

**CPO SI Exam
Paper
Held On
27-05-2012
(1st Sitting
English)**

PART - A : GENERAL INTELLIGENCE & REASONING

Directions : In questions no. 1 to 7, select the related word/letters from the given alternatives.

1. Blue whale : Sea :: ? : Land
(A) Turtle (B) Fish
(C) Elephant (D) Green whale
2. Anaemia : Blood :: Anarchy : ?
(A) Disorder (B) Monarchy
(C) Government (D) Lawlessness
3. Hard : Rock :: Soft : ?
(A) Lead (B) Paper
(C) Sponge (D) Glass
4. DHLP : BDFH :: FLRX : ?
(A) CFHL (B) CFIL
(C) FHLK (D) HLKM
5. DIMP : CJLQ :: UWZA : ?
(A) XTYB (B) TXBY
(C) XTBY (D) TXYB
6. ABDH : CFHP :: JKMQ : ?
(A) LOSY (B) KOQY
(C) KPQR (D) LOQY
7. IJKL : STUV :: MNOP : ?
(A) PQRS (B) RSTU
(C) VWXY (D) WXYZ

Directions : In questions no. 8 to 15, find the odd word/number/letters from the given alternatives.

8. (A) Sparrow (B) Kingfisher
(C) Nightingale (D) Bat
9. (A) Dive (B) Trench
(C) Canal (D) Ditch
10. (A) 206 (B) 125
(C) 27 (D) 8
11. (A) Shack (B) Barn
(C) Stable (D) Barrack
12. (A) GALLOP (B) SINK
(C) ALBINO (D) CRAB
13. (A) Crew (B) Company
(C) Army (D) Ants
14. (A) eMnT (B) iRsL
(C) oKsZ (D) vGtN
15. 1. 1, 2, 4, 5 2. 6, 7, 14, 15
3. 3, 4, 8, 9 4. 4, 5, 10, 12
(A) 1 (B) 3
(C) 4 (D) 2

Directions : In questions no. 16 to 19, a series is given, with one term missing. Choose the correct alternative from the given ones that will complete the series.

16. STU, WXY, ABC, ?

- (A) DEF (B) EFG
(C) FCG (D) EGF

17. A3E, F5J, K7O, ?

- (A) Q11T (B) Q9V
(C) P9T (D) P11T

18. GX, JU, NR, SO, ?

- (A) VL (B) YL
(C) XB (D) YA

19. BAT, EAT, HAT, ?

- (A) CAT (B) FAT
(C) RAT (D) KAT

20. Find the wrong term in the following series :

49, 49, 50, 54, 60, 79, 104

- (A) 60 (B) 49
(C) 104 (D) 54

21. Among the four sets, find out the set, which is like the given set.

Given set : (12, 72, 216)

- (A) (4, 24, 48) (B) (7, 42, 252)
(C) (11, 60, 30) (D) (5, 30, 90)

22. A series of figures are given which can be grouped as related to students, artists and scientists. Select the groups into which the figures can be classified.



1. Pen 2. Flask
3. Book 4. Test tube
5. School bag 6. Design
7. Flame 8. Flower
9. Painting

- (A) (1, 3, 5) (2, 4, 7) (6, 8, 9)
(B) (2, 3, 5) (1, 6, 7) (4, 8, 9)
(C) (1, 2, 6) (3, 4, 8) (7, 5, 9)
(D) (3, 4, 5) (1, 2, 6) (7, 8, 9)

23. Which one of the following numbers lacks the common property in the series ?

81, 36, 25, 9, 5, 16

- (A) 5 (B) 9
(C) 36 (D) 25

24. A car travels 20 miles in the same time as another car, travelling 20 MPH faster, covers 30 miles. How long does the journey take ?

- (A) 31 minutes (B) 29 minutes
(C) 30 minutes (D) 28 minutes

25. A person walks 9 km to the South. From there he walks 5 km to the North. After this he walks 3 km to the West. In which direction and how far is he now from the starting point ?

- (A) 4 km South
(B) 4 km North
(C) 5 km North West
(D) 5 km South West

26. Shankar and Ganesh walked 150 meters towards East. Shankar turned left and walked 100 meters. Ganesh went straight for another 100 meters. Afterwards Ganesh turned to right and Shankar turned left. In which direction are they facing now ?

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

27. Complete the third equation on the basis of a certain system followed in the first two equations.

1. $1 \times 8 \times 5 \times 3 \times 7 = 73581$
2. $5 \times 7 \times 6 \times 2 \times 4 = 42675$
3. $9 \times 4 \times 3 \times 2 \times 8 = ?$

- (A) 83924 (B) 82349
(C) 28394 (D) 28934

28. Identify the hidden name of the geometrical figure in the given word from among the answer words whose letters are given in jumbled form.

SPIRITUAL

- (A) RISPAL (B) RITUAL
(C) SPIRIT (D) RIPITU

Directions : In questions no. 29 to 31, select the missing number from the given responses.

29.

8	7	6
8	7	6
88	77	?
5632	3773	3132

- (A) 66 (B) 87
(C) 78 (D) 76

30.

28	35	32
7	5	8
4	3	?
8	10	9

- (A) 3 (B) 5
(C) 6 (D) 7

31.

$12(288)_2; 5(50)_2, 19(?)_2$

- (A) 722 (B) 324
(C) 776 (D) 684

32.

In the alphabetical order A, B, C, D, ... Z, which letter is 11th to the left of the letter which is 4th to the right of T ?

- (A) K (B) O
(C) I (D) M

33.

