NIMCET MOCK PAPER - 05

1. From 6 different novels and 3 different dictionaries, 4 novels and 1 dictionary are to be selected and arranged in a row on the shelf so that the dictionary is always in the middle. Then, the number of such arrangements is
(a) atleast 500 but less than 750
(b) atleast 750 but less than 1000
(c) atleast 1000
(d) less than 500

2. If $\frac{a_2a_3}{a_1a_4} = \frac{a_2+a_3}{a_1+a_4} = 3\left(\frac{a_2-a_3}{a_1-a_4}\right)$ then a_1, a_2, a_3, a_4 are in
(a) AP (b) GP
(c) HP (d) None

3. In the sequence 1, 2, 2, 3, 3, 3, 4, 4, 4, 4,….. , where n consecutive terms have the value n, the 150^{th} term is
(a) 17 (b) 16 (c) 18
(d) None

4. The equation $\sqrt{x-1} - \sqrt{x-1} = \sqrt{4x-1}$ has
(a) no solution (b) one solution
(c) two solution (d) more than two solution

5. The number of solution of the equation $|x| = \cos x$
(a) 1 (b) 2 (c) 3 (d) 0

6. The solution set of $\frac{x^2-3x+4}{x+1} > 1, x \in R$, is
(a) $(3, \infty)$ (b) $(-1,1) \cup (3, \infty)$
(c) $[-1,1] \cup [3, \infty)$ (d) none of these

7. The harmonic mean of the roots of the equation $(5+\sqrt{2})x^2 - (4+\sqrt{5})x + 8 + 2\sqrt{5} = 0$ is
(a) 2 (b) 4 (c) 6 (d) 8

8. The complex number z is purely imaginary if
(a) $z\bar{z}$ is real (b) $z = \bar{z}$
(c) $z + \bar{z} = 0$ (d) None of these

9. If ω is an imaginary cube root of unity then $(1 + \omega - \omega^2)^7$ equals
(a) 128ω (b) $-128\,\omega$
(c) $128\omega^2$ (d) $-128\omega^2$

10. If $e^{i\theta} = \cos\theta + i\sin\theta$ then for the

11. $\Delta ABC, e^{iA}.e^{iB}.e^{iC}$ is
(a) $-i$ (b) 1 (c) -1 (d) none

16. There are 10 points in a plane of which no three points are collinear and 4 points are concyclic. The number of different circles that can be drawn through atleast three points of these points is
(a) 116 (b) 120 (c) 117 (d) None

17. The total number of integral solutions for (x, y, z) such that $xyz = 24$ is
(a) 36 (b) 90 (c) 120 (d) 126

18. The total number of ways in which a beggar can be given at least one rupee from four 25-paisa coins, three 50- paisa coins and 2 one-rupee coins, is
(a) 54 (b) 53 (d) 51 (d) 50

19. If x, y, z are integers in AP, lying between 1 and 9, and $x51$, $y41$ and $z31$ are three digit numbers then the value of $\begin{vmatrix} 5 & 4 & 2 \\ x51 & y41 & z31 \\ x & y & z \end{vmatrix}$ is
(a) $x + y + z$ (b) $x - y + z$
(c) 0 (d) none of these

20. The equation $x + y + z = 6, x + 2y + 3z = 10$, $x + 2y + mz = n$ have infinite number of values of triplet (x, y, z) if
(a) $m = 3, n \in R$ (b) $m = 3, n \neq 0$
(c) $m = 3, n = 10$ (d) none of these

21. The coefficient of x^3 in the expansion of $(1 - x + x^2)^5$ is
(a) 10 (b) – 20 (c) – 50 (d) – 30

22. The sum of last 10 coefficients in the expansion of $(1 + x)^{19}$ when expanded in ascending powers of x is
(a) 2^{18} (b) 2^{19}
(c) $2^{18} - {}^{19}C_{10}$ (d) none

23. The rank of the matrix $\begin{vmatrix} 4 & 1 & 00 \\ 3 & 0 & 10 \\ 5 & 0 & 01 \end{vmatrix}$ is
(a) 4 (b) 3 (c) 2 (d) none

