

**SECTION - A**  
**ANALYTICAL ABILITY**

**TIME : 2HOURS**  
**MAX. MARKS: 200**

Questions: 75]

[Marks: 75

**I) DATA SUFFICIENCY**

*Note: In questions numbered 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 the question;
  - b) Mark choice (2) If the statement II alone is sufficient to answer the question;
  - c) Mark choice (3) If both the 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 are not sufficient to answer the question and additional data is required.
1. What is the perimeter of the square?  
I) The square is within a circle.  
II) A circle of radius 4 cm passes through the four vertices of the square.
  2. What is the value of  $x^2 - 1/x^2$ ?  
I)  $x + \frac{1}{x} = 4$                       II)  $x - \frac{1}{x} = 5$
  3. When  $|x| < 5$ ?  
I)  $|x-1| < 4$                       II)  $|x-1| > 4$
  4. Is fog an even function?  
I) 'f' is an odd function.  
II) 'g' is an odd function.
  5.  $n(p \cap q) = ?$   
I)  $p = \{x/x \text{ is a prime number}\}$   
II)  $q = \{x/x \text{ is an even number}\}$
  6. Can a quadratic equation be found?  
I) The product of the roots is '1'.  
II) The sum of the roots is '1'.
  7. What is the cost of V.C.R.?  
I) Cost of T.V. and V.C.R. is Rs .35, 000.  
II) T.V. is 1.5 times costlier than the V.C.R.
  8. What is the length of the carpet?  
I) The carpet is rectangular with an area of 240 sq.cm  
II) Diagonal and the longer side together equal to five times than the shorter side.
  9. What is the length of the faster train?  
I) The two trains travel in the same direction at 50 kmph, 32 kmph.  
II) A man in the slower train observes that the faster train passes him completely in 15 seconds.
  10. What is Vidya age of present?  
I) The ratio of Nutan's age to Vidya age at present is 5:4.  
II) The sum of ages of Vidya and Nutan at present is 36 years.
  11. What is the length of the Train?  
I) The train passes an electric pole in 9 seconds  
II) The train running with a steam engine.
  12. What is the other number?  
I) The H.C.F. and L.C.M. of two numbers are 11 and 7700 respectively.  
II) One of the two numbers is 275.
  13. What is the value of  $7*5$  ?  
I)  $x*y = (x+2)^2*(y-2)$ .  
II) \* is a relationship.

14. How much Jayesh paid on food items?  
I) After spending 40% Of his salary on food items and 1/3 of the remaining on clothes he has Rs. 900 with him.  
II) Jayesh buys sweets.
15. In which quadrant, the region does lie ?  
I)  $x \geq 0$                       II)  $x+y \geq 16$
16. What is the rate of interest ?  
I) A sum of Rs.800 amounts to Rs.920 in 3 years  
II) Interest is a S.I.
17. What is the value of  $f\left(\frac{1}{x}\right)$ ?  
I)  $x \neq 0$                       II)  $f(x+2) = x$
18. What is teacher's age ?  
I) The average age of 25 students is 12 years.  
II) If the teacher's are included, the average is increased by one.
19. What is the value of  $\cos 30^\circ$ ?  
I) the value of  $\cos 0^\circ$  is given  
II)  $\cos^2 \theta = 1 - \sin^2 \theta$ .
20. What is the area of rhombus?  
I) One side 20 cm.  
II) Diagonal 24 cm.

**II) PROBLEM SOLVING**

**(a) Sequence and Series:**

*Note : In each of the questions numbered 21 to 35 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. 2, 8, 18, ?, 50, 72  
1) 20                      2) 24                      3) 30                      4) 32
22. 11, 12, 14, 18, ?, 42, 74  
1) 24                      2) 26                      3) 30                      4) 32
23. 5, 16, 49, 148, ?, 1336  
1) 445                      2) 523                      3) 598                      4) 1048
24. ZABD, YBCE, ?, WDEG, VEFH  
1) XDFC                      2) YBCE                      3) XCDF                      4) XCFD
25. ACEG, CEIG, EGIK, ? IKMO  
1) GUIM                      2) GKIM                      3) GIKM                      4) CHLK
26. ab\_ab\_bc\_bab\_ab  
1) acbc                      2) abbc                      3) caac                      4) bccb
27. a-bc-abc-bc  
1) abac                      2) aaaa                      3) caac                      4) bccb
28. B, C, D, F, G, H, J, K, L, N, O ?  
1) O                      2) P                      3) R                      4) U
29. 2, 15, 41, 80, ?  
1) 132                      2) 212                      3) 111                      4) 120
30.  $\frac{2}{\sqrt{5}}, \frac{3}{5}, \frac{5}{5\sqrt{5}}, \frac{5}{25}, ?$   
1)  $\frac{7}{25}$                       2)  $\frac{6}{125}$                       3)  $\frac{6}{25\sqrt{5}}$                       4)  $\frac{6}{5\sqrt{5}}$
31. Lion: Roar: : Cat: \_\_\_\_  
1) Bark                      2) Yell                      3) Bray                      4) Mew
32. OFN: JAI: : TWG: \_\_\_\_  
1) ORB                      2) NQC                      3) PSC                      4) OQC
33. NOB: BOND: LOT:  
1) LOST                      2) TOLD                      3) BOLT                      4) TOLL
34. 16: 17: : ? : ?  
1) J:K                      2) P:Q                      3) A:D                      4) G:F

