MATHEMATICS

1. The number of words that can be formed by using the letters of the word MATHEMATICS that start as well as end with T is

(1) 80720 (2) 90720 (3) 20860 (4) 37528

2. If $A - B = \frac{\pi}{4}$, then $(1 + \tan A)(1 - \tan B)$ is equal to

(1) 2 (2) 1 (3) 0 (4) 3

3. Let $P(E)$ denote the probability of event E. Given $P(A) = 1$, $P(B) = \frac{1}{2}$, the value of $P(A|B)$ and $P(B|A)$ respectively are

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

4. The number of different license plates that can be formed in the format 3 English letters $(A....Z)$ followed by 4 digits (0, 1, ...9) with repetitions allowed in letters and digits is equal to

(1) $26^3 \times 10^4$ (2) $26^3 + 10^4$ (3) 36 (4) 26^3

5. Which of the following is correct?

(1) $\sin 1° > \sin 1$ (2) $\sin 1° < \sin 1$ (3) $\sin 1° = \sin 1$ (4) $\sin 1° = \frac{\pi}{180} \sin 1$

6. If two towers of heights h_1 and h_2 subtend angles 60° and 30° respectively at the mid point of the line joining their feet, then $h_1 : h_2$ is

(1) 1 : 2 (2) 1 : 3 (3) 2 : 1 (4) 3 : 1

7. If the vectors $\bar{a} = (1, x, -2)$ and $\bar{b} = (x, 3, -4)$ are mutually perpendicular, then the value of x is

(1) –2 (2) 2 (3) 4 (4) –4

8. What is the value of a for which $f(x) = \begin{cases} \sin x \ if \ x \le \frac{\pi}{2} \\ ax \ if \ x > \frac{\pi}{2} \end{cases}$ is continuous?

(1) π (2) $\frac{\pi}{2}$ (3) $\frac{2}{\pi}$ (4) 0

9. If the real number x when added to its inverse gives the minimum value of the sum, then the value of x is equal to

(1) –2 (2) 2 (3) 1 (4) –1

10. If $\cos(\alpha + \beta) = \frac{4}{5}$ and $\sin(\alpha - \beta) = \frac{5}{13}$, $0 < \alpha, \beta < \frac{\pi}{4}$, then $\tan(2\alpha) =$

(1) $\frac{56}{33}$ (2) $\frac{63}{65}$ (3) $\frac{16}{63}$ (4) $\frac{33}{56}$

11. The value of $\lim_{n\to\infty}\frac{\pi}{n}\left[\sin\frac{\pi}{n}+\sin\frac{2\pi}{n}+....+\sin\frac{(n-1)\pi}{n}\right]$ is

(1) 0 (2) π (3) 2 (4) $\frac{\pi}{2}$

12. The point on the curve $y = 6x - x^2$, where the tangent is parallel to x–axis is

(1) (0, 0) (2) (2, 8) (3) (6, 0) (4) (3, 9)

13. If $I_1 = \int_0^1 2^{x^2}dx$, $I_2 = \int_0^1 2^{x^3}dx$, $I_3 = \int_1^2 2^{x^2}dx$ and $I_4 = \int_1^2 2^{x^3}dx$, then

(1) $I_1 = I_2$ (2) $I_2 > I_1$ (3) $I_3 > I_4$ (4) $I_4 > I_3$

14. The value of integral $\int_0^{\pi/2}\log\tan x\,dx$ *is*

(1) π (2) $\frac{\pi}{2}$ (3) $\frac{\pi}{3}$ (4) 0

15. A determinant is chosen at random from the set of all determinants of matrices of order 2 with elements 0 and 1 only. The probability that the determinant chosen is non-zero is

(1) $\frac{3}{16}$ (2) $\frac{3}{8}$ (3) $\frac{1}{4}$ (4) none of these

16. If $\sin^2 x = 1 - \sin x$, then $\cos^4 x + \cos^2 x =$

(1) 0 (2) 1 (3) $\frac{2}{3}$ (4) –1

17. The equation of the plane passing through the point (1, 2, 3) and having the vector $\overline{N} = 3i - j + 2k$ as its normal is

(1) $2x - y + 3z + 7 = 0$ (2) $3x - y + 2z + 7 = 0$ (3) $3x - y + 2z = 7$ (4) $3x + y + 2z = 7$

