

INTEGRATED COMMON ENTRANCE TEST

TG ICET 2025

Time: 2 ½ hours

MODEL TEST



CENTRE FOR EDUCATIONAL DEVELOPMENT OF MINORITIES

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SECTION – A

Analytical Ability

Questions : 75

(I) Data sufficiency

20 marks

Note: In questions 1 to 20, a question is followed by data in the form of two statements labelled as I and II. You must decide whether the data given in the statements are sufficient to answer the questions. Using the data make an appropriate choice from (1) to (4) as per the following guidelines.

- (a) Mark choice (1) if the statement I alone is sufficient to answer to question.
- (b) Mark choice (2) if the statement II alone is sufficient to answer to question.
- (c) Mark choice (3) if the both statements I and II are sufficient to answer the question but neither statement alone is sufficient.
- (d) Mark choice (4) if both the statements I and II together not sufficient to answer the question and additional data is required.

1. For real numbers a and b , what is the value of $7a + 4b$?
I. $ab \neq 0$
II. $a^2 + b^2 = 0$
2. What is the value of $\sin 2\theta$?
I. $\sec \theta + \operatorname{cosec} \theta = 4$
II. $\tan \theta + \cot \theta = 4$
3. If a and b are positive integers, is ab odd?
I. $b = 3$
II. a and b are consecutive integers.
4. What is the rate of the compound interest?
I. The principle is Rs 20,000
II. The amount is Rs 26,600
5. What is the speed of the train?
I. The train crosses a standing person in 16 seconds.
II. The train crosses a bridge in 28 seconds.
6. Find the value of x ?
I. $x^2 = 9$
II. x is positive integer.
7. How many students are there in the class room?
I. A student got 6th rank from top and 12th rank bottom.
II. Another student got 9th from top.
8. What is the average of p , q , r and s ?
I. $p + q + r = 64$
II. $4(p + r + s) = 128$ and $q = 16$
9. How is B related to D?
I. A and B are brothers. C and D are sisters.

- II. A's daughter is C
10. Does $a + b = 0$?
 I. $ab < 0$
 II. $a^2 = b^2$
11. Will it be a Monday tomorrow?
 I. Every Sunday is a holiday.
 II. Today is not a Sunday.
12. Can we construct the triangle ABC with sides a , b and c ?
 I. $a = 3$, $b = 4$
 II. The perimeter of triangle ABC is 18
13. What is the value of $\frac{x^2 + y^2 - z^2}{xy}$?
 I. $x : y = 1 : 2$
 II. $y : z = 2 : 3$
14. What is the volume of cylinder?
 I. The height of the cylinder is units more than its radius.
 II. Two identical spheres of radius 3 units fit into the cylinder.
15. Is $x > y$?
 I. $3x + 2y = 11$
 II. $x - y = 2$
16. If $p\%$ of x is 3, then what is $p\%$ of y ?
 I. $p = 25$, $x = 12$
 II. $p = 60$, $y = 50$
17. What percent of marks did Ram get in 4 subjects, on average?
 I. He got 92 in Physics and 85 in English.
 II. He got 96 in mathematics and 94 in Chemistry.
18. Is the product of xy positive?
 I. $(x + y)^2 < (x - y)^2$
 II. $x = y$
19. Is the quadrilateral $ABCD$ a rectangle?
 I. $AB = CD$, $AD = BC$
 II. $AC = BD$
20. Are the roots of $ax^2 + bx + c = 0$ ($a \neq 0$) real?
 I. $4a + b = 0$
 II. $c = 5a$

(II). Problem Solving

(a) Sequence and Series

Note: In each of the questions numbered 21 to 30, a sequence of numbers or letters that follow a definite pattern is given. Each question has a blank space. This has to be filled by the correct answer from the four given options to complete the sequence without breaking the pattern.

21. $4 : 8 :: 9 : \underline{\hspace{1cm}}$
1) 17 2) 27 3) 19 4) None of the above
22. $30 : 130 :: 20 : \underline{\hspace{1cm}}$
1) 68 2) 96 3) 200 4) 164
23. $D : 16 :: F : 36 :: H : \underline{\hspace{1cm}}$
1) 46 2) 56 3) 64 4) 66
24. MANGO : NBOHP :: GRAPES :
1) HSBRFT 2) HSBQGT 3) HSBQFR 4) HSBQFT
25. 2, 3, 8, 31, 154, 923,
1) 2190 2) 3240 3) 6460 4) 7664
26. 10, 12, 15, 20, 27,
1) 36 2) 37 3) 38 4) 41
27. a b _ c a _ a c a b _ _ a _ _ c
1) abacba 2) abbabc 3) abcabc 4) ababac
28. 13, 28, 49, 76, , 148
1) 89 2) 99 3) 109 4) 119
29. 1, 4, 20, 126,
1) 1016 2) 1008 3) 964 4) 768
30. A1Z, B2Y, C3X, D4W, , F6U
1) E5X 2) E5V 3) V5E 4) E6V

Note: In question numbered 31 to 35 pick the odd thing out.

