under :
(A) Monopolistic Competition
(B) Perfect Competition
(C) Monopoly
(D) Duopoly
76. The National Development Council includes :
(A) all central Cabinet Ministers
(B) Chief Ministers of all the States
(C) Cabinet Ministers of all the States and the Centre.
(D) Members of the Estimates Committee of the Parliament
77. Which of the following is not a cause of low productivity in Indian agriculture ?
(A) Co-operative farming
(B) Inadequate inputs availability
(C) Sub-division and fragmentation of land holdings
(D) Poor finance and marketing facilities.
78. The gas that is used in the manufacture of vanaspati ghee is :
(A) Oxygen
(B) Carbon dioxide
(C) Hydrogen
(D) Nitrogen
79. Cement is usually a mixture of :
(A) Calcium silicate and calcium aluminate
(B) Calcium silicate and calcium ferrate
(C) Calcium aluminate and calcium ferrate
(D) Lime stone and silicon dioxide
80. Which of the following is not a Hardware ?
(A) Processor chip (B) Printer
(C) Mouse (D) Java
81. Scurvy is caused due to the deficiency of :
(A) Vitamin - D (B) Vitamin - K
(C) Vitamin - E (D) Vitamin - C
82. According to a study conducted by Hyderabad's National Institute of Nutrition, the healthiest of 14 fresh fruits commonly consumed in India with maximum 'Goodness Index' is :
(A) Indian Plum (B) Mango
(C) Guava (D) Custard apple
83. The Parliament can legislate on subjects given in the Union List only in consultation with the State Government for the State of :
(A) Assam (B) Rajasthan
(C) Jammu & Kashmir (D) Kerala

84. Tsunamis are waves generated by :
(A) Earthquakes beneath the Sea
(B) Moon's pull
(C) High tides of the oceans
(D) Cyclones
85. Which is the largest State of India ?
(A) Madhya Pradesh
(B) Andhra Pradesh
(C) Rajasthan
(D) Maharashtra
86. Which one of the following is a system software ?
(A) Database programs
(B) Word processors
(C) Spreadsheets
(D) Compilers
87. A piece of wood is held under water. The upthrust on it will be :
(A) equal to the weight of the wood
(B) less than weight of the wood
(C) more than weight of the wood
(D) zero
88. Kamakhya temple is an important place of tourism in the State of :
(A) Tamil Nadu
(B) Assam
(C) Himachal Pradesh
(D) Manipur
89. Electric bulbs are filled with :
(A) Nitrogen
(B) Carbon dioxide
(C) Argon
(D) Oxygen
90. The atmospheric gas that is mainly responsible for Green House effect :
(A) Ozone (B) Nitrogen
(C) Oxygen (D) Carbondioxide
91. Wisdom teeth is the :
(A) 1st molar teeth (B) 2nd molar teeth
(C) 3rd molar teeth (D) 4th molar teeth
92. Who of the following pairs of Nobel Laureates in Physics was awarded 2010 Nobel Prize ?
(A) John C Mather, George F. Smoot
(B) Albert Fert, Peter Grunberg
(C) David J Gross, Frank Wilczek
(D) Andre Geim, Konstantin Novoselov
93. 'Tabal Chongli' is a form of folk dance associated with the State of :
(A) West Bengal (B) Assam
(C) Andhra Pradesh (D) Maharashtra
94. Who is the supreme Commander-in-Chief of armed forces of the country ?
(A) Defence Minister
(B) Prime Minister
(C) Senior-most among the three Service Chiefs.
(D) President
95. Which of the following is correctly matched ?
(A) Assam-Itanagar
(B) Arunachal Pradesh-Guwahati
(C) Tripura-Agartala
(D) Nagaland-Shillong
96. The purest form of Iron is :
(A) Cast iron (B) Steel
(C) Pig iron (D) Wrought iron
97. The caste system of India was created for :
(A) immobility of labour
(B) recognition of the dignity of labour
(C) economic uplift
(D) occupational division of labour
98. The iron ore which contains 72% of iron is :
(A) Magnetite (B) Limonite
(C) Haematite (D) Siderite
99. Surat is located on the banks of the river :
(A) Narmada (B) Sharavathi
(C) Mahi (D) Tapti
100. The tusk of elephant is an enormously enlarged :
(A) upper incisor (B) upper canine
(C) lower canine (D) lower incisor