18. The value of $\int_0^{\sin^2 x}\sin^{-1}5t\,dt + \int_0^{\cos^2 x}\cos^{-1}5t\,dt$ is

(1) $\frac{\pi}{4}$ (2) $\frac{\pi}{2}$ (3) 1 (4) none of these

19. Coefficients of quadratic equation $ax^2 + bx + c = 0$ are chosen by tossing three fair coins where 'head' means one and 'tail' means two. Then the probability that roots of the equation are imaginary is

(1) $\frac{7}{8}$ (2) $\frac{5}{8}$ (3) $\frac{3}{8}$ (4) $\frac{1}{8}$

20. In class of 100 students, 55 students have passed in Mathematics and 67 students have passed in Physics. Then the number of students who have passed in Physics only is

(1) 22 (2) 33 (3) 10 (4) 45

21. If H is the Harmonic mean between P and Q, then $\frac{H}{P}+\frac{H}{Q}$ is

(1) 2 (2) $\frac{P+Q}{Q}$ (3) $\frac{PQ}{P+Q}$ (4) None of these

22. The number of values of k for which the system of equations $(k + 1)x + 8y = 4k$ and $kx + (k + 3)y = 3k - 1$ has infinitely many solutions is

(1) 0 (2) 1 (3) 2 (4) None of these

23. The sum of $^{20}C_8 + {}^{20}C_9 + {}^{21}C_{10} + {}^{22}C_{11} - {}^{23}C_{11}$ is

(1) $^{22}C_{12}$ (2) $^{23}C_{12}$ (3) 0 (4) $^{21}C_{10}$

24. The value of $\cot^{-1}(21) + \cot^{-1}(13) + \cot^{-1}(-8)$ is

(1) 0 (2) π (3) ∞ (4) $\frac{\pi}{2}$

25. Normal to the curve $y = x^3 - 3x + 2$ at the point (2, 4) is

(1) $9x - y - 14 = 0$ (2) $x - 9y + 40 = 0$ (3) $x + 9y - 38 = 0$ (4) $-9x + y + 22 = 0$

26. A problem in mathematics is given to three students A, B and C whose chances of solving it are $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}$ respectively. If they all try to solve the problem, what is the probability that the problem will be solved?

(1) $\frac{1}{2}$ (2) $\frac{1}{4}$ (3) $\frac{1}{3}$ (4) $\frac{3}{4}$

27. The function x^x decreases in the interval

(1) $(0, e)$ (2) (0, 1) (3) $\left(0, \frac{1}{e}\right)$ (4) None of these

28. If $\bar{a} + \bar{b} + \bar{c} = 0$, $|\bar{a}| = 3, |\bar{b}| = 5, |\bar{c}| = 7$, then angle between the vector $\bar{a}$ and $\bar{b}$ is

(1) $\frac{\pi}{2}$ (2) $\frac{\pi}{3}$ (3) $\frac{\pi}{4}$ (4) $\frac{\pi}{6}$

29. If θ $(0 \le \theta \le \pi)$ is the angle between the vectors $\bar{a}$ and $\bar{b}$, then $\frac{|\bar{a} \times \bar{b}|}{\bar{a}.\bar{b}}$ equals

(1) $-\cot\theta$ (2) $\tan\theta$ (3) $-\tan\theta$ (4) $\cot\theta$

30. If $f(a + b) = f(a) \times f(b)$ for all a and b and $f(5) = 2$, $f'(0) = 3$, then $f'(5)$ is

(1) 2 (2) 4 (3) 6 (4) 8

31. If (4, –3) and (–9, 7) are the two vertices of a triangle and (1, 4) is its centroid, then the area of triangle is

(1) $\frac{138}{2}$ (2) $\frac{319}{2}$ (3) $\frac{183}{2}$ (4) $\frac{381}{2}$

32. The equation of the ellipse with major axis along the x-axis and passing through the points (4, 3) and (–1, 4) is

(1) $15x^2 + 7y^2 = 247$ (2) $7x^2 + 15y^2 = 247$ (3) $16x^2 + 9y^2 = 247$ (4) $9x^2 + 16y^2 = 247$