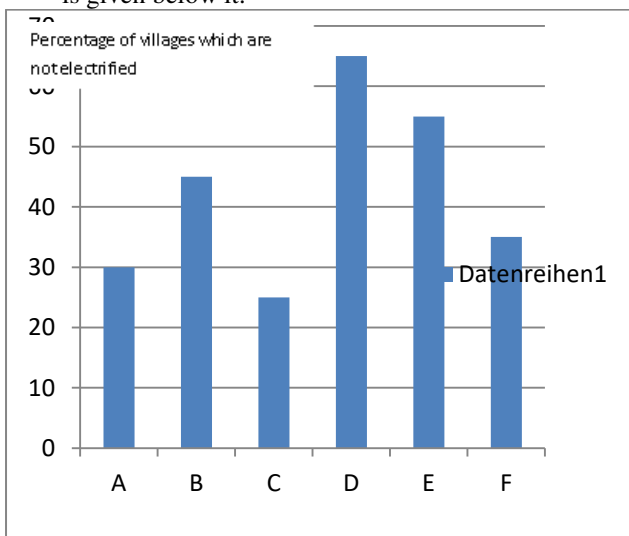
35. TSR: LKJ: : ? : QPO  
 1) WXY 2) YXW 3) ZYW 4) XYW
36. 517: 121: : 759 : ?  
 1) 76 2) 55 3) 42 4) 35

**Note: In questions 36 to 45, pick the odd thing out.**

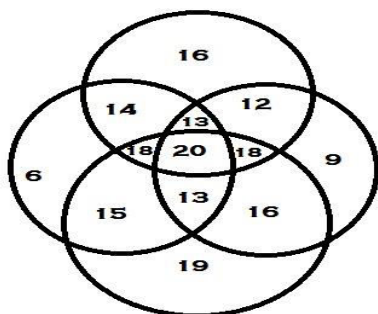
37. 1) 321 2) 545 3) 765 4) 987  
 38. 1) 43 2) 47 3) 53 4) 64  
 39. 1) AC 2) IK 3) PQ 4) UW  
 40. 1) 36:18 2) 66:36 3) 40:14 4) 12:3  
 41. 1) Counset 2) Judge 3) Advocate 4) Lawyer  
 42. 1) 36-25 2) 64-49 3) 100-125 4) 16-9  
 43. 1) JLNP 2) ACEG 3) EGIK 4) OPRT  
 44. 1) tRsMp 2) nOrTx 3) pTwMj 4) KuiLT  
 45. 1) October-December 2) June-October 3) April-July 4) April-August

Directions (46-55):

Study the following graph carefully and answer the questions is given below it:



46. Which state has the maximum percentage of electrified village?  
 1) A 2) B 3) C 4) D
47. If the central Government desires to give aid for speedy starting from states with least electrification. Which state will get fourth rank in order of priority?  
 1) C 2) B 3) A 4) F
48. How many states have at least 60% or more electrified villages?  
 1) Five 2) Three 3) Four 4) Two
49. Which state has the twice the percentage of villages electrified in comparison to state D?  
 1) C 2) F 3) A 4) B
50. In case of state A what percent of villages are electrified?  
 1) 65 2) 25 3) 35 4) None



51. The number of students who took any three of the four subjects?  
 1) 64 2) 62 3) 61 4) 66
52. The number of students in total who took English or Mathematics or Telugu?  
 1) 180 2) 480 3) 262 4) 340
53. The number of students who took English and Hindi among other subjects are  
 1) 60 2) 65 3) 66 4) 62
54. Which subject was taken by the largest number of students?  
 1) Telugu 2) English 3) Hindi 4) Mathematics
55. What does No. 18 represent?  
 1) Maths & Telugu 2) Mathematics 3) Maths & Hindu 4) Maths, English & Telugu
56. If in a code language 'GUNTUR' is coded as 'KRXYV' then how will you code the word 'TENALI' in that language?  
 1) XIRIPM 2) XIREPM 3) XIRPEM 4) XRIEPM
57. If 'MACHINE' is coded as 'LBBIHOD' then which word would be coded as 'BPLQTUD'?  
 1) COMPUTE 2) CUMPUTE 3) AQKRSVC 4) None
58. If in a certain code 'ALMIRAH' is written as 'BNPMWGO', which word would be written as 'CDNRWLUA'?  
 1) CLSOGTO 2) CLOSGOT 3) COLGSTO 4) CSOLTOG
59. If 'CABLE' is coded as '6-4-5-15-8'. How will you code the word 'LACK'?  
 1) 12-4-5-6 2) 12-5-4-6 3) 12-4-6-5 4) None of these
60. 'WEST' is coded as 63. How will you code 'EAST' using the same coding scheme?  
 1) 40 2) 41 3) 42 4) 45
61. If 'ROCK' is coded as '9-12-24-16' then how will you code, the word, 'BLACK'?  
 1) 25-15-26-24-26 2) 25-15-26-24-16 3) 25-16-26-24-16 4) 25-14-24-26-16
62. If  $a * b = a + b + ab - 1$ , then what is the value of  $3 * 4$ ?  
 1) 21 2) 18 3) 19 4) 12
- Directions (63-71) : Given below are some words which are to be coded using the given rule : A->Z; B->Y; C->X....., also Z->A; Y->B;.....
63. XLNKFQVI  
 1) COMPUTER 2) COMPUETR 3) COMPUTET 4) RETUPMOC
64. LAPTOP  
 1) OKZGLK 2) OZGKLL 3) OZKGLK 4) KLHKZO
65. HARDWARE  
 1) SZIWDZIV 2) VIZDWIZS 3) SZWIDZIV 4) SZVIZDIV
66.  $2\Delta 3 : 29 : 3 \Delta = 11; 3 \Delta 4 = ?$   
 1) 67 2) 26 3) 116 4) 426
67. Today is December 4. The day of the week is Saturday. This is not a leap year. The day of the week In this date after 4 years will be  
 1) Sunday 2) Monday 3) Friday 4) Thursday
68. Today is 20th Jan. The day of the week is Sunday. This is leap-year. What will be the day of the week on this year after 2 years.  
 1) Monday 2) Tuesday 3) Wednesday 4) Thursday

