MCA

MATHEMATICS (60 Questions)+ COMP 60 Q = 120 QUESTIONS

Q.no	**QUESTION**
1	$\neg(p \vee q) \vee (\neg p \wedge q)$ is logically equivalent to (A) $\neg p$ (B)p C)q D) $\neg q$
2	The contrapositive of the statement "if x is lucky then x is wealthy" is A) if x is wealthy then x is lucky B) if x is not lucky then x is not wealthy C) if x is not wealthy then x is not lucky D) if x is not lucky then x is wealthy
3	If $p \to (q \vee r)$ is false ,then the truth values of p,q,r are respectively A)T,T,T B)T,F,FC)F,F,FD)F,T,T
4	In a class of 100 students the following is the qualifying result of the examinations in three subjects Economics (E), Commerce (C) and Statistics(S). 10 students qualified in all the three subjects.20 qualified in E & C;30 qualified in C & S;25 in E& S.12 only in E;5 only in C ;8 only in S. The number of students not qualified in all the three subjects is A)20 B)3 C)36 D)42
5	On set of real numbers R, for $x, y \in R$ define a relation T by x T y if and only if $x - y + \sqrt{2}$ is an irrational number,then T is A)Equivalence B)Symmetric C)Transitive D)reflexive

6	If $A=\{8^n-7n-1/\ n\in N\}, B=\{49(n-1)/\ n\in N\}$ then A) $A\subset B$ B) $B\subset A$ C) $A=B$ D) information not sufficient
7	If $f:[-3,2]\to[0,\sqrt[3]{n}]$ is onto defined by $f(x)=\begin{cases}2+\sqrt[3]{x}, & -3\le x\le -1\\ x^{2/3}, & -1\le x\le 2\end{cases}$, then n= A)1 B)2 C)4 D)6
8	If two functions f and g are defined on sets such that fog exist. The necessary condition that fog is on to is A) f is on to B) g is on to C) both f and g are on to D) none of f and g is onto
9	The domain of f(x)= $\sqrt{\log_{10}[(5x-x^2)/4]}$ is A) [0, 1] B) [1, 4] C) [-1, 2] D)set of all real numbers
10	The sum of two numbers is 25 and the geometric mean is 52% lower than twice their average. Find the numbers (A)17, 8 (B)10, 15 (C) 16, 9 (D) 12, 13
11	A batsman scores 120 runs in the 25th inning and thus increases his average by 4.What is his average after the 25th inning? (A)24 (B)16 (C) 20 (D) 12
12	z is a complex number. The locus of the point z satisfying the equation $\lvert z-z_1\rvert+\lvert z-z_2\rvert=\lambda$ where $\lambda>\lvert z_1-z_2\rvert$ is A) ellipse B) circle C) Hyperbola D) straight line
13	If $1,\omega,\omega^2$ are the cube roots of unity , then the roots of $(x-1)^3+8=0$ A) $1,1+2\omega,1+2\omega^2$ B) $-1,1-2\omega,1-2\omega^2$ C) $-2,2-\omega,2-\omega^2$ D) $2,2\omega,2\omega^2$

14	The value of $\sqrt{15+8i}+\sqrt{15-8i}$ is equal to A)15 B) 8 C) 23 D) 7
15	If there are 2 kinds of balls red and black and at least 4 of each kind, the number of ways a ball can be put in each of 4 different boxes is A) 1 B)8 C)6 D)16
16	In an examination, a candidate has to pass in each of the 6 subjects, the number of ways that he can fail is A) 21 B)81 C)63 D)16
17	If the ratio of the 7th term from the beginning to the 7th term from the end in the expansion of $\left(\sqrt[3]{2}+\frac{1}{\sqrt[3]{3}}\right)^x$ is $\frac{1}{6}$, then x is A)9 B)6 C)12 D) 11
18	If $c_0, c_1, c_2, c_3, c_4 \ldots\ldots c_n$ are the binomial coefficients then $5c_1+8c_2+11c_3\ldots\ldots+(3n+2)c_n =$ A) $(3n+7)2^{n-1}$ B) $(3n+4)2^{n-1}-2$ C) $\frac{(3n+2)}{2}2^n-2$ D) $3n.2^n$
19	The number of irrational terms in the expansion of $\left(\sqrt[3]{4}+\sqrt{5}\right)^{21}$ is A) 15 B) 22 (C) 18 D) 4
20	The inverse of $\begin{bmatrix}0&1&0\\1&0&0\\0&0&1\end{bmatrix}$ = A) $\begin{bmatrix}0&1&0\\1&0&0\\0&0&1\end{bmatrix}$ B) $\begin{bmatrix}0&0&1\\1&0&0\\0&1&0\end{bmatrix}$ C) $\begin{bmatrix}0&0&1\\1&0&1\\0&1&0\end{bmatrix}$ D) $\begin{bmatrix}1&0&1\\1&0&1\\0&1&0\end{bmatrix}$