33. If the circles $x^2 + y^2 + 2x + 2ky + 6 = 0$ and $x^2 + y^2 + 2ky + k = 0$ intersect orthogonally, then k is

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

34. Focus of the parabola $x^2 + y^2 - 2xy - 4(x + y - 1) = 0$ is

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

35. If $\bar{a}, \bar{b}$ and $\bar{c}$ are unit vectors such that $\bar{a}+\bar{b}+\bar{c}=0$, then the value of $\bar{a}.\bar{b}+\bar{b}\bar{c}+\bar{c}\bar{a}$ is

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

36. If $\bar{a}, \bar{b}, \bar{c}$ are non-coplanar vectors and λ is a real number, then the vectors $\bar{a}+2\bar{b}+3\bar{c}, \lambda\bar{b}+4\bar{c}$ and $(2\lambda-1)\bar{c}$ are non-coplanar for

(1) all values of λ (2) All except one value of λ
(3) All except two values of λ (4) No value of λ

37. Suppose values taken by a random variable X are such that $a \le x_i \le b$, where x_i denotes the value of X in the i^{th} case for $i = 1, 2, 3, \ldots n$, then

(1) $(b-a)^2 \ge Var(X)$ (2) $\frac{a^2}{4} \le Var(X)$ (3) $a^2 \le Var(X) \le b^2$ (4) $a \le Var(X) \le b$

38. If ω is the cube root of unity, then the system of equations
$x + \omega^2 y + \omega z = 0$, $\omega x + y + \omega^2 z = 0$ and $\omega^2 x + \omega y + z = 0$ is

(1) Consistent and has unique solution (2) Consistent and has more than one solution
(3) Inconsistent (4) None of these

39. If $x = \log_a bc$, $y = \log_b ca$ and $z = \log_c ab$, then $\frac{1}{1+x}+\frac{1}{1+y}+\frac{1}{1+z}=$

(1) abc (2) $\sqrt{ab}+\sqrt{bc}+\sqrt{ca}$ (3) 1 (4) $x+y+z$

40. If $2^a = 3^b = 6^{-c}$ then $ab + bc + ca =$

(1) 1 (2) 2 (3) 0 (4) None of these

41. If e and e' be the eccentricities of a hyperbola and its conjugate, then $\frac{1}{e^2}+\frac{1}{e'^2}=$

(1) 1 (2) 2 (3) 0 (4) None of these

42. If a fair coin is tossed n times, then the probability that the head comes odd numbers of times is

(1) $\frac{1}{2}$ (2) $\frac{1}{2^n}$ (3) $\frac{1}{2^{n-1}}$ (4) None of these

43. If $\sin(\pi \cos\theta) = \cos(\pi \sin\theta)$, then $\sin 2\theta =$

(1) $\pm\frac{3}{4}$ (2) $\pm\frac{1}{4}$ (3) $\pm\frac{1}{4}$ (4) $\pm\frac{4}{3}$

44. In which of the following regular polygons, the number of diagonal is equal to number of sides?

(1) Pentagon (2) Square (3) Octagon (4) Hexagon

45. One hundred identical coins each with probability P of showing up heads are tossed. If $0 < P < 1$ and the probability of heads showing on 50 coins is equal to that of heads on 51 coins; then the value of P is

(1) $\frac{1}{2}$ (2) $\frac{49}{101}$ (3) $\frac{50}{101}$ (4) $\frac{51}{101}$

46. The equation $(\cos p - 1)x^2 + (\cos p)x + \sin p = 0$ where x is a variable has real roots. Then the interval of p is

(1) $(0, 2\pi)$ (2) $(-\pi, 0)$ (3) $\left(\frac{-\pi}{2}, \frac{\pi}{2}\right)$ (4) $(0, \pi)$

47. Number of real roots of $3x^5 + 15x - 8 = 0$ is

(1) 3 (2) 5 (3) 1 (4) 0

48. The value of k for which the set of equations $3x + ky - 2z = 0$, $x + ky + 3z = 0$ and $2x + 3y - 4z = 0$ has a non-trivial solution, is

(1) $\frac{15}{2}$ (2) $\frac{17}{2}$ (3) $\frac{31}{2}$ (4) $\frac{33}{2}$

49. If $x = \log_3 5$, $y = \log_{17} 25$, then which one of the following is correct?

(1) $x > y$ (2) $x < y$ (3) $x \leq y$ (4) $x = y$

50. If $A = \begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$, then A^n for any natural number is

(1) $\begin{bmatrix} n & n \\ 0 & n \end{bmatrix}$ (2) $\begin{bmatrix} 1 & n \\ 0 & 1 \end{bmatrix}$ (3) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ (4) None of these