31. 1) 43 2) 53 3) 63 4) 73
32. 1) Standard deviation 2) Variance 3) Range 4) Mode
33. 1) 289 2) 361 3) 441 4) 529
34. 1) Chlorine 2) Bromine 3) Iodine 4) Methane
35. 1) April 2) May 3) November 4) September

Note: Each of the questions from 36 to 45 follows a definite pattern. Observe the same and fill in the blanks with suitable answers.

36. 5, 11, 21, 43, 85,

- 1) 181 2) 180 3) 171 4) 170
37. AEI, CGK, ____, GKO, IMQ
1) EJN 2) ENJ 3) EIM 4) EMI
38. 0, 2, 3, 5, 8, 10, 15, ____, 24, 26, 35
1) 19 2) 18 3) 17 4) 16
39. 5, 10, 20, 35, 55, 80, 110, __
1) 140 2) 145 3) 150 4) 155
40. 1, 2, 3, 5, 8, 13, 21, 34, __
1) 48 2) 55 3) 59 4) 64
41. 16, 20, 26, 34, 44, __
1) 56 2) 54 3) 52 4) 58
42. $\frac{1}{5}, \frac{5}{10}, \frac{10}{17}, \frac{17}{26}, \text{---}, \frac{37}{50}$
1) $\frac{26}{37}$ 2) $\frac{36}{37}$ 3) $\frac{26}{50}$ 4) $\frac{36}{49}$
43. TUW, VWY, XYA, ZAC, __
1) CDK 2) BDK 3) BCE 4) CDF
44. 10, 100, 111, 1000, __
1) 1001 2) 1101 3) 1110 4) 1111
45. 121, 112, ____, 97, 91, 86
1) 99 2) 101 3) 102 4) 104

(2) Data Analysis Marks – 10

Directions (46-50) Study the following table carefully to answer the questions that follow.

Percentage of marks obtained by seven students in six subjects

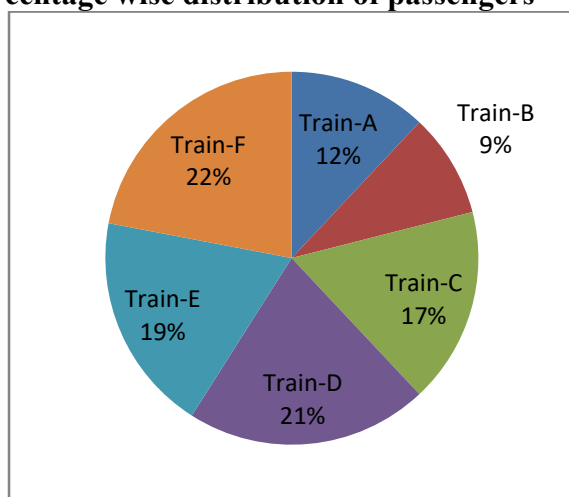
Subjects	English	History	Computers	Maths	Science	Economics
Maximum Marks						
Students	60	40	130	150	120	80
Meera	100	80	50	90	90	60
Subodh	80	70	80	100	80	40
Kunal	90	70	60	90	70	70
Soni	60	60	65	80	80	80
Richu	50	90	62	80	85	95
Irene	40	60	64	70	65	85
Vijay	80	80	35	65	30	75

46. What are the total marks obtained by Meera in all subjects?
1) 448 2) 580 3) 470 4) 74.67
47. What are the average marks obtained by these seven students in History? (rounded off to two digits)
1) 72.86 2) 27.32 3) 24.86 4) 29.14
48. How many students have got 60% or more marks in all the subjects?
1) One 2) Two 3) Three 4) Four
49. What is the overall percentage of kunal?
1) 64 2) 65 3) 75 4) 64.24
50. In which subject is the overall percentage the best?
1) Maths 2) Economics 3) History 4) Science

Directions (51 to 55): Study the following Pie-chart and answer the questions given below:

Total number of Passengers in six different trains = 4800

Percentage wise distribution of passengers



51. What was the average number of passengers travelling in Train-A, Train-C and Train-F together?
1) 816 2) 826 3) 824 4) 812
52. If cost of one ticket is Rs. 124. What is the total amount paid by passengers of Train-B? (Assuming all the passengers purchased ticket and cost of each ticket is equal)
1) Rs 53,658 2) Rs 53,568 3) Rs 53,558 4) Rs 53,468
53. Number of passenger in Train-E is approximately what percentage of the total number passengers in Train-B and Train-D together?
1) 64 2) 69 3) 75 4) 54
54. What is the difference between the number of passengers in Train-C and number of passenger in Train-A?
1) 280 2) 250 3) 230 4) 240

55. What is the total number of passengers in Train-D, Train-E and Train-F together?
 1) 2796 2) 3225 3) 2976 4) 3125

(3) Coding and Decoding Problems (Marks – 10)

Note for questions 56 to 60

Based upon the following coding system and conditions (i), (ii) and (iii) given below answer the questions 56 to 60