69. Today is 15th February. The day of the week is Monday. Last year is leap year. The day of the week on this date 3 years ago was  
 1) Friday 2) Thursday 3) Saturday  
 4) Sunday
70. At what time between 2 0' clock and 3 0' clock the two hands will coincide?  
 1) 2 hours 46  $\frac{2}{11}$  min.  
 2) 2 hours 9  $\frac{10}{11}$  min.  
 3) 2 hours 12  $\frac{10}{11}$  min.  
 4) 2 hours 10  $\frac{10}{11}$  min.
71. At what time between 9 0' clock and 10 0' clock the two hands will coincide  
 1) 9 hours 46  $\frac{2}{11}$  min.  
 2) 9 hours 49  $\frac{1}{11}$  min  
 3) 9 hours 44  $\frac{5}{11}$  min  
 4) 9 hours 48  $\frac{6}{11}$  min.

Directions (72 and 73) : Read the information given below and answer the questions that follow:

- a) In a family of six persons A, B, C, D, E & F there are two married couples.  
 b) D is the grandmother of A and mother of B.  
 c) C is the wife of B and mother of F.  
 d) F is the granddaughter of E.
72. Which of the following is true?  
 1) A is brother of F 2) A is sister of F  
 3) D has two grandsons 4) none
73. Who among the following is one of the couples?  
 1) CD 2) DE 3) EB 4) Cannot be determined

Directions (74 and 75) :

- a) Sanchit, Kamal, Rahul, Madhan & Tarun are -five friends who stay in one building.  
 b) Each one owns a separate garage A, B,-C,- D and E and a different coloured cars viz.-Red, Yellow, White, Black & Blue.  
 c) Kamal does not own either garage D or E. His car is red colour .  
 d) Madan own Yellow coloured car & garage C.  
 e) Tarun who owns garage A does not own black or white coloured car.
74. Who owns garages?  
 1) Sanchit 2) Rahul  
 3) Either Sanchit or Rahul 4) None
75. Who is the owner of blue coloured car ?  
 1) Sanchit 2) Rahul  
 3) Tanm 4) Data inadequate

**SECTION –B**  
**MATHEMATICAL ABILITY**

Questions : 75

Marks :75

**I) ARITHMETIC ABILITY**

76. The L.C.M. of the numbers 15, 24, 30 and 40 is  
 1) 120 2) 240 3) 360 4) 480
77. A shop keeper purchased 20 kg of rice at Rs. 7.50 per kg. and 30 kg. of another variety at Rs. 7.75 per kg. At what price per kg., he has to sell the mixture, to get 45% gain on it?  
 1) Rs.11.09 2) Rs.10 3) Rs.9.09 4) Rs.8
78. If 5 men or 9 women can do some work in 19 days, then in how many days can 3 men and 6 women complete the same work?  
 1) 16day 2) 24 days 3) 45days 4) 15days