ANALYTICAL ABILITYY AND LOGICAL REASONING

51. If ROAST is coded as PQYUR in a certain language, then SLOPPY is coded in that language is
(1) MRNAQN (2) NRMNQA (3) QNMRNA (4) RANNMQ

52. If Lelibroon means yellow hat, plekafroti means flower garden and frotimix means garden salad, then which word could mean "yellow flower"?
(1) lelifroti (2) lelipleka (3) plekabroon (4) frotibroon

53. If + is *, – is +, * is / and / is –, then $\frac{69 + 8 \times 3}{20}$ is
(1) –2 (2) 6 (3) 10 (4) 12

54. In a certain year there were exactly four Fridays and four Mondays in January. On what day of the week did the 20th of January fall that year?
(1) Saturday (2) Sunday (3) Thursday (4) Tuesday

55. The letters P, Q, R, S, T, U and V, not necessarily in that order represent seven consecutive integers from 22 to 33 and
1. U is as much less than Q as R is greater than S
2. V is greater than U
3. Q is the middle term
4. P is greater than S

Then the sequence of letters from the lowest value to the highest value is
(1) TVPQRSU (2) TRSQUPV (3) TUSQRPV (4) TVPQSRU

56. The minimum number of tiles of size 16 by 24 required to form a square by placing them adjacent to one another is
(1) 6 (2) 8 (3) 11 (4) 16

57. Five persons K, L, M, N and Q are sitting around a dining table. K is the mother of M. M is actually the wife of O, N is the brother of K and L is the husband of K, how is N related to L?
(1) Son (2) Cousin (3) Brother (4) Brother-in-law

58. Three men A, B, C play cards. If one loses the game he has to give Rs. 3. If he wins the game he will gain Rs. 3 each from the other two losers. If A has won 3 games, B loses Rs. 3. C wins Rs. 12, then the total number of games played is
(1) 12 (2) 21 (3) 20 (4) 6

59. If a man walks at the rate of 4 kmph, he misses a train by only 6 min. However, if he walks at the rate of 5 kmph he reaches the station 6 minutes before the arrival of the train. The distance covered by him to reach the station is
(1) 4 (2) 7 (3) 9 (4) 5

60. The missing number in the given series is 3, 6, 6, 12, 9, …, ….., 12
(1) 15 (2) 18 (3) 11 (4) 13

61. A man runs 20 m towards east and turns right, runs 10 m and turns right, runs 9 m and turns left, runs 5 m and turns left, runs 12 m and finally turns left and runs 6 m. Which direction is the man facing?
(1) North (2) South (3) East (4) West

62. In a club there are certain number of males and females. If 15 females are absent then number of males will be half of females. If 45 males are absent then female strength will be 5 times that of males. Number of males actually present is
(1) 45 (2) 80 (3) 105 (4) 175

63. The missing number in the following series is 6, 12, 21, 48
(1) 40 (2) 33 (3) 38 (4) 45

Directions for questions 64 to 66: Read the below passage carefully and answer the questions:
Fie roommates Randy, Sally, Terry, Uma and Vemon each do one housekeeping task – Mopping, Sweeping, laundry, Vacuuming or dusting one day a week, Monday through Friday,

* Vernon does not vacuum and does not do it on Monday or Friday.
* Sally does the dusting and does not do it on Monday or Friday
* The mopping is done on Thursday.
* Terry does his task, which is not vacuuming, on Wednesday.
* The laundry is done on Friday and not by Uma.
* Randy does his task on Monday.

64. The task done by Terry on Wednesday is
(1) Vacuuming (2) Dusting (3) Mopping (4) Sweeping

65. The day on which the vacuuming is done is
(1) Friday (2) Monday (3) Tuesday (4) Wednesday

66. Sally does dusting on
(1) Friday (2) Monday (3) Tuesday (4) Wednesday

67. Find the odd number in the series : 2, 9, 28, 65, 126, 216, 344, ...
(1) 28 (2) 65 (3) 126 (4) 216

68. Average age of student of an adult school is 40 years. 120 new students whose average is 32 years joined the school. As a result the average age is decreased by 4 years. The number of students of the school after joining of the new students is
(1) 1200 (2) 120 (3) 360 (4) 240

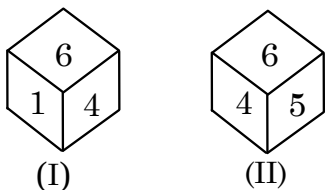
Directions for questions 69 and 70 are based on the following: P, Q, R, S, T, U, V and W are sitting round the circle and are facing the centre. P is second to the right of T, T is the neighbour of R and V. S is not the neighbour of P. V is the neighbour of U, Q is not between S and W, and W is not between U and S.