Number/ Symbol	7	3	&	6	%	2	#	8	4	@	1	+	5	\$
Code	S	H	P	W	L	D	K	J	X	Z	Q	T	N	F

Conditions:

- (i) If the first element is a symbol and the last element is a number, then the codes for both elements are to be interchanged.
 - (ii) If both the first and the last elements are symbols, then the last elements code is to be taken as the code for the first element.
 - (iii) If the group of elements contain only one symbol, then that symbol is to be code as A.
56. What is the code word for '45631#'?
 1) ANWHQX 2) XNWHQX 3) XNWHQA 4) XNHWQA
57. What is the code word for '3+5641'?
 1) HANWXQ 2) QANWXH 3) HANXWQ 4) HANWXW
58. What is the code word for '@4153+'?
 1) TXQNHT 2) ZQXNHZ 3) TQXNHT 4) ZXQNHZ
59. What is the code word for '2@7\$4&'?
 1) DASFXP 2) DZSFXP 3) PZSAXD 4) DZSFXP
60. What is the code word for '%82&47'?
 1) LDJPXS 2) SJDXPL 3) SJDPXL 4) LJDPXS

Directions: (Q 61 to 63): In a code language 'XEROX COPY OF BILL WAS SENT' is coded as 'ZGTQZ EQRA QH DKNN YCU UGPV'. Then how will you code the following words in same code language?

61. WATER
 1) YCVGT
62. BLIST
 1) CMJTU 2) DNKUV 3) TSILB 4) DNKVU
63. GROUP
 1) HSPVQ 2) HSQWR 3) ITQWR 4) RWQTI
64. If 'TEACHER' is coded as 'SFIDBFU', then how will you code 'STUDENT' in same code language?

- 1) TUVDFOU 2) UOFEVUT 3) UOFFUVT 4) None of these

65. In a code language 'min hin din' means 'He is playing'; 'rin din vin' means 'She is singing' and 'min kin rin' means 'Playing and singing'. Then how will you code in 'He' in same code language?

- 1) Min 2) hin 3) din 4) rin

(4) Date, Time & Arrangement Problems Marks 10

66. If April 21st of this year is Monday, then the day on which 21st April of the next year (ordinary year) falls is?

- 1) Monday 2) Tuesday 3) Wednesday 4) Sunday

67. Find the angle between minutes hand and hours hand at 5:20?

- 1) 90^0 2) 75^0 3) 60^0 4) 40^0

68. A clock strikes once at 1 o'clock, twice at 2 o'clock and so on. The total number of strikes it makes in a day is

- 1) 78 2) 112 3) 132 4) 156

69. A meeting is scheduled at 11:00 am for which a person P who is away at 100 kms from the venue has to attend. If P starts at 9:45 a.m. in a car which moves with a speed of 60 kmp, then the P is late to the meeting by how many minutes?

- 1) 5 2) 15 3) 25 4) 35

70. Raju introducing a girl that "her mother is only daughter in law of my father". Then how is that girl is related to Raju?

- 1) Daughter 2) Wife 3) Mother 4) Sister

71. If the first day of March in a year happens to be Friday, then the day on which Indian Independence day falls in that year is

- 1) Monday 2) Tuesday 3) Friday 4) Saturday

72. In a row of 30 students, Mohan is there 16th place from left after moving 4th place towards right. Then what is his first place from right?

- 1) 12 2) 19 3) 20 4) 11

73. If the minutes hand of a clock is facing South, then the direction of the minutes hand after 210 minutes is

- 1) North 2) East 3) West 4) South – west

74. Which the following may not be the last day of any century

- 1) Sunday 2) Monday 3) Tuesday 4) Wednesday

75. A person travelled 4 km towards North, then turns right travelled 8 km, again turns right travelled 20 km. Finally he turns right travelled 20 km. Then find the distance between starting point and ending point?