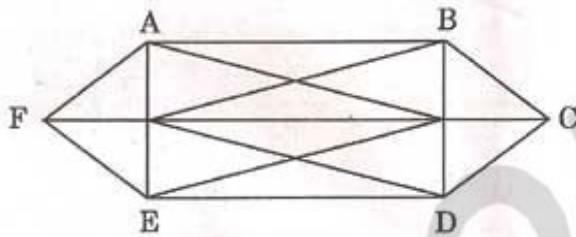
If DEGI is equal to 25, what is FEHD equal to ?

- (A) 32 (B) 25
(C) 52 (D) 23

34. If SISTER is coded as 20, 10, 20, 21, 6, 19, then the code for BROTHER is
 (A) 2, 15, 16, 21, 9, 5, 18
 (B) 3, 19, 16, 21, 9, 6, 19
 (C) 4, 20, 15, 18, 8, 7, 9
 (D) 3, 18, 16, 20, 9, 7, 19

35. If $64 + 53 = 4$, $86 + 42 = 4$, then $83 + 72 = ?$
 (A) 12 (B) 10
 (C) 15 (D) 18

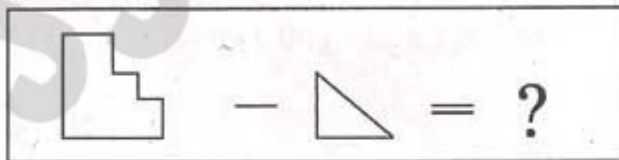
36. How many triangles are there in the figure ABCDEF ?



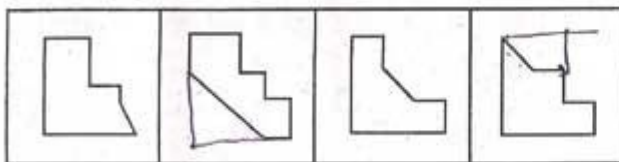
- (A) 24 (B) 26
 (C) 28 (D) 30

37. In the question, one part of the problem figure is subtracted. Select the option that shows the correct shape after subtraction.

Question figure :



Answer figures :



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

38. Find the answer figure which completes the question figure.

Question figure :



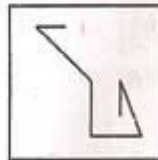
Answer figures :



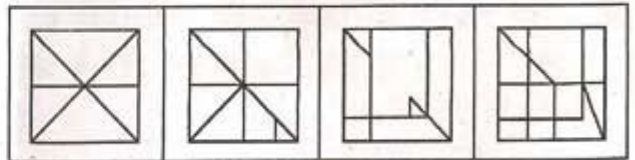
- (A) (B) (C) (D)

39. Select the answer figure in which the question figure is hidden.

Question figure :



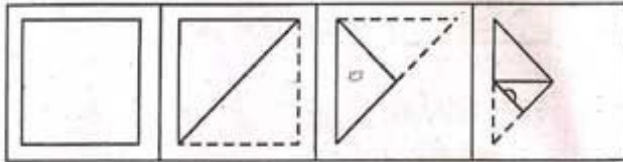
Answer figures :



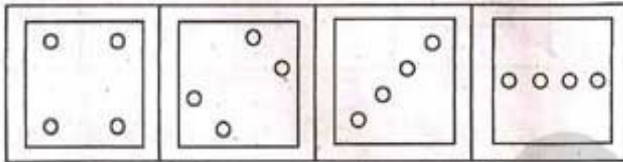
- (A) (B) (C) (D)

40. A square sheet of paper has been folded and punched as shown below in the question figures. You have to figure out from amongst the four answer figures, how it will appear when opened ?

Question figure :



Answer figures :



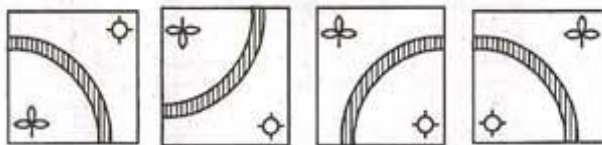
(A) (B) (C) (D)

41. If a mirror is placed on the line AB, then which of the answer figures is the correct image of the given question figure ?

Question figure :



Answer figures:-



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

Directions : In question no. 42, one statement is given followed by two conclusions. 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, if any, follow from the given statement.

42. Statement :

Go by aeroplane to reach Delhi from Chennai quickly.

Conclusions :

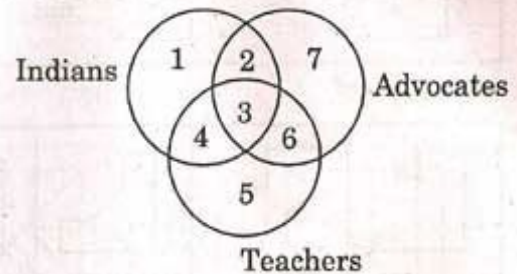
- I. Chennai and Delhi are connected by aeroplane service.
- II. There is no other means of going from Chennai to Delhi.

- (A) Only conclusion I is implicit
- (B) Only conclusion II is implicit
- (C) Both conclusions I and II are implicit
- (D) Neither conclusion I nor II is implicit

43. If America is called Greenland, Greenland is called Africa, Africa is called Russia, Russia is called India and India is called Pakistan; Delhi is called the capital of which country ?

- (A) Russia
- (B) India
- (C) Pakistan
- (D) Greenland

44. Which number space indicates Indian teachers who are also advocates ?



- (A) 2
- (B) 3
- (C) 4
- (D) 6

45. 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 2 matrices given below. The columns and rows of matrix I are numbered from 0 to 4 and that of matrix II from 5 to 9. A letter from these matrices can be represented first by its row and next column number. E.g. 'F' can be represented by 14, 21, etc. 'T' can be represented by 59, 78, etc. Similarly identify the set for the word POSE.