PART - (c)

QUANTITATIVE APTITUDE

101. Ratio of the principle and the amount after 1 year is 10:12. Then the rate of interest per annum is :
(A) 12% (B) 16%
(C) 18% (D) 20%
102. A solid cone of height 9 cm with diameter of its base 18 cm is cut out from a wooden solid sphere of radius 9 cm. The percentage of wood wasted is
(A) 25 (B) 30
(C) 50 (D) 75
103. The length of the chord of a circle is 8 cm and perpendicular distance between centre and the chord is 3 cm. Then the radius of the circle is equal to
(A) 4 cm (B) 5 cm
(C) 6 cm (D) 8 cm
104. In $\triangle ABC$, $\angle BAC = 90^\circ$ and $AB = \frac{1}{2} BC$. Then the measure of $\angle ACB$ is :
(A) 60° (B) 30°
(C) 45° (D) 15°
105. The average of 5 numbers is 140. If one number is excluded, the average of the remaining 4 numbers is 130. The excluded number is :
(A) 135 (B) 134
(C) 180 (D) 150
106. If toys are bought at ₹ 5 each and sold at ₹ 4.50 each, then the loss is
(A) 10% (B) 11%
(C) 12% (D) 13%
107. What is the greatest number which will divide 110 and 128 leaving a remainder 2 in each case ?
(A) 8 (B) 18
(C) 28 (D) 38
108. If $a = 23$ and $b = -29$, then the value of $25a^2 + 40ab + 16b^2$ is :
(A) 1 (B) -1
(C) 0 (D) 2
109. If $(2^x)(2^y) = 8$ and $(9^x)(3^y) = 81$, then (x, y) is :
(A) (1, 2) (B) (2, 1)
(C) (1, 1) (D) (2, 2)
110. One chord of a circle is known to be 10.1 cm. The radius of this circle must be :
(A) 5 cm
(B) greater than 5 cm
(C) greater than or equal to 5 cm
(D) less than 5 cm
111. Both the end digits of a 99 digit number N are 2. N is divisible by 11, then all the middle digits are
(A) 1 (B) 2
(C) 3 (D) 4
112. If $0 < x < \frac{\pi}{2}$ and $\sec x = \operatorname{cosec} y$, then the value of $\sin(x + y)$ is
(A) 0 (B) 1
(C) $\frac{1}{2}$ (D) $\frac{1}{\sqrt{3}}$
113. A solid wooden toy is in the shape of a right circular cone mounted on a hemisphere. If the radius of the hemisphere is 4.2 cm and the total height of the toy is 10.2 cm, find the volume of the wooden toy (nearly).
(A) 104 cm^3 (B) 162 cm^3
(C) 427 cm^3 (D) 266 cm^3
114. A can do a piece of work in 12 days. B is 50% more efficient than A. In how many days B will finish the same work ?
(A) 6 days (B) 8 days
(C) 12 days (D) 24 days