- 1) 12 km 2) 18 km 3) 20 km 4) 24 km

SECTION – B

Mathematical Ability

75 Marks

(i) Arithmetical Ability

35 Marks

76. The smallest number among $3\sqrt{4}, 5\sqrt{7}, 4\sqrt{5}, \sqrt{3}$ is
 1) $3\sqrt{4}$ 2) $5\sqrt{7}$ 3) $4\sqrt{5}$ 4) $\sqrt{3}$
77. If $(\sqrt{2})^{x+5} = (4\sqrt{2})^{2x^2-2}$, then a value of $(x^2 - 1)$ is
 1) 2 2) 4 3) 6 4) 8
78. $\frac{1}{2} \times \frac{2}{3} \times \frac{3}{4} \times \frac{4}{5} \times \dots \times \frac{97}{98} \times \frac{98}{99} = ?$
 1) $\frac{1}{2}$ 2) $\frac{98}{99}$ 3) $\frac{1}{99}$ 4) 1
79. In a mixture of 20 litres the ratio of milk and water is 5 : 3. If 4 litre of mixture is replaced with 4 litre of water. Then find the ratio of milk and water in new mixture?
 1) 1 : 1 2) 5 : 4 3) 3 : 5 4) 3 : 2
80. A fruit seller purchased 100 dozen banana at Rs 3000. 20% of bananas are damaged. He sold good quality bananas at Rs 40 per dozen and damaged bananas at Rs 5. Then find his profit or loss percentage?
 1) 10 % profit 2) 10% loss 3) 5% profit 4) No profit and No loss
81. The present populations of a town is 1,25,000. The population increase rate is 20% p.a. Then find the population of town after three years?
 1) 1,64,000 2) 1,98,000 3) 2,16,000 4) 2,64,000
82. If the petrol price increased by 25%. Then how much percentage decreases the consumption so as not to change the expenditure?
 1) 20% 2) 25% 3) 30% 4) 18%
83. $\sqrt{10 + \sqrt{25 + \sqrt{108 + \sqrt{154 + \sqrt{225}}}}} = ?$
 1) 16 2) 10 3) 5 4) 4
84. If $a = \sqrt{2} + \sqrt{3}$, then $\frac{a+1}{a-1} + \frac{1-a}{1+a} = ?$
 1) $\sqrt{2}$ 2) $\sqrt{3}$ 3) $1 + \sqrt{2}$ 4) $1 + \sqrt{3}$
85. The sum of even numbers from 100 to 200 (both numbers included) is
 1) 3875 2) 7650 3) 3825 4) 7750
86. If $a : b = 3 : 4$ and $b : c = 2 : 5$, then $a : b : c = ?$
 1) 3 : 4 : 5 2) 3 : 4 : 2 3) 4 : 2 : 5 4) 3 : 4 : 10

87. A shop keeper purchased an item at 10% less than on MRP. And he sold it with a profit of 30% on his cost price. Then find his profit percentage on MRP?
 1) 30% 2) 17% 3) 11.5% 4) 9%
88. The diagonal of cube is $5\sqrt{3}$ m, its volume (in cubic metres) is
 1) 150 2) 145 3) 125 4) 120
89. A train crosses a standing person in 15 seconds and it will cross a 200 metre length of platform in 25 seconds. Then find the length of the train?
 1) 100m 2) 150 m 3) 200 m 4) 300 m
90. Ameer invested Rs 60,000 in a business. After 4 months Sameer invested Rs 80,000. At the end of the year they got Rs 51,000 as profit. Then find sameer's share?
 1) Rs 24,000 2) Rs 27,000 3) Rs 26,000 4) Rs 31,000
91. A, B and C invested each Rs 20,000 in a business. After 5 months A withdraw Rs 4,000 B withdraw Rs 5,000 and C invested Rs 5,000 more. Then at the end of the year find their profit ratio?
 1) 112 : 105 : 175 2) 212 : 205 : 275 3) 312 : 305 : 375 4) 12 : 23 : 45
92. The remainder when $91 \times 93 \times 95 \times 97$ is divided by 18 is
 1) 12 2) 10 3) 15 4) 8
93. The average expenditure of 9 friends out of 10 friends is Rs 80. The 10th person expenditure is Rs 90 more than average expenditure of all 10 friends. Then find the total expenditure of all 10 friends?
 1) Rs 720 2) Rs 800 3) Rs 810 4) Rs 900
94. 4 men and 6 women finish a job in 8 days, while 3 men and 7 women finish it in 10 days. 10 women working alone will finish it in
 1) 24 days 2) 32 days 3) 36 days 4) 40 days
95. How many years some of money will become double itself at 10% p.a Simple Interest?
 1) 5 yrs 2) 7 yrs 6 months 3) 10 yrs 4) 12 yrs
96. The sum of two numbers is 96 and its HCF is 12. Then how many pairs of numbers are satisfying these conditions?
 1) 4 2) 3 3) 2 4) 1
97. Two taps A and P can fill an empty tank in 6 hours and 8 hours respectively. After opening both of them for 't' hours the pipe B is closed and the pipe A filled the rest of the tank in 4 hours. Then t = ?
 1) $\frac{8}{7}$ 2) $\frac{8}{3}$ 3) $\frac{4}{3}$ 4) $\frac{2}{3}$
98. A, B and C started a business with some investments. At the end of the year, in the profit, the share of B is Rs 5000 more than that of A and C's share is Rs 2000 more than B. If the total profit is Rs 1,11,000 then the share of C in the profit in rupees is
 1) 39,000 2) 37,000 3) 38,000 4) 40,000