69. Which two of the following are not neighbour?
(1) RV (2) UV (3) RP (4) QW

70. What is the position of S?
(1) Between U and V (2) Second to the right of P
(3) To the immediate right of W (4) Data inadequate

71. The ratio between a two digit number and the sum of the digits of that number is 4 : 1. If the digit in the units place is 3 more than the digit in ten's place, then the number is
(1) 24 (2) 63 (3) 36 (4) 42

72. Two positions of a dice are shown below. When number 1 is on the top, what number will be at the bottom?



(I) (II)

(1) 2 (2) 3 (3) 5 (4) cannot be determined

73. A, B, C, D, E, F and G are sitting in a line facing East. C is immediate to the right of D. B is at one of the extreme ends and has E as his neighbour. G is between E and F. D is sitting third from the south

end. Who is sitting third from North?
(1) A (2) E (3) F (4) G

74. There is a family party consisting of two fathers, two mothers, two sons, one father-in-law, one mother-in-law, one daughter-in-law, one grandfather, one grandmother and one grandson. What is the minimum number of persons required so that this is possible?
(1) 5 (2) 6 (3) 7 (4) 8

75. If A is brother of B, C is brother of B, and A is brother of D, then which of the following must be true?
(1) A is brother of C (2) B is brother of C (3) D is brother of C (4) B is brother of D

Directions for questions 76 to 78: Five houses lettered A, B, C, D and E are built in a row next to each other. The houses are lined up in the order A, B, C, D and E. Each of the five houses have colored roots and chimneys. The root and chimney of each house must be painted as follows: –

1. The roof must be painted either green red or yellow.
2. The chimney must be painted either white, black or red.
3. No house may have the same color chimney as the color of roof.
4. No house may use any of the same colors that adjacent house uses.
5. House E has a green roof.
6. House B has a red roof and a black chimney.

76. Which of the following is true?
(1) At least two houses have black chimney
(2) At least two houses have red roofs.
(3) At least two houses have white chimneys
(4) At least two houses have green roofs.

77. If house C has a yellow roof, then which of the following must be true?
(1) House E has a white chimney (2) House E has a black chimney
(3) House E has a red chimney (4) House D has a red chimney

78. What is the maximum number of green roofs?
(1) 1 (2) 2 (3) 3 (4) 4

79. Krishna said, "This girl is the wife of grandson of my mother". How is Krishna related to girl?
(1) Father (2) Father-in-law (3) Husband (4) Grand father

80. Instead of walking along two adjacent sides of a rectangular field, a boy took a short cut along the diagonal of the field and saved a distance equal to half the longer side. The ratio of the shorter side of the rectangle to the longer side is
(1) $\frac{1}{2}$ (2) $\frac{2}{3}$ (3) $\frac{1}{4}$ (4) $\frac{3}{4}$

81. Each word in parents below is formed in a method. This method is used in all four examples.
SNIP (NICE) PACE
TEAR (EAST) FAST
TRAY (RARE) FIRE
POUT (OURS) CARS
Based on this method, the word in the parenthesis of CANE (?) BATS is
(1) NEAT (2) CATS (3) ANTS (4) NETS

82. A study of native born residents in an area of Adivasis found that two-thirds of the children developed considerable levels of nearsightedness after starting school, while their illiterate parents and grandparents, who had no opportunity for formal schooling, showed no signs of this disability.
If the above statements are true, which of the following conclusions is most strongly supported by them?
A) Only people who have the opportunity for formal schooling develop nearsightedness.
B) People who are illiterate do not suffer from nearsightedness.

C) The nearsightedness in the children is caused by the visual stress required by reading and other class work.
D) Only literate people are nearsighted.