SPACE FOR ROUGH WORK

115. Each interior angle of a regular polygon is three times its exterior angle, then the number of sides of the regular polygon is :
(A) 9 (B) 8
(C) 10 (D) 7
116. Selling an article at a profit of 5%, Mr.X gets ₹ 150 more than selling it at a loss of 5%. Mr.X purchased the article at
(A) ₹ 15,000 (B) ₹ 1500
(C) ₹ 150 (D) ₹ 15
117. The ratio of the radii of two circles is 1 : 2, then the ratio of their area is :
(A) 1:2 (B) 2:1
(C) 1:4 (D) 4:5
118. The true discount on a sum of money due 2 years hence at 5% is ₹ 15. Find the sum.
(A) 150 (B) 165
(C) 170 (D) 160
119. The average weight of 5 persons sitting in a boat is 38 kg. The average weight of the boat and the persons sitting in the boat is 52 kg. What is the weight of the boat ?
(A) 228 kg (B) 122 kg
(C) 232 kg (D) 242 kg
120. The value of the expression $x^4 - 17x^3 + 17x^2 - 17x + 17$ at $x = 16$ is
(A) 0 (B) 1
(C) 2 (D) 3
121. In a cylindrical vessel of diameter 24 cm filled up with sufficient quantity of water, a solid spherical ball of radius 6 cm is completely immersed. Then the increase in height of water level is :
(A) 1.5 cm (B) 2 cm
(C) 3 cm (D) 4.2 cm
122. If $x - \frac{1}{x} = 5$, then $x^2 + \frac{1}{x^2}$ is :
(A) 5 (B) 25
(C) 27 (D) 23
123. Each side of an equilateral triangle is 6 cm. Find its area.
(A) $9\sqrt{3}$ sq cm (B) $6\sqrt{3}$ sq cm
(C) $4\sqrt{3}$ sq cm (D) $8\sqrt{3}$ sq cm
124. If $\sin 17^\circ = \frac{x}{y}$, then the value of $\sec 17^\circ - \sin 73^\circ$ is :
(A) $\frac{y^2 - x^2}{xy}$ (B) $\frac{x^2}{\sqrt{y^2 - x^2}}$
(C) $\frac{x^2}{y\sqrt{y^2 + x^2}}$ (D) $\frac{x^2}{y\sqrt{y^2 - x^2}}$
125. The distance between Howrah and New Delhi via Patna is 1440 km, and the distance between Howrah and New Delhi via Gaya is 5% less. Then the distance between the places via Gaya (in kms) is
(A) 1398 (B) 1368
(C) 1388 (D) 1268
126. The value of $\tan 1^\circ \tan 2^\circ \tan 3^\circ \dots \dots \tan 89^\circ$ is
(A) 1 (B) 0
(C) $\sqrt{3}$ (D) $\frac{1}{\sqrt{3}}$
127. $0.\overline{123}$ is equal to
(A) $\frac{14}{333}$ (B) $\frac{41}{333}$
(C) $\frac{123}{1000}$ (D) $\frac{441}{333}$
128. ABCD is a cyclic parallelogram. The angle $\angle B$ is equal to :
(A) 30° (B) 60°
(C) 45° (D) 90°

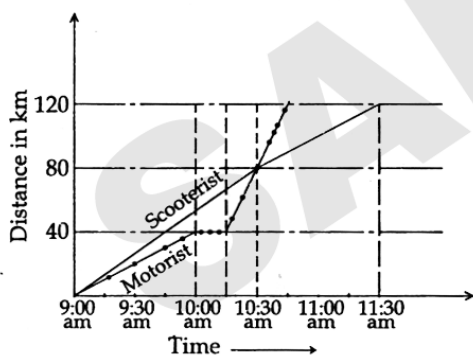
SPACE FOR ROUGH WORK

129. Ravi travels 300 km partly by train and partly by car. He takes 4 hr. to reach, if he travels 60 km by train and rest by car. He will take 10 minutes more if he were to travel 100 km by train and rest by car. The speed of the train is :
(A) 50 km/hr (B) 60 km/hr
(C) 100 km/hr (D) 120 km/hr
130. The angles of elevation of the top of a tower from two points A and B lying on the horizontal through the foot of the tower are respectively 15° and 30° . If A and B are on the same side of the tower and $AB = 48$ metre, then the height of the tower is
(A) $24\sqrt{3}$ metre (B) 24 metre
(C) $24\sqrt{2}$ metre (D) 96 metre
131. If $A : B$ is $2 : 3$, $B : C$ is $6 : 11$, then $A : B : C$ is :
(A) $2 : 3 : 11$ (B) $4 : 6 : 22$
(C) $4 : 6 : 11$ (D) $2 : 6 : 11$
132. The allowances of an employee constitute 165% of his basic pay. If he receives ₹ 11925 as gross salary, then his basic pay is (in ₹)
(A) 4000 (B) 5000
(C) 4500 (D) 5500
133. A cistern is normally filled in 8 hours but takes another 2 hours longer to fill because of a leak in its bottom. If the cistern is full, the leak will empty it in :
(A) 16 hours (B) 20 hours
(C) 25 hours (D) 40 hours
134. The product of two numbers is 36 and their sum is 13. The positive difference between the two numbers is
(A) 1 (B) 3
(C) 5 (D) 9
135. Two equal circles of radius 4 cm intersect each other such that each passes through the centre of the other. The length of the common chord is :
(A) $2\sqrt{3}$ cm (B) $4\sqrt{3}$ cm
(C) $2\sqrt{2}$ cm (D) 8 cm
136. From four corners of a square sheet of side 4 cm, four pieces, each in the shape of arc of a circle with radius 2 cm, are cut out. The area of the remaining portion is :
(A) $(8 - \pi)$ sq. cm.
(B) $(16 - 4\pi)$ sq. cm.
(C) $(16 - 8\pi)$ sq. cm.
(D) $(4 - 2\pi)$ sq. cm.
137. If A, B and C be the angles of a triangle, then of the following the incorrect relation is :
(A) $\sin \frac{A+B}{2} = \cos \frac{C}{2}$
(B) $\cos \left(\frac{A+B}{2} \right) = \sin \frac{C}{2}$
(C) $\tan \left(\frac{A+B}{2} \right) = \sec \frac{C}{2}$
(D) $\cot \left(\frac{A+B}{2} \right) = \tan \frac{C}{2}$
138. If two-third of A is four-fifth of B, then $A : B = ?$
(A) 5:6 (B) 6:5
(C) 10:9 (D) 9:10
139. The lines $2x + y = 5$ and $x + 2y = 4$ intersect at the point
(A) (1, 2) (B) (2, 1)
(C) $(5/2, 0)$ (D) (0, 2)