21	If $A=\left(a_{ij}\right)_{3\times3}$ such that $a_{ij}=(i+j)^2$, then cofactor of the element a_{23} = A)1100 (B) 44 (C) 25 (D)33
22	If $\begin{bmatrix} x^2+2x+1 & x-7 & 2x^2 \\ x+6 & x^2+7x & 4 \\ 2+x & x & 8x-3 \end{bmatrix}=Ax^2+Bx+C$, then determinant of A+C= A) 192 B)0 (C) -192 D) 218
23	$\cos 225^{0}+\sin 165^{0}$ = A) 2 B) 0 C) 1 D) $\sqrt{\frac{3}{2}}$
24	In a triangle ABC, 3cosA+2=0, then the quadratic equation whose roots are sinA and tanA is A) $6x^2-\sqrt{5}x-5=0$ B) $6x^2+\sqrt{5}x+5=0$ C) $6x^2-\sqrt{5}x+5=0$ D) $6x^2+\sqrt{5}x-5=0$
25	In a triangle ABC, the lengths of the sides BC, CA and AB are respectively p, q and r. If(p+q+r)(q+r-p)=k p r, then k belongs to A) $(-\infty,0)$ B) $(0,4)$ C) $(4,\infty)$ D) $(-\infty,\infty)$
26	A straight line L with negative slope passes through the point $(4,9)$ and cuts the positive coordinate axes at the points A and B .As the line varies the minimum value of OA+OB is (O is origin) A)10 (B) 13 C)36 D) 25
27	If one of the lines of $my^2+(1-m^2)xy-mx^2=0$ is a bisector of the angle between the lines xy=o, then m is A)-1/2 B)-2 C)1 D)2
28	Two circles touch each other externally with radii 4 and 9 respectively .The area of the quadrilateral formed by the centres and the points of contact of a direct common tangent is A)124 B)78 C)30 D)136

29	Tangents are drawn to the circle C: $x^2+y^2=1$ from any arbitrary point P on the circle $C_1: x^2+y^2-4=0$ .These tangents meet the circle C_1 again at A and B. Tangents are drawn to the circle C_1 at these points A and B. The locus of point of intersection of these tangents is A) $x^2+y^2=10$ B) $x^2+y^2=16$ C) $x^2+y^2=25$ D) $x^2+y^2=9$
30	The normal at the point $(bt_1^2, 2bt_1)$ on a parabola meets the parabola again in the point $(bt_2^2, 2bt_2)$,then A) $t_2=-t_1+\frac{2}{t_1}$ B) $t_2=t_1-\frac{2}{t_1}$ C) $t_2=t_1+\frac{2}{t_1}$ D) $t_2=-t_1-\frac{2}{t_1}$
31	The value of k if (1,2) and (k,-1) are conjugate points with respect to the ellipse $2x^2+3y^2=6$ is A)2 B)4 C)6 D)8
32	The combined equation of the asymptotes of the Hyperbola $xy+x+y+5=0$ is A) xy=0 B)(x-1)(y-1)=0 C) (x-1)(y+1)=0 D) (x+1)(y+1)=0
33	If (K,1,5);(1,0,3);(7,-2,L) are collinear then (K,L)= A)(-2,-1) B)(2,1) C)(-2,1) D)(2,-1)
34	The plane 2x+2y-z=k touches the sphere $x^2+y^2+z^2-4x+2y-6z+5=0$ and makes a positive intercept on the z-axis then k= A) -10 B)-8 C) 8 D)10
35	The plane 2x-2y-3z-14=0 and the line joining the points (1,2,4), (3,3,0) intersect at A)(5,2,0) B)(-3,-1,-6) C)(5,4,-4) D)(10,-15,12)
36	ABC is a triangle and AD, BE, CF are its medians then $\vec{AD}+\vec{BE}+\vec{CF}=$ A) 4 $\vec{AB}$ B) 3 $\vec{BC}$ C) 4 $\vec{CA}$ D) $\vec{O}$