79. The average of two numbers is  $(3x + 2)$ . If one of the number is  $x$ , what is the other number?  
 1)  $2x+1$  2)  $2x+2$  3)  $5x+3$  4)  $5x+4$
80. The side of a square field is 65m. what is the cost of fencing at Rs. 1.35 per metre?  
 1)Rs.361 2)Rs.351 3)Rs.360 4)Rs.381
81. If 1 cubic centimeter of wood weights, 0.7gm. what is the weight of wood cylinder of length 1 m and diameter 10 cm?  
 1) 6kg 2) 7.5kg 3) 5.3kg 4) 5.5kg
82. A bag contain 64 books of Telugu and English languages together. Which of the following can be the ratio between the number of Telugu and English books?  
 1) 5:2 2)3:7 3)5:3 4) 5:1
83. If one -third of a number is  $\frac{1}{10}$  then the value of  $\frac{5}{6}$ <sup>th</sup> of that number is ?  
 1)  $\frac{1}{2}$  2)  $\frac{1}{3}$  3)  $\frac{1}{4}$  4)  $\frac{1}{5}$
84. 20% of a number is 160. What is 50% of four times of the Number?  
 1) 800 2) 3200 3) 1600 4) 450
85. The sum of two numbers is 30 and their difference is 20. What is the difference of their squares?  
 1) 1200 2) 600 3) 400 4) 250
86. A number when divided by 27, leaves 19 as remainder. What will be the remainder, if the same number is divided by 9?  
 1) 2 2) 1 3) 3 4) 4
87. Three bells ring at intervals of 50 sec., 40 sec. and 60 sec. respectively. They start ringing together at 8.40A.M. At what time will they ring again together?  
 1) 9.00A.M. 2)9.02A.M. 3)8.50A.M. 4)8.45A.M.
88. If 'a' is 90% of 'b' then 'b' is what percentage of 'a'?  
 1)  $11\frac{1}{9}\%$  2)  $9\frac{1}{11}\%$  3)  $99\frac{1}{11}\%$  4)  $111\frac{1}{9}\%$
89. 'A' sells a pen to 'B' at 20% profit. 'B' sells it to 'C' at 20% loss. If 'C' pays Rs.57.60 for it, what did 'A' pay for it?  
 1) Rs.45 2) Rs.60 3) Rs.50 4) Rs.75
90. A certain sum of money is divided among A,B and C in the ratio 5: 6 : 9. If 'B' and 'C' together receive Rs. 90,000, what is the share of 'A'?  
 1)Rs.60,000 2)Rs.24,000 3)Rs.30,000 4)Rs36,000
91. The S.I. on a sum of money is  $\frac{2}{5}$  of the principal. If the time period is 4 years, what is the rate of interest?  
 1) 5%p.a. 2) 4%p.a. 3) 10%p.a. 4)20%p.a
92. Two cars start from 'P' towards 'Q', one at 3A.M. at 54 kmph and another at 6A.M. at 72 kmph. At what time will they meet?  
 1)12 noon 2)1 P.M.3)9 P.M. 4)3 P.M.
93. A boat moves 40 km. along the current in 2 hrs. and it can row 20 km. up the current in 4 hrs. What is the speed of the boat in still water?  
 1)7.5 kmph 2)10 kmph 3)12.5kmph 4)8kmph
94. The dimensions of a room are 15m x 12m x 10m. what is the cost of papering the fourwalls of the room at Rs. 2 per square meter?  
 1)Rs.960 2)Rs.1080 3)Rs.1072 4)Rs.980
95. How long does it take for a cyclist to go around a circular field of diameter 280 m, if the speed of the cyclist is 10 m/sec?  
 1)28 sec 2)14 sec 3)44 sec 4)88 sec
96. What is the value of the symbol \* in the number  $46 * 390$ , so that it is divisible by 11?  
 1) 1 2) 3 3) 7 4) 9
97. What is the L.C.M. of  $\frac{3}{5}$ ,  $\frac{4}{7}$ ,  $\frac{1}{3}$ , and  $\frac{5}{11}$  ?  
 1) 180 2)  $\frac{1}{60}$  3)  $\frac{1}{180}$  4) 60

98. The monthly income of Mr. Rao is Rs. 7,000. He spending 20% of the income for food, 8% for clothing, 12% for house rent, 20% for children education. 50% of the remaining is his savings. What is monthly savings?

- 1)Rs.1400 2)Rs.2800 3)Rs.700 4)Rs.1600

99. A retailer purchases books at 20% discount on the printed price and sells them at 10% above the printed price. What is his actual gain percentage?

- 1) 30% 2) 37.5% 3) 22.5% 4) 40%

100. A and B can do a work in 12 days. They are working on alternate days with 'A' beginning the work. What part of the total work can be completed at the end of 8 days ?

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

101. A bus covers a distance at 40 kmph and return the same distance at 60 kmph. What is the average speed of the bus for the entire journey?

- 1) 50kmph 2) 72kmph 3) 24kmph 4)48kmph

102. The length of a rectangle is increased by 20%. By what percentage, its width must be reduced to keep the area as constant?

- 1) 20% 2) 25% 3)  $16\frac{2}{3}\%$  4)  $13\frac{1}{3}\%$

103. A circular wire of radius 21 cm is cut and bent in the form of a square. What is the side of the square thus obtained?

- 1) 21cm 2) 5.2cm 3) 36cm 4) 33cm

104. A cloth of 630 sq. cm. is cut into two pieces, such that the area of one piece is two-fifth of the other. What is the area of the smaller piece?

- 1) 140cm 2) 180cm 3) 90cm 4) 70cm

105. A sum of money becomes triple at C.I. in 4 years. In how many years will it become 27 times of itself at the same rate of interest?

- 1)36 years 2)27years 3)12years 4)24years

106. If  $x = \frac{\sqrt{3}-\sqrt{2}}{\sqrt{3}+\sqrt{2}}$ ,  $y = \frac{\sqrt{3}+\sqrt{2}}{\sqrt{3}-\sqrt{2}}$  then  $x^2 + xy + y^2 =$

- 1) 98 2) 100 3) 99 4) 97

107.  ${}^{24}C_4 + \sum_{j=1}^5 (29-j)C_3 =$

- 1)  ${}^{24}C_3$  2)  ${}^{29}C_4$  3)  ${}^{32}C_4$  4)  ${}^{33}C_4$

108. If  $a = b^x$ ,  $b = c^y$ ,  $c = a^z$  then  $xyz =$

- 1) 0 2) 1 3) -1 4) 2

109.  $\sqrt{6} + \sqrt{6} + \sqrt{6} + \dots \dots \dots \infty$

- 1) 2 2) 3 3) 4 4) 6

110.  $|2x+3|=4$

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

### ALGEBRAIC AND GEOMETRICAL ABILITY

111.  $p \wedge p = p$ . it is called ..... property of the statements

- 1) Idempotent 2)Distributive  
3) Demorgan Law 4) Complement law

112. "7 is odd or 7 is prime" write the statement with using the appropriate connective?