99. If the cost price of 20 tables is equal to the selling price of 16 tables. Then the percentage of profit is
 1) 16 2) 20 3) 25 4) 32
100. The number of elements in the set $E = \{n : n \text{ integer, } 500 \leq n \leq 700 \text{ and } n \text{ is divisible by } 11\}$ is
 1) 63 2) 45 3) 108 4) 18
101. If a man starts from A and walks at 5 kmph, he will reach B late by 7 minutes. But if walks at 6 kmph he will reach B early by 5 minutes. Then find the distance between A and B?
 1) 4 km 2) 5 km 3) 6 km 4) 7 km
102. A circle is inscribed in an equilateral triangle, If the area of the circle is 462 sq cm, then find the perimeter of the triangle?
 1) 72 cm 2) 84 cm 3) 96 cm 4) 126 cm
103. If $|x-6| = 5$ and $|3x-12| = 6$, then the maximum value of $\frac{x}{y} = ?$
 1) 6 2) 2 3) $\frac{11}{6}$ 4) $\frac{11}{2}$
104. The difference between the biggest and the smallest fractions among $\frac{1}{2}, \frac{5}{6}, \frac{7}{9}, \frac{4}{5}$ is
 1) $\frac{1}{3}$ 2) $\frac{5}{18}$ 3) $\frac{3}{10}$ 4) $\frac{1}{4}$
105. If $n = 847 \times K$ is a perfect square then the least possible value of K is
 1) 3 2) 5 3) 7 4) 11
106. If $\left(\frac{1}{3}\right)^{\text{rd}}$ of a number is $\frac{1}{10}$, then $\left(\frac{4}{5}\right)^{\text{th}}$ of that number is
 1) $\frac{5}{6}$ 2) $\frac{25}{6}$ 3) $\frac{6}{25}$ 4) $\frac{6}{5}$
107. The distance between A and B is 600 km. A person started from A to B at 70 kmph at 10 am, another person started at same time from B to A at 80 kmph. Then at what time they meet together?
 1) 12 noon 2) 1 pm 3) 2 pm 4) 3 pm
108. What is the remainder when 3^{10} is divided by 4?
 1) 3 2) 2 3) 1 4) 0
109. The smallest positive integer which leaves a remainder 3 when divided by 5 and leaves a remainder 5 when divided by 7, is
 1) 68 2) 23 3) 33 4) 12
110. The number of divisors of 36000 is
 1) 30 2) 72 3) 640 4) 720

(ii) Algebraic and Geometric Ability**Marks 30**

111. $\frac{\sec 8A - 1}{\sec 4A - 1} = ?$
1) $\frac{\tan A}{\tan 8A}$ 2) $\frac{\tan 8A}{\tan 2A}$ 3) $\frac{\tan 2A}{\tan 8A}$ 4) None of these
112. If $\cot \theta + \cos \theta = m$, $\cot \theta - \cos \theta = n$. Then $(m^2 - n^2)^2$ in terms of m, n is
1) $16mn$ 2) $12mn$ 3) $8mn$ 4) $4mn$
113. If $\tan^{-1} 3 + \tan^{-1} x = \tan^{-1} 8$, then $x = ?$
1) 5 2) $\frac{1}{5}$ 3) $\frac{5}{14}$ 4) $\frac{14}{5}$
114. If θ lies in the first quadrant and $5 \tan \theta = 4$, then $\frac{5 \sin \theta - 3 \cos \theta}{\sin \theta + 2 \cos \theta} = ?$
1) $\frac{1}{14}$ 2) $\frac{2}{14}$ 3) $\frac{3}{14}$ 4) $\frac{5}{14}$
115. If a set A has 7 elements, then the number of subsets of A having exactly one element in each is
1) 2^6 2) 2^7 3) 7^2 4) 7
116. The slope of the line $\frac{3x+5}{4y-7} = \frac{1}{2}$ is
1) $\frac{3}{2}$ 2) $\frac{-3}{2}$ 3) $\frac{2}{3}$ 4) $\frac{-2}{3}$
117. The distance (in metres) between two parallel tangents drawn to a circle of area 616 sq.m is (take $\pi = \frac{22}{7}$)
1) 14 2) 28 3) $\frac{14}{\pi}$ 4) $\frac{28}{\pi}$
118. $\lim_{x \rightarrow 0} \frac{\tan x - x}{x} = ?$
1) 1 2) -1 3) 0 4) does not exist
119. The 11th term of the series 81, 27, 9, is
1) $\frac{1}{729}$ 2) $\frac{1}{243}$ 3) $\frac{1}{2187}$ 4) $\frac{1}{3^{10}}$
120. If $x^4 - 8x^3 + 18x^2 - 8x + 1 = 0$, then the value of $x + \frac{1}{x}$ is
1) 1 2) 2 3) 3 4) 4
121. Among the following, the converse of $p \rightarrow (q \rightarrow r)$ is equivalent to
1) $(p \vee q) \wedge (r \rightarrow p)$ 2) $\sim r \vee (p \wedge q)$