37	If $\bar{a},\bar{b}\ \&\ \bar{c}$ are non coplanar unit vectors such that $\bar{a}\times(\bar{b}\times\bar{c})=\frac{\bar{b}+\bar{c}}{\sqrt{2}}$,then the angle between $\bar{a}\ \&\ \bar{b}$ is A) $3\pi/4$ B) $\pi/4$ C) $\pi/2$ D) π
38	A particle acted on by a constant forces $4\bar{i}+\bar{j}-3\bar{k}$ and $3\bar{i}+\bar{j}-\bar{k}$ is displaced from the point $\bar{i}+2\bar{j}+3\bar{k}$ to the point $5\bar{i}+4\bar{j}+\bar{k}$ .The total work done by the forces is A)20 units B)40 units C)30units D)50 units
39	If α is a repeated root of $ax^2+bx+c=0$ then $\lim_{x\to\alpha}\frac{Sin(ax^2+bx+c)}{(x-\alpha)^2}$ A)0 B)a C)b D)c
40	If $x=f(t)$ and y=g(t) then $\frac{d^2y}{dx^2}$ = A) $\frac{g''(t)}{f''(t)}$ B) $\frac{f''(t)}{g''(t)}$ C) $\frac{f'(t)g''(t)-f''(t)g'(t)}{\left(f'(t)\right)^3}$ D) $\frac{g'(t)f''(t)-g''(t)f'(t)}{\left(g'(t)\right)^3}$ $(\ )'$ & $(\ )''$ represent first & second derivatives
41	If $y=x^n\ Log_e x$,then $x\ y_{n+1}$ = A)n B) $\log_e x^n$ C) $n!$ D)0
42	If $u=\mathrm{Tan}^{-1}\left(\frac{x+y}{\sqrt{x}+\sqrt{y}}\right)$,then $x\frac{\partial u}{\partial x}+y\frac{\partial u}{\partial x}$ = A) $\frac{1}{2}\mathrm{Sec}^2 u$ B) $\frac{1}{2}\frac{\sec u}{1+\mathrm{Tan}^2 u}$ C) $\frac{1}{2}\frac{\mathrm{Tan}\,u}{1-\mathrm{Tan}^2 u}$ D) $\frac{1}{2}\frac{\mathrm{Tan}\,u}{1+\mathrm{Tan}^2 u}$
43	If $a^2x^4+b^2y^4=c^6$, the the maximum value of xy is A) $\frac{c^3}{2ab}$ B) $\frac{c^3}{\sqrt{2ab}}$ C) $\frac{c^3}{ab}$ D) $\frac{c^3}{\sqrt{ab}}$
44	The sum of the ordinates of the points on the curve $6y=4x^3+3x^2$ at which the tangents make equal angles with the Coordinate axes is A)3/8 B)0 C)1/24 D)13