- 1) 7 is odd  $\vee$  7 is prime 2) 7 is odd  $\wedge$  7 is prime  
3) 7 is odd  $\Rightarrow$  7 is prime 4) None of these

113. If  $R = \{(a,1),(a,2),(c,2)\}$  then  $R^{-1} =$

- 1)  $\{(1,a),(2,c),(2,b)\}$  2)  $\{(1,a),(2,b),(3,c)\}$   
3)  $\{(1,a),(2,c),(2,a)\}$  4) None

114. if  $f:R \rightarrow R$  such that  $f(x) = \frac{2x+3}{5}$ , then  $f^{-1}(x) =$

- 1)  $\frac{5}{2x+3}$  2)  $\frac{5x+3}{2}$  3)  $\frac{5x-3}{2}$  4)  $\frac{2x-5}{3}$

115. If N is the set of positive integers, then  $\{n \in N / |n-2| < 3\} =$

- 1) {1,2,3,4,5} 2) {1,2,3,4} 3) {2,3,4,5} 4) {2,3}

116. If  $f\{x\} := x^2 + 5x + 6$  and  $g(x) = x^2$  then

$$\frac{f(2)+f(3)+f(0)}{g(0)+g(1)+g(-2)} =$$

- 1)  $\frac{5}{6}$  2)  $\frac{3}{5}$  3)  $\frac{4}{5}$  4)  $\frac{56}{5}$

117. If  $x-1$  is a factor of  $2x^3-3x^2+2x+k$ , then value of K =

- 1) 2 2) 1 3) 3 4) -1

118. If  $(x+1)$  and  $(x+2)$  are factors of  $x^3 + 6x^2 + 11x + 6$ , the third factor is

- 1)  $x-3$  2)  $x+3$  3)  $x+1$  4)  $3-x$

119.  $x^n - y^n$  is dividible by  $x+y$ , when 'n' is

- 1) a positive integer 2) an even positive integer  
3) an odd positive integer 4) none.

120. If 'x' is real then of the expression

$$\frac{x^2 + 2x + 1}{x^2 + 2x - 1}$$

- 1) lies between 0 & 1 2) does not lie between 0 & 1  
3) lies between 1 & 2 4) can't found

121. The number of solutions of the equation

$$|x^2| - 3|x| + 2 = \text{is}$$

- 1) 4 2) 1 3) 3 4) 2

122. If  $\alpha, \beta$  are the roots of  $x^2 + 3x + 2 = 0$  then  $\alpha^2\beta + \beta^2\alpha =$

- 1) 1 2) 2 3) -6 4) 3

123. If  $a = x + \sqrt{1+x^2}$  then  $x =$

- 1)  $\frac{1}{2}(a - \frac{1}{a})$  2)  $\frac{1}{2}(a + \frac{1}{a})$  3)  $(a - \frac{1}{a})$  4) None

124. The point of concurrence of the altitudes of a triangle is its

- 1) Incentre 2) Orthocentre 3) Circumcentre 4) Centroid

125. If the points  $(k,-3)$ ,  $(2,-5)$  and  $(-1,-8)$  are collinear then  $k =$

- 1) 0 2) 4 3) -2 4) -3

126. If  $\log_{10} 2 = 0.3010$  then the number of digits is  $2^{100}$  are

- 1) 29 2) 30 3) 31 4) 100

127. If  $\log_a m = x$ , then  $\log_a \frac{1}{m} =$

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

128. The maximum value of the expression  $5+6x-x^2$

- 1) 11 2) 12 3) 13 4) 14

129. The greatest value of 'n' for which  $1+5+5^2+\dots$  to 'n' terms is  $< 4321$

- 1) 5 2) 6 3) 7 4) 8

130. The sum of the numbers between 1 and 1000 that are divisible by '7' is

- 1) 141 2) 142 3) 71071 4) 142142

131. The range of 'x' for which the expansion of  $(2x+3x)^{-3/2}$  is valid

- 1)  $(\frac{-2}{3}, \frac{2}{3})$  2)  $(0, \frac{2}{3})$  3)  $(-\infty, \frac{2}{3})$  4)  $(\frac{2}{3}, \infty)$

132.  $C_0C_1 + C_1C_2 + \dots + C_{n-1}C_n =$

- 1)  ${}^{2n}C_n$  2)  $2n!$  3)  ${}^{2n}C_{n-1}$  4) None

133. The equation of the line passing through  $(0,1)$  and  $(1,0)$  is

- 1)  $x+y=0$  2)  $x+y=1$  3)  $x-y=1$  4)  $x+y+1=0$

134. If the trace of A is 32 and trace of B is -22, then the trace of  $(A+B)$  is

- 1) 10 2) 54 3) -54 4) None

135. The solution of the system of linear equations is given by

$$\begin{pmatrix} 1 & 2 \\ 3 & -1 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 2 \\ 6 \end{pmatrix}$$

- 1)  $x=1, y=1$  2)  $x=2, y=0$   
3)  $x=0, y=2$  4)  $x=1, y=-1$

136.  $\begin{pmatrix} x & 1 \\ -1 & -y \end{pmatrix} + \begin{pmatrix} y & 1 \\ 3 & x \end{pmatrix} = \begin{pmatrix} 1 & 12 \\ 2 & 1 \end{pmatrix}$  then  $(x,y)$  is

- 1) (1,0) 2) (1,1) 3) (0,1) 4) (2,1)

137. Find the value of 'k' so that the term independent of x in  $(\sqrt{x} - \frac{k}{x^2})^{10}$  is 405

- 1)  $\pm 3$                       2)  $\pm 5$                       3) 0                      4) 1

138. If the expression  $x+3$  is exactly divisible by  $x-p$ , then 'p' is

- 1) -3                      2) 3                      3) 0                      4) None