24. If $x - \frac{x^2}{2} + \frac{x^3}{3} - \frac{x^4}{4} + \cdots + to\ \infty = y$ then $y + \frac{y^2}{2!} + \frac{y^3}{3!} + \cdots to\ \infty$ is equal to
(a) $-x$ (b) x (c) $x + 1$ (d) none of

these

25. If $0^o < \theta < 180^o$ then $\sqrt{2+\sqrt{2+\sqrt{2+\cdots+\sqrt{2(1+\cos\theta)}}}}$, there being n number of 2's, is equal to
(a) $2\cos\frac{\theta}{2^n}$ (b) $2\cos\frac{\theta}{2^{n-1}}$
(c) $2\cos\frac{\theta}{2^{n+1}}$ (d) none of these

26. The minimum value of $\cos 2\theta + \cos\theta$ for real values of θ is
(a) $-\frac{9}{8}$ (b) 0 (c) -2 (d) None

27. For all real values of $\theta, \cot\theta - 2\cot 2\theta$ is equal to
(a) $\tan 2\theta$ (b) $\tan\theta$
(c) $-\cot 3\theta$ (d) none of these

28. If $\frac{2\sin\alpha}{1+\sin\alpha+\cos\alpha} = \lambda$, then $\frac{1+\sin\alpha-\cos\alpha}{1+\sin\alpha}$ is equal to
(a) $\frac{1}{\lambda}$ (b) λ (c) $1-\lambda$ (d) $1+\lambda$

29. The most general values of θ satisfying $\tan\theta + \tan\left(\frac{3\pi}{4}+\theta\right) = 2$ are
(a) $n\pi \pm \frac{\pi}{3}, n \in Z$ (b) $2n\pi + \frac{\pi}{3}, n \in Z$
(c) $2n\pi \pm \frac{\pi}{3}, n \in Z$ (d) $n\pi + (-1)^n \frac{\pi}{3}, n \in Z$

30. The value of $\cos^{-1}\left(-\frac{1}{2}\right) + \sin^{-1}\left(-\frac{\sqrt{3}}{2}\right)$ is
(a) $\frac{\pi}{3}$ (b) 0 (c) $\frac{2\pi}{3}$ (d) None of these

31. $\sin A, \sin B$ *and* $\sin C$ are in AP for the ΔABC then
(a) the altitude are in AP
(b) the altitude are in HP
(c) the altitude are in GP
(d) none of these

32. The equation of straight line which bisects the intercepts made by the axes on the lines $x + y = 2$ & $2x + 3y = 6$ is
(a) $2x = 3$ (b) $y = 1$
(c) $2y = 3$ (d) $x = 1$

33. If the points (a, a) falls between the lines $|x + y| = 2$ then
(a) $|a| = 2$ (b) $|a| = 1$
(c) $|a| < 2$ (d) $|a| < \frac{1}{2}$

34. If a ray travelling along the line $x = 1$ gets reflected from the line $x + y = 1$ then the equation of line along which the reflected ray travels is
(a) $y = 0$ (b) $x - y = 1$
(c) $x = 0$ (d) none of these

35. A line has intercepts a, b on the coordinate axes. If the axes are rotated about the origin through an angle α then the line has intercepts p, q on the new position of the axes respectively. Then
(a) $\frac{1}{p^2}+\frac{1}{q^2} = \frac{1}{a^2}+\frac{1}{b^2}$ (b) $\frac{1}{p^2}-\frac{1}{q^2} = \frac{1}{a^2}-\frac{1}{b^2}$
(c) $\frac{1}{p^2}+\frac{1}{a^2} = \frac{1}{q^2}+\frac{1}{b^2}$ (d) None of these

36. The product of perpendiculars drawn from the point (1, 2) to the pair of lines $x^2 + 4xy + y^2 = 0$
(a) $\frac{9}{4}$ (b) $\frac{3}{4}$ (c) $\frac{9}{16}$ (d) none

37. If a circle passes through the points of intersection of the lines $2x - y + 1 = 0$ and $x + \lambda y - 3 = 0$ with the axes of reference then the value of λ is
(a) $\frac{1}{2}$ (b) 2 (c) 1 (d) -2

38. The length of the chord of the circle $x^2 + y^2 + 4x - 7y + 12 = 0$
(a) 1 (b) 2 (c) ½ (d) 3/4

39. A tangent is drawn to the circle $2(x^2 + y^2) - 3x + 4y = 0$ and it touches the circle at point A. The tangent passes through the point P(2,1). Then PA is equal to
(a) 4 (b) 2 (c) $2\sqrt{2}$ (d) *none*