MATRIX I

	0	1	2	3	4
0	D	E	F	I	N
1	I	N	D	E	F
2	E	F	I	N	D
3	N	D	E	F	I
4	F	I	N	D	E

MATRIX II

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

- (A) 87, 55, 89, 43
 (B) 68, 98, 58, 21
 (C) 75, 86, 67, 14
 (D) 56, 67, 77, 01
46. Which will appear third in the dictionary ?
- (A) Monarchy (B) Monastic
 (C) Monetary (D) Moneyed

47. Arrange the following words according to dictionary order :

1. Banquet
2. Bangle
3. Bandage
4. Bantam
5. Bank

- (A) 3, 2, 4, 5, 1 (B) 3, 5, 2, 1, 4
 (C) 3, 2, 1, 5, 4 (D) 3, 2, 5, 1, 4

48. In the question below, some numbers are given in rows A, B, C, D. In three rows, the numbers are related to each other while the numbers in one row hold no relation. Identify that row.

- (A) 5, 4, 1, 2 (B) 6, 8, 10, 12
 (C) 10, 8, 2, 4 (D) 15, 12, 3, 6

49. If Q means add to, J means multiply by, T means subtract from, K means divided by, then

$$30 K 2 Q 3 J 6 T 5 = ?$$

- (A) 18 (B) 28
 (C) 31 (D) 103

50. If I means 'x', You means '÷', We means '-' and He means '+', then what will be the value of 8 I 12 He 16 You 2 We 10 ?

- (A) 45 (B) 94
 (C) 96 (D) 112

PART - B : GENERAL KNOWLEDGE & GENERAL AWARENESS

51. Which one of the following statements is correct ?
- (A) A commodity will have value if it is wanted by somebody.
- (B) A commodity will have value only if it is scarce relative to demand.
- (C) The value of a commodity depends upon its price.
- (D) The value of a commodity is entirely dependent upon the substitutes.
52. Which of the following formulae could be used for calculating the per capita income of a country ?
- (A) $\frac{\text{Total family income}}{\text{Number of family members}}$
- (B) $\frac{\text{National income}}{\text{Total population}}$
- (C) $\frac{\text{Total income of various industries}}{\text{Total number of industrial workers}}$
- (D) $\frac{\text{Total Government Revenue}}{\text{Total population}}$
53. For controlling inflation, the central bank should
- (A) sell Government securities in the open market
- (B) lower the bank rate
- (C) purchase Government securities in the open market
- (D) lower the reserve ratio of the banks
54. There is no selling cost under
- (A) Perfect competition
- (B) Monopolistic competition
- (C) Oligopoly
- (D) Duopoly
55. Which of the following is *not* a function of the Exim Bank of India ?
- (A) Financing of export and import of goods and services
- (B) Inspection of exported goods for quality assurance
- (C) Financing of joint ventures in foreign countries
- (D) Loans to Indian parties for contributing to share capital of joint ventures abroad
56. Which of the following systems in independent India goes against the very basis of democracy ?
- (A) Caste system
- (B) Economic system
- (C) Party system
- (D) Parliamentary system
57. According to Karl Marx, the change in economic system results in inevitable change in
- (A) political system only
- (B) social system only
- (C) the entire systems
- (D) religious system only

58. The model code of conduct for political parties and candidates to be followed during the elections is
- (A) laid down in the Constitution of India
 (B) specified in The Representation of the People Act, 1951
 (C) enjoined by the Supreme Court
 (D) agreed through a voluntary agreement among the recognised political parties
59. A citizen can directly move the Supreme Court for any violation of Fundamental Rights under
- (A) Article 31 (B) Article 32
 (C) Article 33 (D) Article 34
60. Which one of the following sitting Vice-Presidents of India contested for the post of President and lost the election ?
- (A) S. Radhakrishnan
 (B) V.V. Giri
 (C) Bhairon Singh Shekhawat
 (D) Both (B) and (C)
61. The French challenge to British in India came to an end with
- (A) Battle of Wandiwash
 (B) Battle of Srirangapattinam
 (C) Battle of Plassey
 (D) Battle of Buxar
62. Identify the medical trio of ancient India from the following names.
- (A) Charaka, Susruta and Vagbhata
 (B) Charaka, Vatsyayana and Vagbhata
 (C) Charaka, Susruta and Bharata
 (D) Charaka, Susruta and Patanjali
63. Match the medieval travellers with their countries :
- | | |
|-----------------------|------------|
| a. Marco Polo | 1. Spain |
| b. Ibn Battuta | 2. Balkh |
| c. Antonio Monserrate | 3. Italy |
| d. Mahmud Wali Balkhi | 4. Morocco |
- | | a | b | c | d |
|-----|---|---|---|---|
| (A) | 4 | 3 | 1 | 2 |
| (B) | 3 | 1 | 4 | 2 |
| (C) | 3 | 4 | 1 | 2 |
| (D) | 1 | 3 | 2 | 4 |
64. Rana Kumbha constructed the Tower of Victory at Chittor to mark his victory over
- (A) Ahmad Shah of Gujarat
 (B) Mahmud Khalji of Malwa
 (C) The Khan of Nagaur
 (D) Rao Jodha of Marwar
65. Match the following :
- | | |
|--------------------------|-----------------------------|
| a. Sarojini Naidu | 1. Muslim League |
| b. M.A. Jinnah | 2. Indian National Congress |
| c. Sir Tej Bahadur Sapru | 3. Hindu Mahasabha |
| d. V.D. Savarkar | 4. Liberal Party |
- | | a | b | c | d |
|-----|---|---|---|---|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 2 | 1 | 3 | 4 |
| (C) | 2 | 4 | 1 | 3 |
| (D) | 4 | 1 | 3 | 2 |
66. The Social Forestry Scheme was introduced during
- (A) Fourth Five Year Plan
 (B) Eighth Five Year Plan
 (C) Second Five Year Plan
 (D) Sixth Five Year Plan

