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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST-2 EXAMINATION- OCTOBER -2019
B.Tech I Semester (All Branches)

COURSE CODE: 19B11CI111

MAX. MARKS: 25

COURSE NAME: Programming for Problem Solving-II

COURSE CREDITS: 02

MAX. TIME: 1.5 HRS

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Please do not forget to illustrate the output of your programs with inputs in your answer. There is no Syntax Error in question number 4 and 5.

[CO 4, CO 5] 1. What do you mean by actual and formal arguments in functional programming? Explain with suitable C syntax examples. Make two separate C programs to swap two numbers entered by the user to illustrate the difference between call by value and call by reference.

[2+3]

[CO 4, CO 5] 2. Write a program in C to convert a decimal number entered by the user to convert into binary number (i) without user defined functions, (ii) with call by value and (iii) with call by reference.

[1+2+2]

[CO 4, CO 5] 3. Write a program in C to compute the sum of first n natural numbers (i) without user defined functions, (ii) with call by value and (iii) with call by reference. Please note that n is to be entered by the user.

[1+2+2]

[CO4] 4. What would be the output of the following programs?

[5x1=5]

(a) #include<stdio.h> void main() { int a = 0; printf ("%d %d %d", a, ++a, a++); }	(b) #include<stdio.h> void main() { int x=3, z; z=x++ + ++x; printf ("x=%d z=%d", x,z); }
(c) #include<stdio.h> void main() { int i=1,j=1; for (; j; printf("%d%d\n",i,j)) j=i++<=5; }	(d) #include<stdio.h> void main() { int c=0, d=5, e=10,a; a=c>1 ? d>1 e>1 ? 100:200:300; printf ("a=%d",a); }
(e) #include<stdio.h> void main() { int i,j; for (i=1;i<10;i++) for (j=1;j<=9;j++) if (i==5) { printf("Ok"); break; } else if (i==j) continue; }	

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[CO 4, CO 5] 5. What would be the output of the following programs?

[5x1=5]

<pre>(a) #include<stdio.h> void main() { int val=1; do{ val++; ++val; }while(val++>25); printf("%d\n",val); }</pre>	<pre>(b) #include<stdio.h> void main() { int i, j, x=0; for(i=0; i<5; ++i) {for(j=0; j<i; ++j) { x += (i+j-1); printf("\nx = %d",x); } } }</pre>
<pre>(c) void swap(int x, int y) { int c; c=x; x= y; y=c; } main() { int x=5, y=3; swap(x,y); printf("%d %d", x, y); }</pre>	<pre>(d) #include<stdio.h> void main() { int a=3; do { printf(" %d\n",a); a-- } while (a>0); }</pre>
<pre>(e) #include<stdio.h> void main() { int i=135, a=135, k; k=function (!++i, !a++); printf("i=%d a=%d k=%d", i,a,k); } function(int j,int b) { int c; c=j+b; return(c); }</pre>	