40. The equation of the smallest circle passing through the intersection of the lines $x + y = 1$ and the circle $x^2 + y^2 = 9$ is
(a) $x^2 + y^2 + x + y - 8 = 0$
(b) $x^2 + y^2 - x - y - 8 = 0$
(c) $x^2 + y^2 - x + y - 8 = 0$
(d) None of these

41. The locus of the center of a circle touching the lines $x + 2y = 0$ and $x - 2y = 0$ is
(a) $xy = 0$ (b) $x = 0$
(c) $y = 0$ (d) none of these

42. A line L passing through the focus of the parabola $y^2 = 4(x - 1)$ Intersects the parabola in two distinct points. If 'm' be the slope of the line L then
(a) $-1 < m < 1$ (b) $m < -1$ or $m > 1$
(c) $m \in R$ (d) none of these

43. A double ordinate of the parabola $y^2 = 8px$ is of length $16p$. The angle subtended by it at the vertex of the parabola is
(a) $\frac{\pi}{4}$ (b) $\frac{\pi}{2}$ (c) $\frac{\pi}{3}$ (d) none of these

44. The tangents to the parabola $y^2 = 4x$ at the point (1,2) and (4,4) meet on the line
(a) $x = 3$ (b) $x + y = 4$
(c) $y = 3$ (d) none of these

45. Let $f(x) = \log_{x^2} 25$ *and* $g(x) = \log_x 5$, then $f(x) = g(x)$ holds for x belonging to
(a) R (b) $(0,1) \cup (1,\infty)$
(d) ϕ (d) none of these

46. The function $f(x) = \sin\frac{\pi x}{n!} - \cos\frac{\pi x}{(n+1)!}$ Is
(a) not periodic (b) periodic with period 2(n!)
(c) periodic with period (n + 1)
(d) none of these

47. The inverse function of the function $f(x) = \frac{e^x - e^{-x}}{e^x + e^{-x}}$ is
(a) $\frac{1}{2}\log\frac{1+x}{1-x}$ (b) $\frac{1}{2}\log\frac{2+x}{2-x}$
(c) $\frac{1}{2}\log\frac{1-x}{1+x}$ (d) none of these

48. If $y^2 = P(x) = a$ polynomial of degree 3 then $\frac{2d}{dx}\left(y^3\frac{d^2y}{dx^2}\right)$ equals
(a) $P'''(x) + P'(x)$ (b) $P''(x).P'''(x)$
(c) $P(x).P'''(x)$ (d) none of these

49. $\lim_{x\to 0}\left\{\tan\left(\frac{\pi}{4} - x\right)\right\}^{\frac{1}{x}}$ is equal to
(a) 1 (b) e (c) e^2 (d) e^{-2}

50. $\lim_{x\to 2}\{[2-x] + [x-2] - x\}$ is
(a) 0 (b) 3 (c) -3 (d) does not exits

51. The sum of intercepts made on the axes of coordinates by ant tangent to the curve $\sqrt{x} + \sqrt{y} = 2$ is equal to
(a) 4 (b) 2 (c) 8 (d) none of these

52. Let $f(x) = x^3 - 6x^2 + 12x - 3$. Then at $x = 2$, $f(x)$ has
(a) a maximum
(b) a minimum
(c) both a maximum and a minimum
(d) neither a maximum nor a minimum

53. The point (0,3) is nearest to the curve $x^2 = 2y$ at
(a) $(2\sqrt{2}, 0)$ (b) (0,0)
(c) (2,2) (d) *none* of these

54. The equation $\sin x + x\cos x = 0$ has atleast one root in the interval
(a) $\left(-\frac{\pi}{2}, 0\right)$ (b) $(0,\pi)$
(c) $\left(-\frac{\pi}{2}, \frac{\pi}{2}\right)$ (d) none of these

55. $\lim_{n\to\infty}\sum_{r=0}^{n-1}\frac{1}{\sqrt{n^2-r^2}}$ is
(a) π (b) $\frac{\pi}{2}$ (c) $\frac{\pi}{4}$ (d) *none*

56. The value of $\int_0^{\frac{\pi}{2}}\sin^8 x\,dx$ is
(a) $\frac{105\pi}{32(4!)}$ (b) $\frac{105\pi}{16(4!)}$ (c) $\frac{105}{16(4!)}$ (d) None