SPACE FOR ROUGH WORK

140. If $x = 3 + 2\sqrt{2}$, then the value of $\left(\sqrt{x} - \frac{1}{\sqrt{x}}\right)$ is
- (A) 1 (B) 2
(C) $2\sqrt{2}$ (D) $3\sqrt{3}$
141. Two successive discounts of 5%, 10% are given for an article costing ₹ 850/-. Present cost of the article is (in ₹)
- (A) 725 (B) 726.75
(C) 700 (D) 650

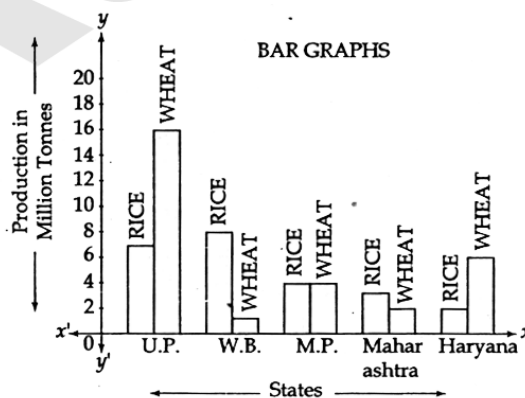
A motorist and a scooterist made a journey of 120 km at the same time and from the same place. The graph shows the progress of the journey made by each person. Study the graph and answer the questions 142 to 145.



142. How far, from the start, did the motorist meet the scooterist? (in km)
- (A) 75 (B) 70
(C) 90 (D) 80

143. What was the speed of the scooterist during the journey? (in km/hr.)
- (A) 45 (B) 48
(C) 42 (D) 46
144. The scooterist completes the journey in (hrs).
- (A) 3 (B) 2
(C) $2\frac{1}{2}$ (D) $3\frac{1}{2}$
145. At what time did the motorist meet the scooterist?
- (A) 10.30 am (B) 10.45 am
(C) 10.15 am (D) 10.20 am

Read the bar graph given below and answer questions 146 to 150.



146. Which of the above States is the largest producer of rice?
- (A) U.P (B) W.B
(C) M.P (D) Haryana

SPACE FOR ROUGH WORK

147. Which of the above State is the largest producer of wheat ?
(A) M.P. (B) Haryana
(C) Maharashtra (D) U.P.
148. What fraction of rice is produced by Haryana of the total production of rice by all the above States ?
(A) $\frac{1}{8}$ (B) $\frac{1}{12}$
(C) $\frac{1}{4}$ (D) $\frac{1}{6}$
149. Which of the above States is least producer of wheat ?
(A) Maharashtra (B) W.B.
(C) M.P. (D) Haryana
150. In which of the above States, the total production of rice and wheat is the least ?
(A) W.B. (B) M.P.
(C) Maharashtra (D) Haryana