45	A lamp of negligible height is placed at a distance of x meters from a wall. A man of height y meters is walking towards the wall at a speed of (x/10) meters per second. The rate of change of the shadow of the man on the wall when man is midway between wall and the lamp is (in meters per second) A) $\frac{-2y}{5}$ B) $-\frac{y}{5}$ C) $\frac{4y}{5}$ D) $-\frac{y}{10}$
46	A curve represented $x=t^5-5t^3-20t+7, y=4t^3-3t^2-18t+3$ is increasing in an interval of finite length is A)(-2,2) B)(-1,3/2) C)(3/2,2) D)(-1,2)
47	$\int \cos(\ln x)dx =$ A) $\frac{x}{2}[\cos\ln x+\sin\ln x]+c$ B) $\frac{x}{2}[\cos\ln x-\sin\ln x]+c$ C) $x[\cos\ln x+\sin\ln x]+c$ D) $x^2[\cos\ln x+\sin\ln x]+c$
48	A function $y=f(x)$ has a second order derivative $f''(x)=6(x-1)$ .If its graph passes through the point (2,1) and at that point the tangent to the graph is $y=3x-5$,then the function is A) $(x-1)^2$ B) $(x+1)^2+2$ C) $(x-1)^3+3$ D) $(x-1)^3$
49	In the binomial expansion $\left(x^2+\frac{1}{x}\right)^6$, m th term contains x^3 and n th term contains x^{-3} . The value of the integral $\int_0^{2\pi} \text{Sin}^m\theta\,\text{Cos}^n\theta d\theta$ = A) $\frac{\pi}{32}$ B) $\frac{3\pi}{32}$ C) $\frac{3\pi}{132}$ D)0
50	In [a, b] a function f(x) <0, then the area bounded by the curve, x-axis, the lines x=a and x=b is A) $\int_a^b f(x)dx$ B) $\int_b^a f(x)dx$ C) $\int_a^b f(-x)dx$ D) $-\int_b^a f(x)dx$
51	The order and degree of the differential equation $5^{3Log_5\frac{dy}{dx}}=5+3^{5Log_3\frac{d^2y}{dx^2}}$ are A)Order is 2& degree can not be determined B)Order is 2 & degree is 2

	C)Order is 2, degree is 5 D) Order is 1 degree is 3
52	$y = ax + b$ is A) General solution for $\frac{d^3y}{dx^3} = 0$ & particular solution for $\frac{d^2y}{dx^2} = 0$ B) particular solution for $\frac{d^3y}{dx^3} = 0$ & for $\frac{d^2y}{dx^2} = 0$ C) General solution for $\frac{d^2y}{dx^2} = 0$ & for $\frac{d^3y}{dx^3} = 0$ D) General solution for $\frac{d^2y}{dx^2} = 0$ & particular solution for $\frac{d^3y}{dx^3} = 0$
53	The differential equations $\frac{dy}{dx} = \frac{xLogx}{y^3e^{y^2-5}}$ and $\frac{dy}{dx} + \frac{y^3e^{y^2-5}}{xLogx} = 0$ represent two families of curves which A)Touch each other B) intersects at an angle of 45^0 C) do not meet each other D) are orthogonal.
54	The solution of $\frac{d^2y}{dx^2} = 12x^2 + \log x + 2$,such that y(1)=0,and $y'(1) = 0$ is y= A) $x^4 + \frac{1}{2}x^2Log_e x + \frac{x^2}{4} - 5x + \frac{15}{4}$ B) $x^4 + \frac{1}{2}x^2Log_e x + \frac{x^2}{4} - \frac{5}{4}$ A) $x^4 + \frac{1}{2}x^2Log_e x + \frac{x^2}{4} - \frac{5}{4}$ D) $x^4 + Log_e x + \frac{x^2}{4} - \frac{5}{4}$
55	If $\sum_{i=1}^{18}(x_i - 8) = 9$ and $\sum_{i=1}^{18}(x_i - 8)^2 = 45$,then the standard deviation of the observations $x_i (i = 1, 2, 3....18)$ is A) 4/9 B)9/4 C)3/2 D)2/3
56	Consider the data 1,2,m,7,15,10,8,35,76,9,27 and the below statements. 1) m is median , when m is any value in between 9 and 10 2) 9 is median, when m is any value less than 9 3) 10 is median , when m is any value more than 10 The true statements from the above are A) Only (1) & (2) B) only (2) &(3) C) only (3) and (1) D) all (1) ,(2) &(3)

57	Probability that the selection is to consist of either all males or all females from the selections of 10 clerks from 22 males and 17 female applicants is A) $\frac{^{22}C_{10}}{^{39}C_{10}}$ B) $\frac{^{22}C_{10} \times {}^{17}C_{10}}{^{39}C_{10}}$ C) $\frac{^{22}C_{10} + {}^{17}C_{10}}{^{39}C_{10}}$ D) $\frac{^{17}C_{3}}{^{39}C_{10}}$
58	The probability that the year 2100 having 53 Sundays is A)1 B) 1/7 C) 2/7 D) 6/7
59	The hexadecimal number(2AF3)is equal to the to decimal number A) 10095 B)19995 C) 10005 D)10995
60	The equivalent octal number for the hexadecimal number 25B is A)1113 (B) 1333 (C)1133 D) 1033