67. The project similar to T.V.A. (Tennessee Valley Authority) of U.S.A. in India is
 (A) Damodar Valley Project
 (B) Mahanadi Delta Project
 (C) Ramganga Multipurpose Project
 (D) Idukki Project
68. Petrology is the study of
 (A) rocks (B) soils
 (C) earth (D) minerals
69. Match the following :
- | | |
|-----------------|----------------------|
| a. Rosewood | 1. Mangrove forests |
| b. Bushes | 2. Alpine forests |
| c. Birch | 3. Deciduous forests |
| d. Sundari tree | 4. Dry forests |
- | | | | | |
|-----|----------|----------|----------|----------|
| | a | b | c | d |
| (A) | 4 | 3 | 2 | 1 |
| (B) | 3 | 4 | 2 | 1 |
| (C) | 1 | 2 | 3 | 4 |
| (D) | 2 | 3 | 4 | 1 |
70. During the period of South-West monsoon, Tamil Nadu remains dry because
 (A) the winds do not reach this area
 (B) there are no mountains in this area
 (C) it lies in the rain-shadow area
 (D) the temperature is too high to let the winds cool down
71. The red colour of ripe tomatoes is due to the presence of
 (A) Hormones (B) Vitamins
 (C) Chlorophyll (D) Carotenoids
72. Anticoagulants are *not* present in
 (A) Mosquito (B) Bed bug
 (C) Leech (D) Wasp
73. Vegetation is effective in absorbing
 (A) Pollutant gases
 (B) Polluted water
 (C) High frequency sound
 (D) Pollutant metals
74. When a person cries, there is a watery discharge from the nose due to activation of
 (A) Salivary gland
 (B) Lachrymal gland
 (C) Thyroid gland
 (D) Endocrine gland
75. The fundamental role of root hairs in plants is
 (A) to protect the young root from damage by coarse soil particles
 (B) to protect the root from soil microbes
 (C) to absorb water and mineral salts from the soil
 (D) to bind soil particles to the root for firm fixation of the plant
76. Catch crops are
 (A) crops planted to attract certain insect pests to be destroyed
 (B) crops planted to attract certain useful insects to be used for biological control of pests
 (C) crops to be cut and fed green to the cattle
 (D) substitute crops planted after the regular crop has failed
77. Which one of the following acts as a mediator between the user's program and the hardware ?
 (A) Compiler
 (B) Editor
 (C) Operating System
 (D) Browser

78. If you use a font that is **not** supported by a browser, then the text
- (A) will be displayed in the default font
 - (B) will not be displayed
 - (C) will be displayed using 'ARIAL' font only
 - (D) will be displayed with a particular background
79. The pigment that protects plants from UV damage is
- (A) Chlorophyll
 - (B) Xanthophyll
 - (C) Phycocyanin
 - (D) Carotenoids
80. United Nations Conference on Environment and Development is called
- (A) Earth Summit
 - (B) Water Summit
 - (C) Air Summit
 - (D) Resource Summit
81. A bioenergy source obtained by fermentation to supplement fossil fuel petrol is
- (A) Kerosene (B) Ethanol
 - (C) Diesel (D) Methane
82. The substance that causes the worst air pollution is
- (A) Smoke
 - (B) Sulphur dioxide
 - (C) Carbon dioxide
 - (D) Carbon monoxide
83. A liquid is said to boil when its
- (A) vapour pressure equals the surrounding pressure
 - (B) vapour pressure vanishes to zero
 - (C) vapour pressure is greater than the surrounding pressure
 - (D) vapour pressure is less than the surrounding pressure
84. Which is **not** correct regarding covalent compounds ?
- (A) The reaction is slow
 - (B) The reaction is fast
 - (C) Compounds are usually liquids and gases
 - (D) Boiling points and melting points are low
85. Choose the correct statement.
- (A) The components of a mixture cannot be separated
 - (B) The properties of a mixture are the same as those of its components
 - (C) Mixtures are homogeneous
 - (D) In a mixture the components are present in a fixed ratio
86. PVC is obtained by the polymerisation of
- (A) Propene (B) Vinyl chloride
 - (C) Styrene (D) Acetylene
87. To eliminate the glare of headlights in motor cars,
- (A) polaroids are used
 - (B) glass prisms are used
 - (C) thin films are used
 - (D) filters are used
88. The substances which have infinite electrical resistance are called
- (A) insulators (B) condensers
 - (C) conductors (D) resistors
89. The headquarters of International Atomic Energy Agency is located at
- (A) Geneva (B) Washington
 - (C) Vienna (D) Sydney

90. Stainless steel is an alloy of
 (A) iron, chromium and nickel
 (B) iron, chromium and carbon
 (C) iron, carbon and zinc
 (D) iron, zinc and manganese
91. Enriched uranium used in a nuclear reactor is
 (A) uranium free of all impurities
 (B) uranium treated with radiation
 (C) uranium alloyed with aluminium
 (D) uranium with a high percentage of a particular isotope
92. In a refrigerator, cooling is produced by
 (A) the ice which deposits in the freezer
 (B) the sudden expansion of a compressed gas
 (C) the evaporation of a volatile liquid
 (D) None of these
93. The first woman to conquer Mount Everest twice is
 (A) Surja Lata Devi
 (B) Jyoti Randhawa
 (C) Santosh Yadav
 (D) Suma Shirur
94. Which one of the following iron and steel works in India is *not* under public sector ?
 (A) Bokaro (B) Jamshedpur
 (C) Bhilai (D) Durgapur
95. Which Indian hockey player has a road named after him in Germany ?
 (A) Dhyan Chand (B) Zafar Iqbal
 (C) Roop Singh (D) Dhanraj Pillai
96. What is the name of the first research station established by India in the Antarctica ?
 (A) Dakshin Gangotri
 (B) Maitri
 (C) Agnihotri
 (D) Aryabhata
97. Who among the following was awarded Padma Vibhushan in 2011 for his exceptional and distinguished service in the field of trade and industry ?
 (A) Azim Premji
 (B) Ratan Tata
 (C) S. Gopalakrishnan
 (D) Mecca Rafeeqe Ahmed
98. The five permanent members of the U.N. Security Council are
 (A) China, France, Russia, U.K. and U.S.A.
 (B) China, Canada, France, U.S.A. and Germany
 (C) China, Germany, Russia, U.K. and U.S.A.
 (D) China, Germany, U.S.A. U.K. and Canada
99. Which of the following is *not* correctly paired ?
 (A) Jwala Gutta — Tennis
 (B) Virat Kohli — Cricket
 (C) Harbhajan Singh — Kabaddi
 (D) Saina Nehwal — Badminton
100. Which of the following States has the largest gap in male and female literacy as per 2011 Census (provisional data) ?
 (A) Uttar Pradesh
 (B) Madhya Pradesh
 (C) Rajasthan
 (D) Kerala