57. $\int_0^3 |x^3 - 3x^2 + 2x|dx$ is equal to
(a) $\frac{3}{4}$ (b) $\frac{7}{4}$ (c) $\frac{11}{4}$ (d) None

58. $\vec{a}\times(\vec{b}\times\vec{c}), \vec{b}\times(\vec{c}\times\vec{a})$ and $\vec{c}\times(\vec{a}\times\vec{b})$ are
(a) linearly dependent (b) equal vectors
(c) parallel vectors (d) none of these

59. What is the differential coefficient of $f(\log x)$, where $f(x) = \log x$?
(a) $\frac{x}{\log x}$ (b) $\frac{1}{x\log x}$ (c) $\frac{\log x}{x}$ (d) none

60. If $\int(x)\,dx = \frac{f(x)}{2}$, then which of the following is true?
(a) $f(x) = e^{2x} + constant$
(b) $f(x) = x + constant$
(c) $f(x) = constant$
(d) $f(x) = e^x$

61. If $\int f(x)dx = g(x)$ and also $\int f(x)dx = h(x)$, then which one of the following is correct?
(a) $g(x) = h(x)$ (b) $g(x) + h(x) = constant$
(c) $g(x)h(x) = constant$ (d) none of these

62. If the probability of a defective bolt is $1/10$, what are the mean and variance for the distribution of defective bolts in a total of 400?
(a) mean = 40, variance = 36
(b) mean = 40, variance = 40
(c) mean = 36, variance = 36
(d) mean = 36, variance = 40

63. Which of the following statement is/are for binomial distribution with parameter n and p?
1. n is a positive integer 2. $0 < p < 1$
3. $0 \le p \le 1$
(a) 1 only (b) 2 only
(c) 1 and 2 (d) 1 and 3

64. If A and B are two events such that $P(A \cup B) = \frac{5}{6}$, $P(A \cap B) = \frac{1}{3}$, $P(\bar{B}) = \frac{1}{2}$, then which one of the

following is not correct?

(a) A and B are dependent
(b) A *and* B are independent
(c) A *and* $\bar{B}$ are independent
(d) $\bar{A}$ *and* B are independent

65. The observations 29, 32, 48, 50, , $x+2$, 72, 78, 84, 95 are arranged in ascending order. What is the value of x, if the median of the data is 63?
(a) 61 (b) 62 (c) 62.5 (d) 63

66. A number is chosen at random among the first 120 natural numbers. What is the probability of the number chosen being a multiple of 5 or 15?
(a) 1/5 (b) 1/8 (c) 1/6 (d) 1/15

67. If the mid point of the section of a straight line intercept between the axes is (1,1) , then what is the equation of this line?
(a) $2x+y=3$ (b) $2x-y=1$
(c) $x-y=0$ (d) $x+y=2$

68. Consider two events A and B such that $P(A)=\frac{1}{4}$, $P\left(\frac{B}{A}\right)=\frac{1}{2}, P\left(\frac{A}{B}\right)=\frac{1}{4}$, what is the value of $P\left(\frac{\bar{A}}{\bar{B}}\right)$?
(a) $\frac{1}{4}$ (b) $\frac{3}{4}$ (c) $\frac{1}{2}$ (d) $\frac{2}{3}$

69. What is the value of $\left(-\sqrt{-1}\right)^{8n+1}+\left(-\sqrt{-1}\right)^{8n+3}$, where n is a total number?
(a) 0 (b) 1
(c) $2\sqrt{-1}$ (d) $-2\sqrt{-1}$

70. In a class containing 120 students, 65 students drinks tea and 84 students drink coffee. If x students drink both tea and coffee, what is the value of x?
(a) 39 (b) 65
(c) $29 \le x \le 65$ (d) $29 \le x \le 84$

71. What is the number of common tangents to the circles $x^2+y^2=1$ and $x^2+y^2-4x+3=0$ is
(a) 1 (b) 2 (c) 3 (d) 4

72. If the roots of $x^2+bx+c=0$ are two consecutive integers, what is the value of b^2-4c-1?
(a) 0 (b) 1 (c) -1 (d) 2

73. If the sum of n terms of a series is a quadratic expression in n, then the series is in:
(a) GP (b) HP
(c) AP (d) none