139. If the expression  $x^2-x-1$ , when divided by  $2x-k$  gives a remainder of -1, then 'k' is

- 1)  $0, \frac{4}{3}$                       2)  $0, \frac{3}{4}$                       3) -1                      4) 2

140. Which of the following is a contradiction

- 1)  $\sim(p \rightarrow pq)$     2)  $p \rightarrow q$                       3)  $p \wedge q \rightarrow p$     4)  $p \vee q$

### STATISTICAL ABILITY

141. The mean of squares of first 10 natural numbers is

- 1) 5.5                      2) 38.5                      3) 35.8                      4) 53.8

142. The A.M. of two numbers is 10 and their G.M. of those numbers is 8. Then their H.M. is

- 1) 5.8                      2) 6.8                      3) 6.56                      4) 6.28

143. The standard deviation of 8,8,8,8,8,8,8,8,13 is

- 1) 6.25                      2) 2.45                      3) 2.35                      4) 1.5

144. If '5' is added to each and every item of a data, then the A.M. is

- 1) 5 times to the first A.M.  
2) Increased by 5 to the first A.M.  
3) Equal to the First A.M.  
4) None

145. The relation between A.M., Median, Mode is

- 1) A.M. - Mode = 3 (A.M. - Median)  
2) A.M. - Mode = 2 (A.M. - Median)  
3) A.M. - Median = 3 (A.M. - Mode)  
4) None

146. Find the harmonic mean of 12, 16, 18, 24.

- 1) 16.457                      2) 17.457                      3) 18.457                      4) None

147. If the co-efficient of correlation is zero, then the variate are

- 1) Directly related                      2) Indirectly related  
3) Perfectly related                      4) Un correlated

148. If 7 coins are tossed, find the probability of obtaining no head

- 1)  $\frac{1}{128}$                       2)  $\frac{127}{128}$                       3)  $\frac{123}{128}$                       4) None

149. If A and B are events such that  $p(A \cup B) = 0.7$ ,  $p(A) = 0.4$  and  $P(B) = x$ , find 'x' such that A and B are exclusive.

- 1) 0.4                      2) 0.3                      3) 0.5                      4) 0.6

150. If three dice are thrown, what is the probability that a same number appears on all of them?

- 1)  $\frac{1}{36}$                       2)  $\frac{3}{36}$                       3)  $\frac{5}{36}$                       4) None

### SECTION -C

#### COMMUNICATIVE ABILITY

Questions : 50

Marks :50

### PART-1

Choose the correct answer:

151. The word nearest in meaning to NASCENT is

- (1)dead                      (2)just born  
(3)clever                      (4)ignorant

152. The opposite of PRAGMATIC is

- (1)practicable                      (2)unworldly  
(3)idealistic                      (4)impossible

153. The word group 'easily broken' can be Substituted by

- (1)frugal                      (2) futile

- (3)fragile                      (4)false

154. The president gave his..... to the bill. The Correct word to fill in the above blank is

- (1)assent                      (2)ascent  
(3)accent                      (4)account

155. The word wrongly spelt among the following is

- (1)dilaterious                      (2)despicable  
(3)deterioration                      (4)dubious

156. The synonym of DEFER is

- (1)check                      (2)postpone  
(3)hasten                      (4)expand

157. The word group 'being extremely tired' can be substituted by

- (1)failed                      (2)frailty  
(3)frugal                      (4)fatigue

158. The opposite of 'obsequious' is

- (1)slavish                      (2)independent  
(3)stupid                      (4)weak

159. The homonym of 'COMPLACENT' is

- (1)comprehensive                      (2)completion  
(3)complainant                      (4)confide

160. The idiom 'once in a blue moon' means

- (1)rarely                      (2)frequently  
(3)never                      (4)always

### PART-2

#### BUSINESS & COMPUTER

#### TERMINOLOGY

(10Qns. - 10 Marks)

16(1) A computer programs that converts assembly Language to machine language is

- (1)compiler                      (2)interpreter  
(3)assembler                      (4)comparator

16(2) Find the word which is non-relevant in the group

- (1)BASIC                      (2)FORTRAN  
(3)COBAL                      (4)C

16(3) The output that is obtained on the screen is Called as

- (1)Hard copy                      (2)Soft copy  
(3)VDU                      (4)none

16(4) The accuracy of ..... computers is super-high

- (1) optical    (2)hidden    (3)KIPS    (4)Digital

165. The complete picture of data stored in a database is

- (1)Record                      (2)Scheme  
(3)Group                      (4)DBMS

166. Which computer institute launched 'BOOT IT' - a computer literacy program on Doordarshan

- (1) APTECH                      (2) First computer  
(3) Indotronix                      (4) NIIT

167. Who is the founder of Bajaj group?

- (1) Rahul Bajaj                      (2) Niraj Bajaj  
(3) Sanjiv Bajaj                      (4) jamnalal Bajaj

168. The 'Little Dragons' are south korea, Taj-wan and  
 (1) Singapore (2) Hongkong  
 (3) Japan (4) Indonesia
169. Boost is brand owned by  
 (1) Johnson & Johnson  
 (2) Nestle (2) JIJ  
 (4) Smithkline Beecham
170. 'Born Tough' is the slogan of  
 (1) MRF (2) JK Tyres  
 (3)CEAT (4)Bridgestone

### PART-3

#### FUNCTIONAL GRAMMAR

(15 Qns. – 15 Marks)