61. Which one of the following is not an application software?
    a) MS WORD
    b) MS EXCEL
    c) MS Windows
    d) Corel Draw

62. Uploading voluminous data to a remote computer can be done using which one of the following?
    a) File transfer protocol
    b) Telnet
    c) Blogging
    d) Instant messaging

63. Each website on the Internet can be accessed by entering its unique address in the web browser. This address of the web site is usually referred to as which one of the following?
    a) HTTP
    b) HTML
    c) FTP
    d) URL

64. Software piracy involves which one of the following?
    a) Authorized copying, use or selling of software that is copyrighted.
    b) Authorized copying, use or selling of software that is not copyrighted.
    c) Unauthorized copying, use or selling of software that is copyrighted.
    d) Unauthorized copying, use or selling of software that is not copyrighted.

65. Which one of the following identifiers is NOT a valid variable name in "C"?
    a) Input
    b) totalCost
    c) 9Count
    d) NumCount

66. ROM chips are popularly used in desktop computers to store which one of the following?
    a) System files
    b) Boot files
    c) Root directory
    d) Driver files

67. A company has purchased a new laser printer that is to be installed on a stand-alone desktop computer. Which one of the following system software must be installed on that desktop computer for the printer to function?
    a) Operating system software.
    b) Hardware monitoring software.
    c) Fonts software.
    d) Driver software.

68. How many times would the following loop execute?

```
char a='a';
while(a > 'a' && a <= 'z')      a++;
```

    a) Zero times
    b) 27 times
    c) 26 times
    d) Infinite times

69. The Internet is an example of which one of the following types of networks?
    a) Packet-switched network
    b) Circuit-switched network
    c) PSTN network
    d) Cellular network

70. What would be the binary representation of the octal number 63?
    a) 101101
    b) 110011
    c) 101011
    d) 101111

71. Which one of the following is the octal equivalent of the decimal number 78?
    a) 153
    b) 174
    c) 136
    d) 116

72. Which one of the following is the result of the addition of the two binary numbers 110101 and 101111?
    a) 1100100
    b) 1101000
    c) 1110111
    d) 1100011

73. Which one of the following is the result of converting the decimal number 6.75 to binary?
    a) 0110.1100
    b) 0111.1100
    c) 0110.0110
    d) 0110.1010

74. Which one of the following binary numbers is the equivalent of the hexadecimal number F2?
    a) 10100001
    b) 11100011
    c) 11111100
    d) 11110010

75. Which one of the following numbering formats are really codes rather than true number systems?
    a) Hexadecimal and octal
    b) Binary and octal
    c) Decimal and binary
    d) BCD and ASCII

76. Which one of the following decimal numbers is equivalent of the binary number 0001.0010?

a) 1.20
b) 1.40
c) 1.125
d) 1.80

77. Which one of the following decimal numbers is the equivalent of the BCD number 1001 1001?

a) 93
b) 95
c) 99
d) 89

78. What will be displayed, when the following C program snippet completes execution?

```
int main(){
int a = 0, b = 100;
    if (a)
        if (b) printf("abc\n");
     else printf("bcd\n");
}
```

a) abc
b) bcd
c) abcbcd
d) No display will be produced

79. The RAM size of a computer is 1 Mbytes. How many char type data can it store?

a) 8×2^{10}
b) 8×2^{20}
c) 2^{10}
d) 2^{20}

80. What will be displayed when the following C code segment completes execution?

```
if(1 && 0 %10)  printf("One");
else if(1 && 0%10>=0) printf("Two");
        else printf("Three");
```

a) One
b) Two
c) Three
d) No display will be produced

81. What will be the output of the following C code?

```
int x=-5, y=10;
if(x>y)
 if(x<0)  x=x*-1;
 else x=2*x;
else x+=3*x;
```

a) -20
b) -10
c) -15
d) -5

82. Which one of the following Hexadecimal numbers is equivalent to the Octal number 72.72?

a) 3A.E8
b) 5E.58

c) 3A.E1
d) 3A.3A

83. Which one of the following options most correctly lists the important parts of a Von Neumann computer?
    a) Buses, memory, input/output controllers
    b) Hard disks, Buses, and the CPU
    c) Memory, CPU, Buses, and cache memory
    d) Memory, input/output units, and CPU