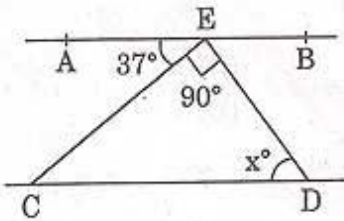
PART - C : QUANTITATIVE APTITUDE

101. Last year my age was a perfect square number. Next year it will be a cubic number. What is my present age ?
 (A) 25 years (B) 27 years
 (C) 26 years (D) 24 years
102. What is the value of $(2 \cdot 1)^2 \times \sqrt{0.0441}$?
 (A) 0.9261 (B) 92.61
 (C) 92.51 (D) 0.9251
103. The greatest number that can divide 140, 176, 264 leaving remainders of 4, 6 and 9 respectively is
 (A) 85 (B) 34
 (C) 17 (D) 2
104. There are 4 terms in an A.P. such that the sum of two means is 110 and product of their extremes is 2125. The 3rd term is
 (A) 65 (B) 75
 (C) 55 (D) 45
105. The value of $\sqrt[3]{1372} \times \sqrt[3]{1458}$ is
 (A) 116 (B) 126
 (C) 106 (D) 136
106. If 10 men or 18 boys can do a work in 15 days, then the number of days required by 15 men and 33 boys to do twice the work is
 (A) $4\frac{1}{2}$ (B) 8
 (C) 9 (D) 36
107. In a fort, there was sufficient food for 200 soldiers for 31 days. After 27 days, 120 soldiers left the fort. For how many extra days will the rest of the food last for the remaining soldiers ?
 (A) 10 days (B) 6 days
 (C) 4 days (D) 12 days
108. Equal amounts of water were poured into two empty jars of different capacities, which made one jar $\frac{1}{4}$ full and the other jar $\frac{1}{3}$ full. If the water in the jar with lesser capacity is then poured into the jar with greater capacity, then the part of the larger jar filled with water is
 (A) $\frac{1}{2}$ (B) $\frac{7}{12}$
 (C) $\frac{1}{4}$ (D) $\frac{1}{3}$
109. A bookseller makes 8% profit after selling the book at 10% discount. The ratio of the cost price to the marked price is
 (A) 4 : 5 (B) 5 : 4
 (C) 5 : 6 (D) 6 : 5
110. A certain sum of money is distributed to A and B in the ratio 2 : 5. If A received ₹ 100, then the money received by B is
 (A) ₹ 200 (B) ₹ 150
 (C) ₹ 250 (D) ₹ 300

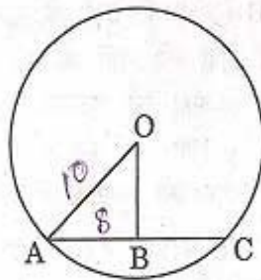
111. A man leaves ₹ 12,600 to be divided among 7 sons, 3 daughters and 5 nephews. If each daughter receives three times as much as each nephew and each son seven times as much as each nephew, then each daughter's share is
 (A) ₹ 700 (B) ₹ 650
 (C) ₹ 600 (D) ₹ 750
112. The average of three numbers 70, *7 and 5* is 57. If * represents the same digit, then it must be
 (A) 3 (B) 6
 (C) 4 (D) 7
113. Three years ago, the average age of a family of 8 members was 30 years. If one child is also included in the family, the present average age of the family remained the same. Then the present age of the child is
 (A) 3 years (B) 4 years
 (C) 6 years (D) 1 year
114. By selling an article for ₹ 21,000, a man gains 5%. To get a profit of 15%, he has to sell it for
 (A) ₹ 19,800 (B) ₹ 20,700
 (C) ₹ 23,000 (D) ₹ 25,000
115. Rahul bought two cycles for a total sum of ₹ 1,500. He sold one cycle at 20% loss and the other cycle at 20% gain. If the selling price of both the cycles is the same, find the cost price of the two cycles.
 (A) ₹ 500, ₹ 1,000 (B) ₹ 600, ₹ 900
 (C) ₹ 750 each (D) ₹ 550, ₹ 950
116. The salary of an employee increases every year in the month of July by 10%. If his salary in May 2000 was ₹ 15,000, his salary in October 2001 was
 (A) ₹ 16,500 (B) ₹ 18,000
 (C) ₹ 18,150 (D) ₹ 19,965
117. 72% of the students of a certain class took Biology and 44% took Mathematics. If each student took Biology or Mathematics and 40 took both, the total number of students in the class was
 (A) 200 (B) 230
 (C) 250 (D) 320
118. A man walks a certain distance and rides back taking a total time of 37 minutes. He could walk both ways in 55 minutes. How long would he take to ride both ways?
 (A) 9.5 minutes (B) 18 minutes
 (C) 19 minutes (D) 20 minutes
119. Mahesh starts work as a sales representative on an annual salary of ₹ 1,60,000. If he receives a 15% pay-rise each year, the number of years he has worked for the company, when his annual salary became ₹ 2,79,841 is
 (A) 2 (B) 3
 (C) 4 (D) 5
120. The base of a triangle is 2 cm more than twice its altitude. If the area is 12 sq. cm, its altitude will be
 (A) 6 cm (B) 5 cm
 (C) 4 cm (D) 3 cm