171. There are in developing countries a number  
 1  
of ambitious plans for generating power in  
 2 3  
the private sector. isn't it ?  
 4
172. The old man felled some of the trees in our  
 1 2  
garden with hardly no effect of all.  
 3 4
173. When all men stop from killing one another  
 1 2  
the world will be a much better place.  
 3 4
174. 'Leave this place at once'. – This is  
 (1) an imperative sentence  
 (2) an exclamatory sentence  
 (3) an interrogative sentence  
 (4) an assertive sentence
175. He said "I wish I married earlier". The indirect speech of this sentence is  
 (1) He said that he would have married earlier  
 (2) He said that he wished he had married earlier  
 (3) He said that he should have married earlier  
 (4) He wished to have married earlier
176. James asked her which book she liked. The direct speech for this sentence is  
 (1) He said, "Which book you like?"  
 (2) He told her, "Which of these books do you like?"  
 (3) He said to her, "Which book do you like?"  
 (4) He said to her, "Do you like the book?"

#### Find out the correct form of the verb.

177. By the time I reached the station, the train .... The station.  
 (1)left (2)was leaving  
 (3)had left (4)has left
178. He ....in over 300 films so far.  
 (1) acted (2)has acted  
 (3)has been acting (4)is acting
179. Gandhiji strove to end the curse of un-touchability, isn't it?  
 The correct question tag here is  
 (1)wasn't he? (2)isn't he?  
 (3)didn't he? (4)doesn't he?

180. He congratulated her for her success.  
 The correct preposition of the sentence is  
 (1)by (2)with (3)on (4)of
181. The criminal was sent to Andamans.  
 The article missing in the sentence is  
 (1)the (2)an (3)a (4)a or the
182. He is the better of the two boys.  
 The superlative for this sentence is  
 (1)He is the best of the two boys  
 (2)He is the best boy  
 (3)There is no superlative degree for this sentence  
 (4)He is very good of the two boys

183. It was raining heavily when I left the house early in the morning to go to the station.  
 This is a  
 (1)simple sentence  
 (2)complex sentence  
 (3)compound sentence  
 (4)complex compound sentence
- 184.He..... to get a decent livelihood for him and his family for the past eight years.  
 The blank is better filled with  
 (1)has worked hard  
 (2)is working hard  
 (3)has been working hard  
 (4)had worked hard
185. 'Came out in flying colours' indicate  
 (1)success (2)disappointment  
 (3)day dreams (4)rewards

### PART-2

#### READING COMPREHENSION

(3 x 5 = 15 Marks)

**Directions : Read the following passages and answer the questions below:**

**I)**

By analyzing concrete village situations existing in the country, it is seen how the very structure of Lire Indian society, particularly at the village level, is responsible for poverty and injustice and thus for low economic status of the rural people. Rural people are poor not because they are anti-development, ignorant, conservative but because of the negative influence of oppressive socio-economic and political structure of the Indian society.

In developing countries like India, "development" has been so far understood as economic development alone where the main emphasis has been on increasing production and income. According to this definition, the main objective of 'development' is to increase Gross -National Product (GNP) without bothering to see who is benefiting from the increase. In India, this is the kind of development that has been going on for the last so many years. As a result of this emphasis, production has indeed increased due to 'green revolution' or some industrialisaton. But the benefits of this development have not accrued to everyone equitably. Most benefits have gone to the already well-off people because they have better

'receiving mechanism'. The big fish have gobbled up all the aid programmes and in the same bite have swallowed the small fish as well.

Thus, inequalities have multiplied. Instead of the 'trickle down' theory which assumes that the benefits accruing to progressive sections of the society will automatically trickle down to the less well-off, the 'evaporation theory' seems to have worked. As a result of 'development' whatever little the poor had, has evaporated and reached the higher ups or better offs.

The problem may be studied from one more angle. The tendency in the past years has been to give importance to the welfare activities more than the economic development activities. This is because of the fact that the former gain popularity sooner, are easier to be achieved, are more eye-catching and impress the casual observer more than the latter do.

An uneducated Indian villager who does not understand even the meaning of 'Community Development Programme' and 'National Extension Service' feels obliged to the people who have arranged these amenities for him and expresses every praise and gratitude for them. In short, the socio-economic and political structure of the Indian society as a whole and of the rural community in particular, has proved very oppressive to the weaker sections of the rural population who have reached the stage from where they cannot rise without help from outside.

186. Which of the following is the first and direct outcome of green revolution and industrialisation ?

- (1) Decreased in the rift between the rich and the poor
- (2) Increase in gross national product
- (3) Growing importance of welfare activities
- (4) Improvement in the receiving mechanism of the progressive people

187. According to the passage, the basic reason for low economic status rural people in our country is

- (1) Injustice inflicted on them by urbanites
- (2) The analysis of concrete village situations
- (3) The structure of the Indian society at village level
- (4) Their anti-development and conservative nature

188. "The big fish-the small fish as well" (Second para, last sentence) as used in the passage means .....