84. Which one of the following "C" logic expressions is equivalent to the logic expression: !((a>b)||(b<c)||(c>d))?
    a) (a<=b)&&(b>=c)&&(c<=d)
    b) (a<=b)||(b>=c)&&(c<=d)
    c) (a<=b)||(b>=c)||(c<=d)
    d) (a<=b)||(b>=c)&&(c<=d)

85. What would be the value of the variable c after the following program segment completes execution?

```
int x = 3;
switch ( x ) {
  case 1: c = 'A';
  case 2: c = 'B';
  case 3: c = 'C';
  default: c = 'D';
}
```


    a) A
    b) B
    c) C
    d) D

86. What would be the value of x after the following code segment completes execution?

```
int x=0;
if (x >= 0)
  x += 5;
if (x >= 5)
  x += 2;
```

    a) 7
    b) 5
    c) 0
    d) 2

87. What would be the value of i after the following program segment completes execution?

```
int i = 0, n=10;
while ( i < n ) {
   i++;
}
```

    a) 11

b) 9
c) 0
d) 10

88. How many times will the word "testing" get displayed when the following code snippet completes execution?

```
int i = 0, n=10;
do{
    printf("testing\n");
 } while ( i++ < n )
```

a) 8
b) 9
c) 10
d) 11

89. What would be the values of the variables i and n when the following C program segment completes execution?

```
int n = 7, i=4;
i = n++;
```

a) i=7 n=8
b) i=7 n=7
c) i=8 n=8
d) i=4 n=7

90. What would be the value of i after the following C program segment completes execution?

```
int i; i=17%3;
```

a) 5
b) 6
c) 2
d) 3

91. What would be displayed after execution of the following C statement?

```
printf("%d\n", 2*8/2*4);
```

a) 32
b) 16
c) 8
d) 2

92. Consider the following C code snippet. What will be displayed after the code completes execution?

```
main(){
    int x = 5;
    change(x);
    printf("%d",x);
}
```

```
int  change( int  x ) {
   x = 7;
}
```

a) 5
b) 7

c) 35
d) 57

93. What would be the output of the following program?

```
int x=0,y=0;
int main(){
while(x<4,y<7){
        x++;y++;}
        printf("%d,%d\n", x,y);
}
```

a) 4,7
b) 4,4
c) 7,7
d) 7,4

94. What would be the result of multiplying the binary number 00001011 with the binary number 00001000?
a) 01011000
b) 10111000
c) 01010100
d) 10110000

95. In C, how much storage does a single character variable occupy?
a) One Bit
b) One Byte
c) One Word
d) Two Bytes

96. Which one of the following storage media provides sequential access only?
a) Floppy disk
b) Magnetic disk
c) Magnetic tape
d) Optical Disk

97. Which one of the following storage media uses laser technology to store data?
a) Floppy disk
b) Magnetic tape
c) CD-ROM
d) Hard disk

98. Which one of the following techniques can be used to convert a scanned PDF document into an MS-WORD document?
a) OCR
b) OMR
c) POS
d) MICR

99. What is the value of the base of the Hexadecimal numbers?

a) 6
b) 8
c) 16
d) 18

100. Cache memory in a computer is present between which two memories?

a) CPU and RAM
b) RAM and ROM
c) ROM and Hard Disk
d) RAM and Hard disk

101. What is the full form of USB?

a) Universal serial bus
b) Universal standard bus
c) Universal special bus
d) Unique standard bus

102. What will be displayed when the following code segment completes execution?

```
main(){
    int i = abc(10);
    printf("%d\n", --i);
}
```

```
int abc(int i){
    return(i++);
}
```

a) 9
b) 10
c) 11
d) 0

103. What will be displayed when the following code segment completes execution?

```
int main(){
    int n =93452, r;
    while (n != 0){
        r = r * 10;
        r = r + n%10;
        n = n/10;
    }
    printf("%d\n", r);
}
```

a) 31256
b) 45576
c) 25439
d) 25431

104. Touch Screen can be considered to be which one of the following types of device?

a) Input device
b) Output device
c) Both Input as well as output device
d) Volatile memory