- 2) $3) (r \rightarrow q) \rightarrow p$ 4) $(p \wedge q) \vee (r \rightarrow p)$
122. If $A = \begin{pmatrix} 0 & -2 \\ 2 & 0 \end{pmatrix}$ and $B = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$, then $AB + BA = ?$
 1) $\begin{pmatrix} 0 & -2 \\ 2 & 0 \end{pmatrix}$ 2) $\begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}$ 3) $\begin{pmatrix} 0 & 0 \\ 0 & 0 \end{pmatrix}$ 4) $\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$
123. If $y = 2^{\sec x}$, then $\left(\frac{dy}{dx}\right)_{x=0} = \underline{\hspace{2cm}}$
 1) 0 2) 2 3) 1 4) -2
124. A polynomial in x leaves remainders 2 and 3 when divided by $(x + 1)$ and $(x - 1)$ respectively. Then the remainder we get when that polynomial is divided by $x^2 - 1$ is
 1) $\frac{3x+2}{2}$ 2) $\frac{3x-2}{2}$ 3) $\frac{x-5}{2}$ 4) $\frac{x+5}{2}$
125. If the statement " $\frac{1}{2}$ is rational and $\sqrt{3}$ is irrational" is denoted by p , then which of the following statement represents $\sim p$?
 1) $\frac{1}{2}$ is rational or $\sqrt{3}$ is irrational
 2) $\frac{1}{2}$ is irrational and $\sqrt{3}$ is rational
 3) $\frac{1}{2}$ is irrational and $\sqrt{3}$ is irrational
 4) $\frac{1}{2}$ is rational and $\sqrt{3}$ is rational
126. The maximum if 33^{33} , $3^{3^{33}}$, 333^3 and 3^{333}
 1) 3^{333} 2) 33^{33} 3) $3^{3^{33}}$ 4) 333^3
127. If a straight line is passing through the points (3, 3) and (7, 6) then the length of the portion of the line intercepted between the coordinate axes is
 1) $\frac{4}{5}$ 2) $\frac{4}{7}$ 3) $\frac{5}{4}$ 4) $\frac{7}{4}$
128. If two circles of radii 7 cm and 10 cm respectively touch each other internally, then the distance between their centres in centimetres is
 1) 17 2) 3 3) -3 4) 5
129. If the mid points of the sides AB and AC of a triangle ABC are (4, -2) and (-8, 14) respectively, then the length of the side BC in units is
 1) 20 2) 30 3) 40 4) 60
130. The term independent of x in the binomial expansion of $\left(\frac{4x}{5} - \frac{5}{2x}\right)^8$ is
 1) 280 2) 560 3) 1120 4) 2240

131. If the coefficients of the 21st and 22nd terms in the expansion of $(1 + x)^{44}$ are equal, then $x = ?$
 1) $-\frac{7}{8}$ 2) $\frac{7}{8}$ 3) $\frac{4}{9}$ 4) $\frac{8}{9}$
132. If a, b and c are such that $ak^2 + bk + c \neq 0$ for some k and if the determinant of the matrix $\begin{bmatrix} a & b & ak+b \\ b & c & bk+c \\ ak+b & bk+c & 0 \end{bmatrix}$ is zero then a, b, c are in
 1) An arithmetic progression
 2) A harmonic progression
 3) A geometric progression
 4) None of the above
133. The rank of the matrix $\begin{pmatrix} 1 & 2 & 0 & -1 \\ 3 & 4 & 1 & 2 \\ -2 & 3 & 2 & 5 \end{pmatrix}$ is
 1) 1 2) 2 3) 3 4) 4
134. How much is to be added to $(x + 2)(x + 4)(x + 6)(x + 8)$ to make it perfect square?
 1) 4 2) 8 3) 16 4) 20
135. If $(0, 0), (0, 4), (3, 0)$ are vertices of a triangle, then the distance between the circum centre and the orthocentre of the triangle is
 1) 5 2) $\frac{5}{2}$ 3) $\frac{5}{4}$ 4) $\sqrt{5}$
136. A, B are end points of longest chord of circle of radius 3 units. If O is the centre of the circle and C is point on the circle such that $AC = AO$, then the perimeter of the triangle ABC is
 1) $9 + 3\sqrt{3}$ 2) $9\sqrt{3}$ 3) $6 + 3\sqrt{3}$ 4) $3 + 6\sqrt{3}$
137. The number of solutions of the system $x - y + z = -6, x + y - z = 3$ and $-x + y - z = 6$ is
 1) 0 2) 1 3) 3 4) Infinite
138. For sets A, B and $C; A - (B \cup C) =$
 1) $(A - B) \cup (A - C)$ 2) $(A \cup B) - C$
 3) $(A - B) \cap (A - C)$ 4) $A \cup (B - C)$
139. The length of the line segment intercepted between the axes by the line joining $(6, -4)$ and $(-3, 8)$ is
 1) 3 2) 4 3) 5 4) 6
140. If A, B are two sets such that $n(A - B) = 40, n(B - A) = 57$ and $n(A \cap B) = 16$, then $n(1) = ?$
 1) 97 2) 73 3) 56 4) 114

(iii) Statistical Ability) 10 marks

141. The standard deviation of first 13 natural numbers is

- 1) 42 2) 14 3) $\sqrt{42}$ 4) $\sqrt{14}$

142. If the mean and median of a data are 56 and 48 respectively, then the mode of the data is

- 1) 52 2) 46 3) 32 4) 48

143. The mean of the distribution given below is

X	10 – 20	20 – 30	30 – 40	40 – 50
Frequency	5	10	7	8

- 1) 30 2) 31 3) 32 4) 33

144. If σ is the standard deviation of $x_1, x_2, x_3, \dots, x_n$ then the standard deviation of $9 + 3x_1, 9 + 3x_2, 9 + 3x_3, \dots, 9 + 3x_n$