- (1) The aid programmes were directed only towards breeding big fish
- (2) The aid was not evenly distributed among all the poor people
- (3) The rich and poor could benefit equally from the aid programmes
- (4) The rich have grown richer and the poor have become even poorer

189. According to the passage, in developing countries like India, the term 'development' has been

- (1) only partly understood
- (2) Fully and correctly understood
- (3) Thoroughly misinterpreted
- (4) Laying emphasis on undesirable aspects

190. The purpose of the passage seems to

- (1) Uphold the development programmes in high esteem
- (2) Defend the socio-economic and political structure of our society
- (3) Bring out the lacunae in our socio-economic development
- (4) Discuss the effects of green revolution and industrialisation

## II)

The forces that generate conditions conducive to crime and riots are stronger in urban communities than in rural areas. Urban living is more anonymous living. It often releases the individual from community restraints more common in tradition-oriented societies. But more-freedom from constraints also provides greater freedom to deviate. And living in the more impersonalized, formally controlled urban society means that regulatory orders and conduct are often directed by distant bureaucrats. The police are strangers executing these prescriptions on an anonymous set of subjects. Minor offences in small town or village are often handled without resort to official police action. As disputable as such action may seem to be, it results in fewer recorded violations of the law compared to the big cities. Although perhaps causing some decision-difficulties for the police in small town, formal and objective law enforcement is not acceptable to villagers.

Urban areas with mass population, greater wealth, more commercial establishments and more products of our technology also provide more frequent opportunities for theft. Victims are impersonalized, property is insured, consumer goods in more abundance are vividly displayed and are more portable. The crime rate increases despite formal moral education given in schools.

191. According to the passage, all of the following contribute to higher crime rates in urban areas EXCEPT

- (1) vivid display of consumer goods
- (2) Higher standard of living
- (3) Urban impersonalized living
- (4) Inadequate police force

192. Which of the following is a characteristic of an urban setting ?

- (1) Unreported minor crimes
- (2) Deviation from freedom
- (3) Less forceful social control
- (4) Minimal opportunities of crime due to better law enforcement

193. The author's view of 'Traditional Societies' is best expressed by which of the following?

- (1) They provide less freedom for the individual in many circumstances
- (2) They have lower crime rates because of the moral teachings in schools
- (3) They provide inadequate freedom for personal movements and travel
- (4) They do not have adequate modern technology

194. People live under more social control in

- (1) Formally controlled urban societies
- (2) The presence of the police authorities

(3) An anonymous form of living

(4) None of these

195. It can be inferred from the passage that urban crime can be controlled by

(1) Greater emphasis on moral education

(2) Enforcement of law by distant bureaucrats

(3) Vivid display of expensive consumer goods

(4) Making the expensive consumer goods less portable

### III)

The public distribution system, which provides food at low prices is a subject of vital concern. There is growing realisation that though India has enough food to feed its masses two square meals a day, the monster of starvation and food insecurity continues to haunt the poor in our country.

Increasing the purchasing Power of the poor through providing productive employment leading to rising income, and thus good standard of living is the ultimate objective of public policy. However, till then, there is a need to provide assured supply of food through a restructured, more efficient, and decentralised public distribution system (PDS).

Although the PDS is extensive-it is one of the largest such systems in the world-it has yet to reach the-rural poor and the far-off places. It remains an urban phenomenon, with the majority of the rural poor still out of its reach due to lack of economic and physical access. The poorest in the cities and the migrants are left out. For they generally do not possess ration cards. The allocation of PDS supplies in big cities is larger than in rural areas. In view of such deficiencies in the system, the PDS urgently need to be streamlined. Also, considering the large foodgrains production combined with food subsidy on one hand and the continuing slow starvation and dismal poverty of the rural population on the other, there is a strong case for making POS target group oriented.

The growing salaried class is provided job security, regular income, and social security. It enjoys almost hundred percent insulation against Inflation. These gains of development have not percolated down to the vast majority of our working population. If one compares only dearness allowance to the employees in public and private sector and looks at its growth in the past few years, the rising food subsidy is insignificant to the point of inequality. The food subsidy is a kind of D.A. to the poor, the self-employed and those in the unorganised sector of the economy. However, what is most unfortunate is, that out of the large budget of the so-called food subsidy, the major part of it is administrative cost and wastages. A small portion of the above budget goes to the real consumer and an even lesser portion to the poor who are in real need.

It is true that subsidies should not become a permanent feature, except by the destitute, disabled widows and the old. It is also true that subsidies often create a psychology of dependence and hence is habit-forming, killing the general initiative of the people. By making pos target group oriented, .not only the poorest and neediest would be reached without additional cost, but it will actually cut overall costs incurred on large cities and for better-off localities. When the food and

food subsidies are limited, the rural and urban poor should have the priority in the PDS supplies. The POS should be closely linked with programmes of employment generation and nutrition improvement.

196. Which of the following, according to the passage, is true of public distribution system?

(1) It is unique in the world because of its effectiveness

(2) It has remained effective only in the cities

(3) It has reached the remotest corner of the country

(4) It has improved its effectiveness over the years

197. Which of the following, according to the passage, is the main reason for insufficient supply of enough food to the poorest ?

(1) Production of food is less than the demand

(2) Government's apathy towards the poor

(3) Absence of proper public distribution system

(4) Mismanagement of food stocks

198. What, according to the passage, is the main purpose of public policy in the long run ?

(1) Good standard of living through productive employment

(2) Providing enough food to all the citizens

(3) Reducing the cost of living index by increasing supplies

(4) Equalising per capita income across different strata of society

199. Which of the following is the same in meaning as the word 'cut' as given in the passage?

(1) Reduce (2) Damage (3) Loss (4) Cease

200. What according to the passage should be an appropriate step to make the PDS effective?

(1) To increase the amount of foodgrains available for distribution

(2) To increase the amount of foodgrains per ration card

(3) To reduce administrative cost

(4) To make it target group oriented