74. If $\frac{\log x}{\log 5}=\frac{\log 36}{\log 6}=\frac{\log 64}{\log y}$, what is the value of x and y is
(a) 8,25 (b) 25,8
(c) 8,8 (d) 25,25

75. If the AM and HM of two numbers are 9 and 4 respectively, then what is their GM?
(a) 13/2 (b) 6 (c) 3 (d) 2

76. If $A=\{1,2,3\}$ $b=\{1,2\}$ and $C=\{2,3\}$, which one of the following is true?
(a) $(A\times B)\cap(B\times A)=(A\times C)\cap(B\times C)$
(b) $(A\times B)\cap(B\times A)=(C\times A)\cap(C\times B)$
(c) $(A\times B)\cup(B\times A)=(A\times B)\cup(B\times C)$
(d) $(A\times B)\cup(B\times A)=(A\times B)\cap(A\times C)$

77. What is solution set for the equation
$x^{\frac{2}{3}}+x^{\frac{1}{3}}-2=0$
(a) {– 8 ,1} (b) {8,1}
(c) {-8, - 1} (d) none

78. In a triangle, $a=13, b=14$ and $c=15$, then r =?
(a) 4 (b) 8 (c) 2 (d) 6

79. The distance of the point $(2,3,-5)$ from the plane $x+2y-2z=0$ is:
(a) 4 (b) 3 (c) 2 (d) 1

80. Minimum value of $4\sin\theta+5\cos\theta$ is ……
(a) 5 (b) 4
(c) 3 (d) none

81. If in a certain code language 'SIMILAR' is written as 'IZORNRH', then how will 'NATURAL' be written in that language?
(a) OZIFGZM (b) OZIFGMZ
(c) OZIFZMG (d) OZIFMZG

82. In a certain code language 'CLOCK' is written as 'XOLXP'. How will 'LOTUS' be written in that same code?
(a) OGLFH (b) OLGFH
(c) LOGFH (d) OLGHF

83. 17, 36, 74, 150, ?, 606,
(a) 250 (b) 303 (c) 300 (d) 302

84. 113, 225, 449, ? , 1793
(a) 897 (b) 789 (c) 987 (d) 978

85. Among P, Q, R, S and T each having a different weight, R is heavier than S but lighter than t. P is lighter than S. Who among them is the heaviest?
(a) T (b) Q
(c) either T or Q (d) None

Directions (Q: 81 to Q:82): *Read the following information carefully and answer the questions that follow*

Six students A, B, C, D, E and F participated in a dancing competition wherein they won prizes 12000, 10000, 8000, 6000, 4000, 2000 according to the position secured. The following information is known to us

I. A won less money than B.
II. The difference between the winning of C and F was Rs. 2000.
III. The difference between the winning of D and F was at least Rs. 4000.
IV. E won the Rs. 8000 prize.

86. Which of the following could be the ranking from first place to sixth place of students?
(a) A, D, E, B, F, C (b) B, A, E, C, F, D
(c) F, B, E, A, C, D (d) B, A, E, D, C, F

87. If A won Rs.4000, how much in total D is C and F win?
(a) Rs.6000 (b) Rs.10000
(c) Rs.22000 (d) Rs.18000

88. Examine the following statements
I. Rama scored more than Rani.
II. Rani scored less than Ratna.
III. Ratna scored more than Rama.
IV. Padma scored more than Rama but less than Ratna.
Who scored the highest?
(a) Rama (b) Padma
(c) Rani (d) Ratna

89. Z is the maternal uncle of Y, X is the maternal grandfather of Z. S is the grandson of X. How is S related to Y?
(a) Maternal grandfather (b) Maternal Uncle
(c) Cousin Brother (d) None of these

90. Arti and Saurabh are the children of Mr and Mrs. Shah. Ritu and Shakti are the children of Mr and Mrs Mehra. Saurabh and Ritu are married to each other and two daughter Mukti and Shruti are born to them. Shakti is married to Rina and two children Subhash and Reshma are born to them. How is Arti related to Shruti?
(a) Mother (b) Mother in law
(c) Sister (d) Aunt

91. Capacity of tap Y is 60% more than that of X. If both the taps are opened simultaneously, then take 40h to fill the tank. The time taken by Y alone to fill the tank is
(a) 60h (b) 65h (c) 70h (d) 75h

92. The value of $\sqrt{7+\sqrt{7-\sqrt{7+\sqrt{7-\cdots\infty}}}}$ is
(a) 1 (b) 2 (c) 3 (d) 4

Directions (Q: 88 to Q:92): *Read the following information carefully and answer the questions that follow*

Five roommates—Randy, Sally, Terry, Uma, and Vernon—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 his task on Tuesday.
- 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.