- 1) $3\sigma - 3$ 2) $\sqrt{9\sigma^2 + 9}$ 3) 3σ 4) $3\sigma + 9$

145. When a leap year is selected at random then the probability that it has exactly 52 Sundays is

- 1) $\frac{2}{7}$ 2) $\frac{5}{7}$ 3) $\frac{1}{7}$ 4) $\frac{6}{7}$

146. If 5 boys and 4 girls sit in a row at random, then the probability that boys and girls sit alternately is

- 1) $\frac{1}{63}$ 2) $\frac{1}{126}$ 3) $\frac{1}{120}$ 4) $\frac{1}{60}$

147. If 3 coins are tossed, then the probability of getting at least 2 heads is

- 1) $\frac{1}{2}$ 2) $\frac{1}{8}$ 3) $\frac{1}{4}$ 4) $\frac{3}{8}$

148. The quartile deviation of the observations 80, 48, 60, 92, 50, 35, 70 is

- 1) 10 2) 12 3) 14 4) 16

149. If two unbiased six faced dice are thrown simultaneously, then the probability that the sub is 8 with at least one die showing a prime number is

- 1) $\frac{1}{9}$ 2) $\frac{1}{8}$ 3) $\frac{1}{7}$ 4) $\frac{1}{6}$

150. For two positive real numbers, arithmetic mean and geometric mean are 13 and 12 respectively, then these two numbers are

- 1) 12.5, 13.5 2) 12, 14 3) 8, 18 4) 16, 10

Section – C
Part – I
Communication Ability

Choose the correct meaning of the word given:

151. Taciturn
(1) light lipped (2) nomadic (3) frustrated (4) angry
152. Anarchy
(1) boost (2) escape (3) disorder (4) surprising
153. Acrid
(1) uncertain (2) harsh (3) ancient (4) silent
154. Vivacious
(1) lively (2) mess (3) sad (4) unprofessional
155. Noxious
(1) vague (2) deadly (3) cheerful (4) modern
156. Illusory
(1) unreal (2) inspire (3) absolute (4) hate

Part II

Fill in the blanks choosing the correct word.

157. Police A cooking oil adulteration racket when they raided a godown in the city
(1) unearthed (2) obtained (3) captured (4) took
158. The medal had to be awarded to the soldier's widow.
(1) deliberately (2) immediately (3) posthumously (4) respectfully
159. In business one should be realistic and
(1) interesting (2) entertaining (3) enterprising (4) risky
160. Over the last decade, terrorism has as a threat to civilized society.
(1) threatened (2) emerged (3) evolved (4) contributed

BUSINESS AND COMPUTER RELATED QUESTIONS

Choose the correct answer

161. A large corporation formed by the merging of separate firms is known as
1. congregation 2. conglomeration 3. conclave 4. consul
162. A computer language that is used for creating websites is known as
1. X- files 2. XML 3. XL 4. X-certificate
163. Connection of networks that can be joined together is possible through
1. Intranet 2. Extranet 3. Visual private network 4. Internet
164. ELD stands for
1. Electric Lamination Display 2. Energy Luminiscent Display
3. Electro Luminiscent Display 4. Energy Lubrication Display
165. A situation in which goods or shares are plentiful and buyers can keep prices down is called
1. a buyout 2. a buyer's market 3. a business proposition 4. a business deal
166. The process of reviewing the performance of employees periodically is called
1. performance management 2. employee review
3. performance appraisal 4. employee confidential report
167. Which of the following is an example of non-volatile memory
1. ROM 2. VLSI 3. LSI 4. RAM
168. Which of the following is used for modulation and demodulation
1. Modem 2. Protocols 3. Gateway 4. Multiplexer
169. PERT is
1. Programme evaluation and review technique 2. Programme education and review teaching
3. Programme enlightenment and review technique 4. Progress evaluation and review timing
170. Linkage between CPU and user is provided by
1. Storage 2. control unit 3. Peripheral devices 4. software

Part – III

Choose the correct answer:

171. A: "Why don't you save some money from your salary every month? It will help you in the long run."
B: "It's rather hard in the circumstances. I can barely make ends meet."
'B' implies that his salary is
(1) more than enough (2) not enough
(3) just enough (4) enough
172. A: "Why don't you cook the dinner today?"
B: "I wish you'd let me be."
'B' implies
(1) He is willing (2) He wants to be left alone
(3) He cannot cook (4) He may cook later
173. Change the following into passive voice. "Let him bring a glass of water."
(1) A glass of water is brought by him
(2) Let a glass of water be brought by him
(3) He asked if he could bring a glass of water
(4) Let him brought by glass of water
174. Change the following into indirect speech. "Can I take your book?" He asked.
(1) He said to me that he can take my book
(2) He told me that I had taken his book
(3) He asked if he could take my book
(4) He requested me to take my book
175. A: "They are talking ill of me, although they are not ignorant of my merit and hard word."
B: "Be it so, dogs bark while the caravan passes on."
'B' means that
(1) one should take into account popular gossip
(2) popular gossip is a true judgement
(3) it's natural for dogs to bark
(4) one should not bother about popular gossip
176. The debate seems to have lost much of its initial impetus.
The antonym of the underlined word is _____
(1) discouragement (2) faith (3) understanding (4) force
177. Poor trading figures put back our plans for expansion.
The underlined phrase means _____
(1) got more profit (2) grew (3) delayed (4) stay back