Directions for questions 83 to 85:

* A causes B or C, but not both
* F occurs only if B occurs
* D occurs if B or C occurs
* E occurs only if C occurs
* J occurs only If C occurs
* D causes G or H or both
* H occurs if E occurs
* G occurs if F occurs

83. If A occurs, which may occur?
I. F and G II. E and H III. D
(1) I only (2) II only
(3) I and III or II and III, but not both (4) I, II and III

84. If B occurs, which must occur?
(1) D (2) G (3) H (4) J

85. If J occurs, which must have occur?
(1) Both E and F (2) Either B or C (3) Both B and C (4) None of these

86. Let *x, y,* and *z* be distinct integers. *x* and *y* are odd and positive and *z* is even and positive. Which one of the following statements cannot be true?
(1) $(x-y)^2 y$ is even (2) $(x-z)y^2$ is odd (3) $(x-z)y$ is odd (4) $(x-y)^2 z$ is even

87. Pointing to a man in the photograph a lady said, "The father of his brother is the only son of my mother." How is this man in photograph related to the lady?
(1) Brother (2) Son (3) Grandson (4) Nephew

Directions for questions 88 to 90: Six boys A, B, C, D, E and F are marching in a line. They are arranged according to their heights, the tallest being at the back and the shortest in the front. F is between B and A. E is shorter than D but taller than C who is taller than A. E and F have two boys between them. A is not the shortest among them.

88. Where is E?
(1) Between A and B (2) Between C and A (3) Between D and C (4) in front of C

89. If we start counting from the shortest, which boy is fourth in the line?
(1) E (2) A (3) D (4) C

90. Who is next to the shortest?
(1) C (2) B (3) E (4) F

GENERAL ENGLISH

In questions 91 to 97 fill in the blank with correct option to make a proper sentence:

91. And now for this evening's main headline: Britain _____ another Olympic gold medal.
(1) Had won (2) Wins (3) Won (4) Had won

92. If she _____ about his financial situation, she would have helped him out.
(1) Knew (2) had been knowing (3) had known (4) have known

93. I am sure she can teach computers as well. She's not _____ new to the subject.
(1) All together (2) Altogether (3) Alltogether (4) Together

94. You are trying to drag me _____ a controversy.
(1) in (2) into (3) from (4) for

95. The people _____ you socialize are called friends.
(1) with whom (2) who (3) with who (4) whom

96. _____ to school yesterday?
(1) Did you walk (2) Did you walked (3) Do you walk (4) Have you walked

97. There was no _____ in the railway compartment for additional passengers.
(1) space (2) place (3) seat (4) room

98. The sentence below has 2 blanks. Fill in the blanks picking the appropriate pair of words from the ones given below that best completes the meaning of the sentence.
The most technologically advanced societies have been responsible for the greatest _____; indeed, savagery seems to be in direct proportion to _____
(1) Wars; viciousness (2) Catastrophes; ill-will
(3) Altrocities; development (4) Triumphs; civilization

99. Fill in the blank with correct from of tense.
The thief _____ before the police came.
(1) Escaped (2) Had escaped (3) Will escape (4) Has been escaped

100. Fill in the blank with appropriate words given.
Anne had to pay for everything because as usual, Peter _____ his wallet at home.
(1) had left (2) was leaving (3) left (4) leave

101. Pick the synonym of the word MEAGRE
(1) helpful (2) abundant (3) essential (4) limited

102. Choose the words that best express the meaning of the given idiom-Mud Slinging
(1) Giving pain (2) Abusing someone
(3) Laying blame (4) Damaging the reputation

103. For a word, four spellings are given. Choose the correct one.
(1) Ceiling (2) Cealing (3) ceiling (4) ceeling

104. Choose the wrongly spelt word.
(1) Believe (2) Relieve (3) Grieve (4) Decieve

105. Choose the word or phrase that is not similar in meaning to the word – POLEMIC
(1) black (2) magnetic (3) grimace (4) controversial

106. Pick the antonym of the word TIMID
(1) bold (2) lazy (3) calm (4) slow

107. Pick the part of the sentence that has an error.
If you would have come to me, I would have helped you.
(1) If you would have (2) Come to me (3) I would have (4) Helped you

108. Choose the word or phrase that is most nearly opposite in meaning to the word EXTRINSIC
(1) Reputable (2) Inherent (3) Ambitious (4) Cursory

109. Select the alternative giving the closest meaning of the idiom – To eat a humble pie
(1) To become a vegetarian
(2) Disinfecting everything
(3) To fill one's belly
(4) To say you are sorry for a mistake that you made