93. When does Sally do the dusting?
(a) Friday (b) Monday (c) Tuesday (d) Wednesday

94. What task does Terry do on Wednesday?
(a) vacuuming (b) dusting (c) mopping (d) sweeping

95. What day is the vacuuming done?
(a) Friday (b) Monday (c) Tuesday (d) Wednesday

96. What task does Vernon do?
(a) vacuuming (b) dusting (c) mopping (d) none

97. What day does Uma do her task?
(a) Monday (b)Tuesday (c)Wednesday (d)Thursday

98. If Shout starts at 8:30, Mist at 8:15, Trek at 8:00, Fly at 7:45, Jealousy at 7:30, and Abra Cadabra at 7:15, and each movie is exactly two hours long, at what time will the next showing of Trek start?
(a) 10:00 (b) 10:15 (c)10:30 (d)10:45

99. VERVE : ENTHUSIASM
(a) loyalty : duplicity
(b) devotion : reverence
(c) intensity : color
(d) eminence : anonymity

100. SOUND : CACOPHONY
(a) taste : style (b) touch : massage
(c) smell : stench (d) sight : panorama

101. CONVICTION : INCARCERATION
(a) reduction : diminution
(b) induction : amelioration
(c) radicalization : estimation
(d) marginalization : intimidation

102. B_2CD, _____ BCD_4 , B_5CD , BC_6D
(a) B_2C2D (b) BC_3D
(c) $B2C_3D$ (d) BCD_7

103. ELFA, GLHA, ILJA, _____ ,MLNA
(a) OLPA (b) KLMA (c) LLMA (d) KLLA

104. P_5QR, P_4QS, P_3QT, _____ ,PQV
(a) PQW (b) PQV2 (c) P2QU (d) PQ3U

105. 80, 10, 70, 15, 60, . . .
(a) 20 (b) 25 (c) 30 (d) 50

106. Last In First Out (LIFO) data structure is called

(a) Queue (b) Tree (c) Stack (d) Graph

107. A binary number corresponding to the following decimal expression is $10 \times 256 + 12 \times 16 + 9$
(a) 110101001011 (b) 111101001011
(c) 101011101001 (d) 101011001001

108. The product of three hexadecimal numbers $2^{14} \times 8^2 \times 10^3$ could be
(i) 10^8 (ii) 2^{20} (iii) 8^{11} (d) 16^8
The correct answer is
(a) (i) only (b) (i) and (ii)
(c) (iv) only (d) i and iv

109. $(341)_{16}$ can be represented in base 7 as
(a) 2311 (b) 2300 (c) 3200 (d) 2003

110. The octal equivalent of 111010 is
(a) 81 (b) 72 (c) 71 (d) 24

111. 2^{50} bytes is equivalent to
(a) 1 tebibyte (b) 1rubibyte
(c) 1 pebibyte (d) 1 yobibyte

112. The "Father of Punched Card Processing" was
(a) J Presper Eckert (b) Charles Babbage
(c) Blaise Pascla (d) Dr Herman Hollerith

113. What is the number of bit patterns provide by a 7 – bit code?
(a) 64 (b) 256 (c) 128 (d) 512

114. The number of 1's present in the number 65 is
(a) 3 (b) 2 (c) 1 (d) 4

115. How many nibbles are there in 00101011111001011?
(a) 16 (b) 4 (c) 2 (d) 6

116. One's complement of $(0000)_2$ in decimal is
(a) 1111 (b) 0000
(c) 1010 (d) None

117. If $(28)_r = (18)_{16}$, then value of r is
(a) 2 (b) 8 (c) 10 (d) 16

118. In a computer .....is capable to store single binary bit?
(a) Capacitor (b) Flip – flop
(c) Register (d) Inductor

119. Given $\sqrt{(224)_r} = (13)_r$ the value of the radix r is
(a) 10 (b) 8 (c) 6 (d) 5

120. Let $A = 11111010$ and $B = 00001010$ be two 8 bit 2's complements numbers. Their product in 2's complement is
(a) 11000100 (b) 10011100
(c) 10100101 (d) 11010101

Answers

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