**DHARMSINH DESAI UNIVERSITY, NADIAD**
**FACULTY OF TECHNOLOGY**
**B.TECH. SEMESTER II [CE/EC/IC/IT]**
**SUBJECT: (CT-215) C Programming - II**

**Examination : First Sessional** **Seat No. : _____**
**Date : 28/01/2016** **Day : Thursday**
**Time : 3:45 p.m. to 5:00 p.m.** **Max. Marks : 36**

**INSTRUCTIONS:**
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume that required header files are included.

**Q.1 Do as directed.**

(a) Consider array memory layout for following: int x[40][50]; **[3]**
Draw partial memory layout and show calculation of accessing element x[29][44]. (Assumed base address of this array is 1000 and address of x[0][2] is 1004, etc.)

(b) Find error(s) if any, correct with your assumption and display output. **[3]**

| **[I]** | **[II]** |
|---|---|
| int x[3]={3};<br>printf("%d\t%d\t%d", x[2] ,x[1],x[0]);<br>printf("\n%d", '9' – x[0] ); | char x='y',y='z';<br>int z=x-y;<br>printf("%d",z);<br>if ('a'-'A' >0) printf("DDU");<br>else printf("FOT"); |

(c) Find error(s) if any, correct with your assumption and display output. **[3]**

| **[I]** | **[II]** |
|---|---|
| main(){<br>int a[5],x=1;<br>for (i = -1 ; i < 6 ; i++){<br>a[i]=x; x++;<br>printf("%d",a[i]);<br>}<br>} | main(){<br>char s1[]="hi";<br>char s2[]={'a','b','c'};<br>printf("\n %s %s",s1,s2);<br>printf("\n %d %d",strlen(s1),strlen(s2));<br>} |

(d) Find error(s) if any, correct with your assumption and display output. **[3]**

| **[I]** | **[II]** |
|---|---|
| void f1();<br>float f2();<br>main()<br>{f1();f2();}<br>void f1(){return (10);}<br>float f2(){return (10,9.3);} | int f1();<br>int f2();<br>main(){<br>int x=f1();<br>int y=f2();<br>printf("\n%d \t %d",x,y);<br>}<br>int f1() { return (7.9); }<br>int f2() { } |

**Q.2 Attempt any two from the following questions.** **[12]**

(a) Given a string char str[]="123456789"; **[6]**
Write a program to print following output via accessing above string elements as required.

```
    1
   2 3 2
  3 4 5 4 3
 4 5 6 7 6 5 4
5 6 7 8 9 8 7 6 5
```

(b) Differentiate with example(s), call by value and call by reference. **[6]**

(c) Implement following string library functions: **[6]**
1) strrev(s); // Reverses all characters of string s itself.
2) strnset(char str[],char ch,int n); // Set first ***n*** character of string ***str*** to character ***ch*** data.

**Q.3 Attempt the following questions.**

(a) Develop code to implement *non-iterative* version of *math* library *pow()* function. Test using driver program. **[6]**

(b) Develop code to read n words from user, sort data as per dictionary order & display result. **[6]**

**OR**

**Q.3** (a) Implement all required user defined functions for following main body. **[6]**

```
main(){
char source[20],skey[5],rkey[5];
input(source); input(skey);input(rkey); // input function reads string from user
limitedReplace (source,skey,rkey);
display(source);  // display function displays string on screen
}
```

limitedReplace function replaces all occurrences of *skey* by *rkey.*
(Assumption: length of *skey* and *rkey* is same).

(b) Write a program to remove duplicate entry from list of integers. Display the result. **[6]**

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