105. LAN stands for which one of the following?

a) Limited Area Network
b) Local Area Network
c) Logical Area Network
d) Large Area Network

106. What will be displayed when the following code segment completes execution?

```
main(){
      int  i=10;
      printf("i=%d", i); {
            int  i=20;
              printf("i=%d", i);
      }
      printf("i=%d", i);
}
```

a) 10 20 20
b) 10 20 10
c) 10 20 21
d) 10 20 11

107. What will be displayed when the following code segment completes execution?

```
main(){
      int value1, value2=100, num=100;
      if(value1=value2%5) num=5;
      printf("%d %d %d", num, value1, value2);
}
```

a) 100 100 100
b) 5 0 20
c) 5 0 100
d) 100 0 100

108. What will be the output of the following piece of code?

```
int i;
for(i = 0; i<10; i++);
 printf("%d\n", i);
```

a) 10
b) 0123456789
c) 123456789
d) 11

109. What will be the output of the following code?

```
main(){
    int s=0;
    while(s++<10){
        if(s<4 && s<9)
        continue;
        printf("%d\n", s);
    }
}
```

a) 1 2 3 4 5 6 7 8 9
b) 1 2 3 10
c) 4 5 6 7 8 9 10
d) 4 5 6 7 8 9

110. Which one of the following would result on conversion of the decimal number 151.75 to binary?
a) 10000111.11
b) 11010011.01
c) 10010111.11
d) 00111100.00

111. Assuming that all following numbers are in 2's complement representation, which one of the following numbers is divisible by 11111011?
a) 11100111
b) 11100100
c) 11010111
d) 11011011

112. The range of integers that can be represented by an n bit 2's complement number system is
a) -2^{n-1} to $(2^{n-1} - 1)$
b) $-(2^{n-1} - 1)$ to $(2^{n-1} - 1)$
c) -2^{n-1} to 2^{n-1}
d) $-(2^{n-1} + 1)$ to $(2^{n-1} + 1)$

113. The number 43 in 2's complement representation is

a) 01010101
b) 11010101
c) 00101011
d) 10101011

114. Let x be an integer which can take a value of 0 or 1. The statement **if(x==0) x=1; else x=0;** is equivalent to which one of the following?

a) x=1+x;
b) x=1—x;
c) x=x—1;
d) x=1%x

115. What will get displayed after the following program segment completes execution?

```
main(){
        int a=11,b=5;
        if(a=5) b++;
        printf("%d , %d\n", ++a, b++);
}
```

a) 12 , 7
b) 5 , 6
c) 6 , 6
d) 6 , 7

116. What would be the value of the variable i, after the following code snippet completes execution?

```
int i=5,j=7;
i=(i>j)?i:j;
```

a) 5
b) 7
c) 12
d) 2

117. What would be the value of i after execution of the following C code segment?

```
int i =1;  while (i++ <= 10);
```

a) 1
b) 10
c) 11
d) 12

118. Which one of the following would get displayed when the following C function is called as **fun(93456)** ?

```
fun(int x){
        int y;
        while(x>0){
                x=x/10;
                y++;
        }
  printf("%d\n", y);
```

```
}
```

a) 95
b) 5
c) 7
d) 34

119. In a C program, following variables are defined. Which one of the following is the correct way to display the values of these two variables.

```
long int      i = 2;
double   x = 2.17;
```

a) printf("%d %f",i,x);
b) printf("%ld %f",i,x);
c) printf("%ld %df",i,x);
d) printf("%ld %lf",i,x);

120. What will get displayed after the following program segment completes execution?

```
void f1 (int a, int b){
  int c;
  c=a; a=b; b=c;
}
void f2 (int *a, int *b){
  int c;
  c=*a; *a=*b;*b=c;
}
int main(){
  int a=4, b=5, c=6;
  f1(a, b);
  f2(&b, &c);
  printf ("%d", c-a-b);
}
```

a) -5
b) -4
c) 5
d) 3