121. ABCD is a quadrilateral in which diagonal $BD = 64$ cm, $AL \perp BD$ and $CM \perp BD$, such that $AL = 13.2$ cm and $CM = 16.8$ cm. The area of the quadrilateral ABCD in square centimetres is
 (A) 537.6 (B) 960.0
 (C) 422.4 (D) 690.0
122. The area of a semi-circular field is 308 sq. m; then taking $\pi = \frac{22}{7}$, the length of the railing to surround it has to be
 (A) 44 m (B) 72 m
 (C) 88 m (D) 80 m
123. Volume of a right circular cone is numerically equal to its slant surface area. Then value of $\left(\frac{1}{h^2} + \frac{1}{r^2}\right)$, where h and r are height and radius of the cone respectively, is
 (A) 9 units (B) $\frac{1}{9}$ unit
 (C) 4 units (D) $\frac{1}{4}$ unit
124. If the numerical value of the volume of a right circular cylinder and its curved surface area are equal, then its radius is
 (A) 2 units (B) 4 units
 (C) 3 units (D) 6 units
125. ABCDEF is a regular hexagon of side 2 feet. The area, in square feet, of the rectangle BCEF is
 (A) 4 (B) $4\sqrt{3}$
 (C) 8 (D) $4 + 4\sqrt{3}$
126. If the volume and the surface area of a sphere are numerically equal, then the numerical value of the radius of the sphere is
 (A) 1 (B) 2
 (C) 3 (D) 4
127. If $\frac{5x-3}{x} + \frac{5y-3}{y} + \frac{5z-3}{z} = 0$, then the value of $\frac{1}{x} + \frac{1}{y} + \frac{1}{z}$ is
 (A) 15 (B) 3
 (C) 5 (D) 10
128. Minimum value of $x^2 + \frac{1}{x^2+1} - 3$ is
 (A) -3 (B) -2
 (C) 0 (D) -1
129. If $a + b = 5$, $a^2 + b^2 = 13$, the value of $a - b$ (where $a > b$) is
 (A) 2 (B) -1
 (C) 1 (D) -2
130. If $(3x - y) : (x + 5y) = 5 : 7$, then the value of $(x + y) : (x - y)$ is
 (A) 3 : 1 (B) 1 : 3
 (C) 2 : 3 (D) 3 : 2
131. The line passing through the points $(-2, 8)$ and $(5, 7)$
 (A) does not cut any axes
 (B) cuts x-axis only
 (C) cuts y-axis only
 (D) cuts both the axes
132. In ΔABC , $\angle B = 60^\circ$, $\angle C = 40^\circ$. If AD bisects $\angle BAC$ and $AE \perp BC$, then $\angle EAD$ is
 (A) 40° (B) 80°
 (C) 10° (D) 20°

133. In the figure below, if $AB \parallel CD$ and $CE \perp ED$, then the value of x is



- (A) 37 (B) 45
(C) 53 (D) 63
134. PA and PB are two tangents drawn from an external point P to a circle with centre O where the points A and B are the points of contact. The quadrilateral OAPB must be
- (A) a square (B) concyclic
(C) a rectangle (D) a rhombus
135. G is the centroid of ΔABC . If $AG = BC$, then $\angle BGC$ is
- (A) 60° (B) 120°
(C) 90° (D) 30°
136. In the following figure, if $OA = 10$ and $AC = 16$, then OB must be



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

137. If in ΔABC , $\angle A = 90^\circ$, $BC = a$, $AC = b$ and $AB = c$, then the value of $\tan B + \tan C$ is

- (A) $\frac{b^2}{ac}$ (B) $\frac{a^2}{bc}$
(C) $\frac{c^2}{ab}$ (D) $\frac{a^2 + c^2}{b}$

138. A ladder is resting against a wall at a height of 10 m. If the ladder is inclined with the ground at an angle of 30° , then the distance of the foot of the ladder from the wall is

- (A) $10\sqrt{3}$ m (B) $20\sqrt{3}$ m
(C) $10/\sqrt{3}$ m (D) $20/\sqrt{3}$ m

139. $\tan 7^\circ \tan 23^\circ \tan 60^\circ \tan 67^\circ \tan 83^\circ$ is equal to

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

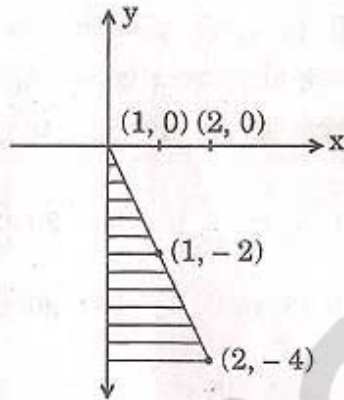
140. The value of

$(\sec \theta - \cos \theta)(\operatorname{cosec} \theta - \sin \theta)(\tan \theta + \cot \theta)$ is