Fill in the blanks with the appropriate phrase/verb/preposition:

178. Taking these drugs could seriously _____ your health.
(1) endangering (2) danger (3) endanger (4) dangerous
179. It seems an _____ idea.
(1) abolish (2) absurd (3) accord (4) abscond
180. They _____ as he was attacked.
(1) looked on (2) looked down (3) looked at (4) looked into
181. She has _____ twenty pairs of shoes.
(1) behind (2) above (3) over (4) about
182. I dreamt _____ you last night.
(1) about (2) to (3) for (4) around
183. We made our way _____ the forest.
(1) in (2) across (3) along (4) into
184. He was lucky to _____ with only a fine.
(1) get into (2) get in (3) get back (4) get away
185. She _____ state secrets to the enemy.
(1) gave in (2) gave up (3) gave away (4) gave out

Part - IV

Read the following passage and answer the question:

Incredible though it may seem, while the percentage of literacy in India has been going up, the number of illiterates has also been increasing. Thus according to the 1966 figures, there were 353 million illiterates in the country 20 million more than in 1961. During the same period the percentage of illiterate went up from 24 to 29 percent. The explanation for the paradox lies in the rapid growth of population which has out placed whatever little progress has been achieved in literacy. For instance, from 1951 to 1961, literacy increased at an annual average rate of 0.7 percent while the country's population grew by 2.15 percent every year. But the population explosion is not entirely responsible for the growing number of illiterates. The apathy of most states in failing to tackle the problem of adult literacy is also partly to blame. Till now, they have shown little awareness of the magnitude of the problem. Moreover, follow up measures to prevent neo-literates from relapsing into illiteracy are just as important as the initial adult

literacy campaigns. Here too, the state education authorities have been negligent. Not sufficient provision has been made for continuing education. This can be done by setting up more rural libraries, adult schools and literacy in centres.

186. The percentage of literacy in 1961 was
(1) 5 (2) 19 (3) 20 (4) 24
187. According to the passage, during the period 1951 to 1961 literacy increased every year by
(1) 0.7 percent (2) 2.15 percent (3) 21.5 percent (4) 7 percent
188. What is the paradox referred to in the passage?
(1) the no. of illiterates and the percentage of literacy have both increased
(2) the no. of literates has increased while the percentage of literacy has gone down
(3) while the no. of literates has decreased the percentage of literacy has increased
(4) the no. of literates has decreased while the percentage of literacy has increased
189. What is meant by neo-literate?
(1) not literate (2) little literate (3) newly become literate (4) would be literate
190. According to the passage, the problem could have been tackled by
(1) checking the population growth
(2) preventing the neo-literates from relapsing into literacy
(3) improving adult literacy campaigns (4) a, b and c

Read the following passage and answer questions:

A stamp is, to many people, just a slip of paper that takes a letter from one town or country to another. They can't understand why stamp collectors find so much pleasure in collecting them and how we find time to indulge in our hobby. To them it seems a waste of time, effort and money. But, they do not realize that many find the effort worthwhile and many who, if they did not spend their time collecting stamps, would spend it less profitably. In our leisure hours what better occupation is there to keep us out of mischief than that of collecting stamps? An album, a packet of hinges, a new supply of stamps, and the time passes swiftly. Stamp-collecting has no limits and a collection never has an end; countries are always issuing new stamps to celebrate coronations, great events, anniversaries and deaths. And the fascination of collecting is in obtaining these stamps before one's rivals. Every sphere of stamp collecting has its fascination- receiving letters from distant countries and discovering old stamps in the leaves of dusty old books. A stamp itself has a fascination all its own. Gazing at its little picture we are

196. How many intelligences does Gardener speak about?
(1) seven (2) innumerable (3) multiple (4) eight
197. Inability to perform a certain task indicates lack of
(1) task related intelligence (2) special intelligence
(3) special intelligence (4) interpersonal intelligence
198. What type of intelligence do people who can think in pictures have?
(1) visual (2) musical (3) linguistic (4) naturalistic
199. What does “Kinesthetic” mean?
(1) sensory (2) flexible (3) dynamic (4) musical
200. What does trouble in understanding poetry mean?
(1) you have not developed this special skill
(2) you are not a master of vocabulary
(3) you don’t have kinesthetic intelligence
(4) you failed to visualize a picture