110. Select the antonym of the word FABRICATE
(1) Construct (2) Weaken (3) Dismantle (4) Evolve

111. $(2\ FAOC)_{16}$ is equivalent to
(1) $(195084)_{10}$ (2) $(001011111010\ 00001100)_2$
(3) Both (A) and (B) (4) None of these

112. The decimal equivalent of octal number 111 010 is
(1) 81 (2) 72 (3) 71 (4) 61

113. An I/O processor controls the flow of information between
(1) cache memory and I/O devices (2) main memory and I/O devices
(3) two I/O devices (4) cache and main memories

114. Which of following devices will take highest time in taking the back up of the data from a computer?
(1) Magnetic Disk (2) Pen Drive (3) CD (4) Magnetic Tape

115. ROM is a kind of
(1) primary memory (2) Semantic errors (3) Logical errors (4) Secondary memory

116. The errors that can be pointed out by compilers are
(1) Syntax errors (2) Semantic errors (3) Logical errors (4) Internal errors

117. Let x = 11111010 and y = 00001010 be two 8-bit 2's complement numbers. Their product in 2's complement notation is
(1) 11000100 (2) 10011100 (3) 10100101 (4) 11010101

118. The range of numbers that can be stored in 8 bit, if negative numbers are stored in 2's complement form is
(1) –128 + 128 (2) –128 to +127 (3) –127 to + 128 (4) –127 to + 127

119. Primary storage is _____ as compared to secondary memory.
(1) slow and expensive (2) fast and inexpensive
(3) fast and expensive (4) slow and inexpensive

120. Which of the following unit is used to supervise each instruction in the CPU?
(1) Control Unit (2) Accumulator (3) ALU (4) Control Register

ANSWER KEY

1.	(2)	**16.**	(2)	**31.**	(3)	**46.**	(4)	**61.**	(1)	**76.**	(3)	**91.**	(4)	**106.**	(1)
2.	(1)	**17.**	(3)	**32.**	(2)	**47.**	(3)	**62.**	(2)	**77.**	(1)	**92.**	(3)	**107.**	(1)
3.	(4)	**18.**	(4)	**33.**	(1)	**48.**	(4)	**63.**	(2)	**78.**	(3)	**93.**	(2)	**108.**	(2)
4.	(1)	**19.**	(1)	**34.**	(1)	**49.**	(1)	**64.**	(4)	**79.**	(2)	**94.**	(2)	**109.**	(4)
5.	(2)	**20.**	(4)	**35.**	(4)	**50.**	(2)	**65.**	(2)	**80.**	(4)	**95.**	(1)	**110.**	(3)
6.	(4)	**21.**	(1)	**36.**	(3)	**51.**	(3)	**66.**	(3)	**81.**	(3)	**96.**	(1)	**111.**	(3)
7.	(1)	**22.**	(2)	**37.**	(1)	**52.**	(2)	**67.**	(4)	**82.**	(3)	**97.**	(4)	**112.**	(2)
8.	(3)	**23.**	(3)	**38.**	(2)	**53.**	(3)	**68.**	(4)	**83.**	(3)	**98.**	(3)	**113.**	(2)
9.	(3)	**24.**	(2)	**39.**	(3)	**54.**	(2)	**69.**	(1)	**84.**	(1)	**99.**	(1)	**114.**	(4)
10.	(1)	**25.**	(3)	**40.**	(3)	**55.**	(3)	**70.**	(3)	**85.**	(2)	**100.**	(1)	**115.**	(1)
11.	(3)	**26.**	(4)	**41.**	(2)	**56.**	(1)	**71.**	(3)	**86.**	(1)	**101.**	(4)	**116.**	(1)
12.	(4)	**27.**	(3)	**42.**	(1)	**57.**	(4)	**72.**	(3)	**87.**	(4)	**102.**	(4)	**117.**	(1)
13.	(4)	**28.**	(2)	**43.**	(1)	**58.**	(1)	**73.**	(4)	**88.**	(3)	**103.**	(3)	**118.**	(2)
14.	(4)	**29.**	(2)	**44.**	(1)	**59.**	(1)	**74.**	(1)	**89.**	(4)	**104.**	(4)	**119.**	(3)
15.	(2)	**30.**	(3)	**45.**	(4)	**60.**	(2)	**75.**	(1)	**90.**	(4)	**105.**	(4)	**120.**	(1)