- (A) 2 (B) 0
(C) 1 (D) $\frac{3}{2}$

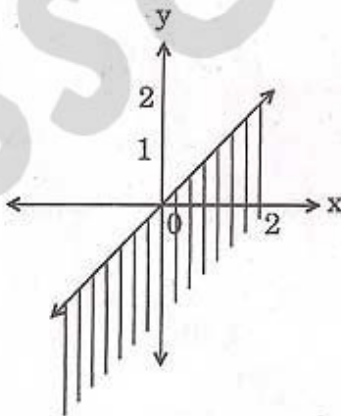
141. If $\tan(\theta_1 + \theta_2) = \sqrt{3}$, and $\sec(\theta_1 - \theta_2) = \frac{2}{\sqrt{3}}$, then the value of $\sin 2\theta_1 + \tan 3\theta_2$ is equal to
 (assume that $0 < \theta_1 - \theta_2 < \theta_1 + \theta_2 < 90^\circ$)
 (A) 1 (B) 2
 (C) 0 (D) 3

142. The area of the shaded region in the following graph is



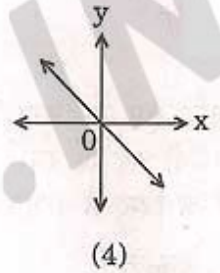
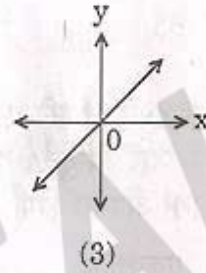
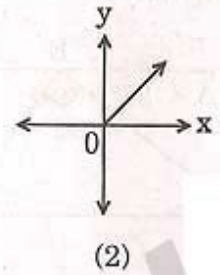
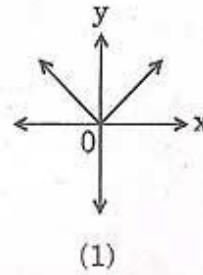
- (A) 2 units (B) 4 units
 (C) 6 units (D) 8 units

143. The shaded region represents



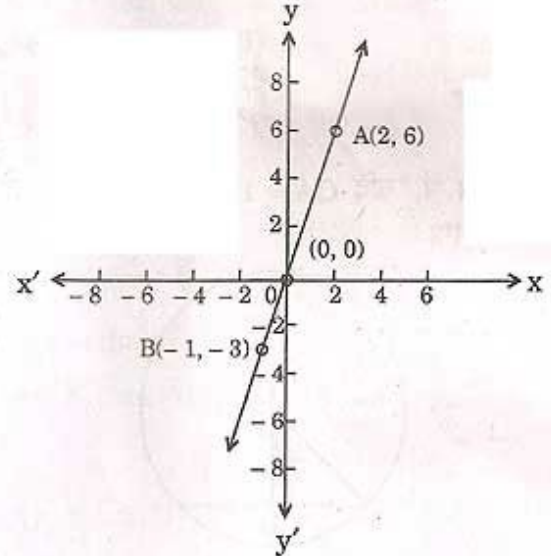
- (A) $\sqrt{y} \leq x$ (B) $y \geq -x$
 (C) $y \geq x$ (D) $y \leq -x$

144. The graph of $y = x + |x|$ is given by



- (A) 1 (B) 2
 (C) 3 (D) 4

145. The equation of this graph is

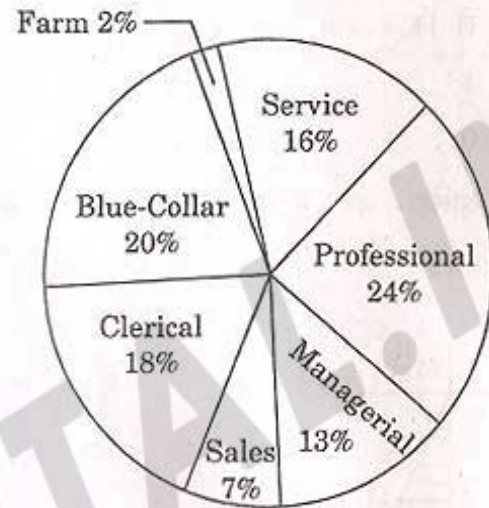


- (A) $y = -x$ (B) $y = -3x$
 (C) $y = x$ (D) $y = 3x$

Directions : The pie-chart given below shows the distribution of workforce by occupational category for country X in 1981 and 1995. Study the chart and answer the questions no. 146 to 150.



1981

Total workforce
150 million

1995

Total workforce
175 million

146. In 1981, the number of Service workers in the workforce, in millions, was
 (A) 15.0 (B) 20.5
 (C) 22.5 (D) 28.0
147. In 1981, the number of categories which comprised of more than 25 million workers each, is
 (A) two (B) three
 (C) four (D) five
148. The ratio of the number of workers in the Professional category in 1981 to the number of such workers in 1995 is
 (A) 4 : 9 (B) 5 : 14
 (C) 9 : 14 (D) 14 : 9
149. The increase in the number of Clerical workers in the workforce of country X from 1981 to 1995 (in millions) is
 (A) 0.75 (B) 1.5
 (C) 0.5 (D) 1.25
150. The percentage decrease in the number of Blue-Collar workers in the workforce of country X from 1981 to 1995 is
 (A) $42\frac{1}{2}$ (B) 35
 (C) 20 (D) $16\frac{2}{3}$

PART - D : ENGLISH COMPREHENSION

Directions : In questions no. 151 to 155, some parts 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. Having lived / in Kerala for ten years, / my friend is used to speak Malayalam with his friends. /
 (A) (B) (C)
 No error.
 (D)
152. Much water / has flown / under this bridge. / No error.
 (A) (B) (C) (D)
153. The law should specifically / provide a clause / to protect animals from poachers. / No error.
 (A) (B) (C) (D)
154. What kind / of a man / are you ? / No error.
 (A) (B) (C) (D)
155. The lady approached me timidly / and trembling slightly / she sat down besides me. / No error.
 (A) (B) (C) (D)