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142. Reena and Shaloo are partners in a business. Reena invests ₹ 35,000 for 8 months and Shaloo invests ₹ 42,000 for 10 months. Out of a profit of ₹ 31,570, Reena's share is :
(A) ₹ 9,471 (B) ₹ 12,628
(C) ₹ 18,040 (D) ₹ 18,942
143. A can build a wall in 30 days which B can build in 40 days. If they build it together and get a payment of ₹ 700, what is B's share ?
(A) ₹ 250 (B) ₹ 275
(C) ₹ 300 (D) ₹ 325
144. In a certain time if ₹ 8,000 at 3% simple interest per annum produces the same earning as ₹ 6,000 does in 5 years at 4% simple interest per annum then the time (in years) for first case is
(A) 3 (B) 5
(C) 4 (D) 6
145. If 159 is multiplied first by 367 and then by 482, which of the following number would finally come at the unit place ?
(A) 2 (B) 4
(C) 6 (D) 3
146. Average marks of 10 students is 60. Marks of two students were altered as 50 instead of 40 and 30 instead of 40. The new average is
(A) 59 (B) 61
(C) 60.5 (D) 60
147. The point of intersection of two straight lines $x + 2 = 0$ and $3y = 6$ is :
(A) (2, 2) (B) (-2, 2)
(C) (2, -2) (D) (2, 6)
148. The altitude of an equilateral triangle is $2\sqrt{3}$ cm. Then its perimeter will be :
(A) 6 cm (B) 8 cm
(C) 12 cm (D) 9 cm
149. The value of $\frac{4}{\sec^2\theta} + \frac{1}{1 + \cot^2\theta} + 3 \sin^2\theta$ is
(A) 3 (B) 2
(C) 4 (D) 1
150. The value of k for which $(x^2 - 2kx + 4)$ is a perfect square for all real values of x is
(A) 2 only (B) -2 only
(C) ± 2 (D) 1

SPACE FOR ROUGH WORK

PART - (d)

ENGLISH LANGUAGE

Directions : In questions 151 to 155, some part of the sentences have errors and some have none. Find out which part of a sentence has an error and blacken the rectangle [■] corresponding to the appropriate letter (A, B, C). If there is no error, blacken the rectangle [■] corresponding to (D) in the Answer-Sheet.

151. I wasn't / at the last meeting and /
(A) (B)

neither was you / No error.
(C) (D)

152. The three individuals are so different /
(A)

that their tastes vary / from one another /
(B) (C)

No error.
(D)

153. He remembered / that his visa /
(A) (B)

will be expired in a month / No error.
(C) (D)

154. When I shall see him / I shall / tell him /
(A) (B) (C)

No error.
(D)

155. In any case no disciplinary action /
(A)

are required / to be taken / No error.
(B) (C) (D)

Directions : In questions 156 to 160, sentences are given with blanks to be filled in with an appropriate word(s). Four alternatives are suggested for each question. Choose the correct alternative out of the four and indicate it by blackening the appropriate rectangle [■] in the Answer-Sheet.

156. That hardly counts, _____
(A) does it? (B) doesn't it?
(C) do it? (D) don't it?

157. There aren't _____ mountains in that part of the country.
(A) much (B) many
(C) more (D) less

158. An optimist thinks that all _____ well with the world.
(A) shall (B) will be
(C) is (D) was

159. Only people who are afraid to sign their names, send _____ letters.
(A) unanimous (B) anonymous
(C) official (D) informal

160. The examination will begin _____ Monday.
(A) from (B) in
(C) at (D) on

Directions : In questions 161 to 165, 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. Novice
(A) beginner (B) virtuous
(C) trainer (D) learner

162. Adversary
(A) poverty (B) contestant
(C) opponent (D) antagonistic

163. Dishonour
(A) Infamy (B) Glory
(C) Uncouth (D) Wicked

164. Erudite
(A) scholarly (B) friendly
(C) miserly (D) lovely

165. Idea
(A) comprehension (B) notion
(C) emotion (D) gist

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

166. Obvious
(A) simple (B) clear
(C) difficult (D) vague

167. Implicit
(A) explicit (B) implied
(C) explained (D) exquisite

168. Capture
(A) catch (B) detain
(C) liberate (D) stop

169. Repulsive
(A) attractive (B) offensive
(C) defensive (D) pensive

170. Misery
(A) sorry (B) careless
(C) joy (D) content

Directions : In questions 171 to 175, four alternatives are given for the idiom/phrase. Choose the alternative which best expresses the meaning of the idiom/phrase and mark it in the Answer-Sheet.