Directions : In questions no. 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. He will dispense _____ your services.
 (A) of (B) off
 (C) on (D) with
157. I have given her _____ .
 (A) a work
 (B) some works
 (C) a piece of work
 (D) many works
158. He is a popular teacher. He seems to be _____ for that profession.
 (A) cut down (B) cut off
 (C) cut in (D) cut out
159. He was _____ pertaining his innocence.
 (A) stridently (B) harshly
 (C) confidently (D) quickly
160. If you were found guilty of exceeding the speed limit, you _____ to pay a fine.
 (A) would have (B) would had
 (C) will have (D) have

Directions : In questions no. 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. Indiscriminate
 (A) undifferentiated
 (B) instant
 (C) sensible
 (D) discreet.
162. Literal
 (A) verbatim (B) formal
 (C) idealistic (D) outdated
163. Intricate
 (A) puzzling (B) illusive
 (C) complicated (D) assertive
164. Expeditiously
 (A) rudely (B) gently
 (C) meekly (D) quickly
165. Idiosyncrasies
 (A) demands (B) needs
 (C) ideologies (D) eccentricities

Directions : In questions no. 166 to 170, choose the word opposite in meaning to the given word and mark it in the Answer Sheet.

166. Resourcefulness
 (A) scarcity (B) stupidity
 (C) incompetence (D) bankruptcy
167. Evolve
 (A) withdraw (B) withhold
 (C) suspend (D) stop
168. Antiquated
 (A) renewed (B) unique
 (C) modern (D) renovated
169. Pathetic
 (A) comic (B) ridiculous
 (C) dramatic (D) trivial
170. Fastidious
 (A) ugly (B) shabby
 (C) shallow (D) discourteous

Directions : In questions no. 171 to 175, 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.

171. For some people, writing verse is as duck takes to water.
 (A) like taking the duck to water
 (B) like bursting out suddenly
 (C) like dropping the duck in the water
 (D) like easily and naturally speaking
172. He made my day by telling me how important I was to him.
 (A) gave me great pleasure
 (B) displeased me
 (C) spoiled my day
 (D) made me resentful
173. He made away with ten thousand rupees in the course of three months.
 (A) earned (B) ran away with
 (C) squandered (D) saved
174. The students of that group have assured their project guide that they will all work against the clock.
 (A) work while keeping patience
 (B) work with vigour to finish in limited time
 (C) work with enthusiasm
 (D) work hard to go against the time
175. To let off steam, my friend started murmuring.
 (A) to release his tension
 (B) to show his anger
 (C) to show his approval
 (D) to show his displeasure

Directions : In questions no. 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. The ship ran over when it crashed into an iceberg.

- (A) got over (B) gave up
(C) went down (D) No improvement

177. His wife was contentious.

- (A) contagious (B) quarrelsome
(C) content (D) No improvement

178. Historians feel there is an earnest need for the review of history text books every five years and a revision of the same every ten years.

- (A) imperative (B) indispensable
(C) urgent (D) No improvement

179. My car broke off on my way to the office.

- (A) out (B) in
(C) down (D) No improvement

180. Freedom is a wonderful thing, for Jimmy was eager to experience it.

- (A) though (B) and
(C) but (D) No improvement

Directions : In questions no. 181 to 185, out of the four alternatives, choose the one which can be substituted for the given words / sentence.

181. An act or notion to look back in the past

- (A) Retrospective (B) Postnatal
(C) Retrogressive (D) Primitive

182. Medicine to counteract the effect of a poison

- (A) Emetic (B) Antidote
(C) Anti-venom (D) Antiseptic

183. A collection of poems

- (A) Pathology (B) Anthology
(C) Oncology (D) Pedology

184. One who studies mankind

- (A) Anthropologist (B) Physicist
(C) Pathologist (D) Philanthropist

185. An opinion contrary to popular belief

- (A) Paradox (B) Orthodoxy
(C) Hearsay (D) Heresy

Directions : In questions no. 186 to 190, there are four different words out of which one is correctly spelt. Find the correctly spelt word and indicate it by blackening the appropriate rectangle [■] in the Answer Sheet.

186. (A) pursuasive (B) persuasive
(C) persuesive (D) persuasieve

187. (A) assendency (B) ascendancy
(C) ascendency (D) ascendensy

188. (A) anathema (B) annathema
(C) anathemaa (D) anathima

189. (A) quaint (B) qaint
(C) quiant (D) quaaaint

190. (A) effervesent (B) efervescent
(C) effervescent (D) efferescent

Directions : (Questions no. 191 to 200). In the following passage, 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. Blacken the appropriate rectangle in the Answer Sheet.

Growing urbanization and literacy, especially female education, will no doubt change the plight of women in India. But the 191 will be slow and painful. Are we 192 to wait until this happens while more and more girls meet their 193 end ? Not if we lay claim to an India that is 194 and aspires to attain superpower status. There is only one quick 195, which is not to wait for 196 to change, but to compel the police force to 197 their attitude. The attitude of the police force will become 198 if there is a big stick poised to hit them. They will be more 199 to women victims and keener to catch the 200 if they knew that they themselves will be punished or sacked. In an insensible society, fear is the only key.

- | | | | |
|-------------------|----------------|-----------------------|------------------|
| 191. (A) method | (B) manner | 196. (A) attitudes | (B) nature |
| (C) process | (D) section | (C) behaviour | (D) opinions |
| 192. (A) keen | (B) prepared | 197. (A) alter | (B) reverse |
| (C) made | (D) asked | (C) change | (D) cleanse |
| 193. (A) tragic | (B) lethal | 198. (A) democratic | (B) lenient |
| (C) systematic | (D) methodical | (C) liberal | (D) easy |
| 194. (A) growing | (B) shining | 199. (A) affectionate | (B) considerate |
| (C) competing | (D) plodding | (C) attentive | (D) concerned |
| 195. (A) decision | (B) thought | 200. (A) culprits | (B) rowdies |
| (C) idea | (D) solution | (C) hooligans | (D) law-breakers |