171. to play havoc with
(A) to ruin (B) to alter
(C) to swallow (D) to affect

172. herculean task
(A) an easy puzzle (B) a good contest
(C) a difficult thing (D) a hurried job

173. a red letter day
(A) an unimportant day
(B) a festival occasion
(C) an important day
(D) an insignificant occasion

174. a bone of contention
(A) a matter of dispute
(B) a settled quarrel
(C) food for thought
(D) competition

175. To give currency
(A) To make publicly known
(B) To misinterpret
(C) To bestow importance
(D) To originate

Directions : In questions 176 to 180, a part of the sentence is underlined. Below are given alternatives to the underlined 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. He threwed it out of the window.
(A) threw
(B) throw
(C) thrown
(D) No improvement

177. In the hot afternoon, after a long walk, I rested under the shadow of a tree.

- (A) shelter
- (B) shade
- (C) cool
- (D) No improvement

178. Your answer book will be answered with the help of a computer.

- (A) judged (B) tested
- (C) evaluated (D) seen

179. Marconi assembled the radio.

- (A) Discovered
- (B) Made
- (C) Invented
- (D) No improvement

180. He showed great kind to his friend.

- (A) kindness
- (B) kind heart
- (C) kind hearted
- (D) no improvement

Directions : In questions 181 to 185, out of the four alternatives, choose the one which can be substituted for the given words/sentence and indicate it by blackening the appropriate rectangle [■] in the Answer-Sheet.

181. Ability to go on in spite of difficulties.

- (A) delirious (B) desirous
- (C) perseverance (D) pervasive

182. A number of ships, vehicles etc. travelling together under escort

- (A) retinue (B) fleet
- (C) posse (D) convoy

183. An instrument for measuring wind pressure.

- (A) Manometer (B) Micrometer
- (C) Temperature (D) Barometer

184. To destroy completely

- (A) Annihilate (B) rehabilitate
- (C) incapacitate (D) dislocate

185. to die in water or any other liquid because one is unable to breathe.

- (A) sink (B) drown
- (C) flounder (D) founder

Directions : In questions 186 to 190, 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) emanicipation (B) emancipasion
(C) emancipation (D) emansipation

187. (A) prejudice (B) prejudise
(C) predjudice (D) prejudis

188. (A) surgeon (B) surjon
(C) surgen (D) surjun

189. (A) potatos
(B) potatoes
(C) potatose
(D) none of the above

190. (A) ireversible (B) irreversible
(C) irrevarsible (D) irravarsible

Directions : In the following passage 191 to 200, some of the words have been left out. First read the passage over and try to understand what it is about. Then fill in the blanks with the help of the alternatives given. Mark your answer in the Answer-Sheet.

The great advantage of early rising is the good 191 it gives us in our day's work. The early riser can do a large amount of work 192 other men get out of bed. In the early morning the mind is fresh, and there are few sounds or other 193, so that work done at that time is generally 194. In many cases the early riser also finds time to 195 some exercise in the fresh morning air, and this exercise supplies him with a fund of energy that will last 196 the evening. By beginning so early, he knows that he has plenty of time to do 197 or the work he can be 198 to do, and is not tempted to 199 over any part of it. All his work being finished in good time, he has a long 200 of rest in the evening, before the timely hour when he goes to bed.

191. (A) kick (B) habit
(C) rise (D) start
192. (A) after (B) before
(C) while (D) as
193. (A) distractions (B) attractions
(C) passions (D) contraptions
194. (A) quickly done (B) well done
(C) smartly done (D) secretly done
195. (A) perform (B) act
(C) do (D) undergo
196. (A) for (B) until
(C) by (D) in

197. (A) happily (B) leisurely
(C) thoroughly (D) slowly
198. (A) paid (B) deemed
(C) forced (D) expected
199. (A) run (B) hurry
(C) worry (D) ponder
200. (A) epoch (B) cycle
(C) moment (D) interval

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