



DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER II [EC/IC/CE/IT]
SUBJECT: C PROGRAMMING-II

Examination : Second Sessional
Date : 18th March, 2015
Time : 4:00pm to 5:15pm

Seat No. : _____
Day : Wednesday
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 suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 Do as directed. [12]

(1) How many bytes are allocated for following declarations? [2]

(a) `int *a[5]` (b) `int (*a)[5]`

(2) What is the value of integer variable x and y? [2]

`x = *p1 * -*p2 / 4 + 5;`

`y = 3 * *p1 + *p2++;`

Where `*p1 = 4` and `*p2 = 2`

(3) What is the difference between `*++ptr` and `++*ptr`? Where `ptr` is pointer variable. [2]

(4) How does a structure differ from a union? [2]

(5) What is Bit-Fields? What are the important points to be considered when implementing bit-fields in structures? [2]

(6) What will be the output of the following program? [2]

```
struct estore
{
    char s_name[8];
    struct department
    {
        char d_name[8];
        struct product
        {
            char p_name[8];
            float price;
        } p[100];
    } d[10];
} e[5];
main( )
{
    printf("size = %d", sizeof(e));
}
```

Q.2 Attempt *Any Two* from the following questions. [12]

(1) Define a structure named as *state* with the following member fields [6]

- State name
- Total population of a state
- A structure called *district* with the member fields like district name, total population of a district and a literacy level of the same.

Write a program which will find the information of a district where literacy level is minimum from Gujarat state having thirty districts.

(2) Define a structure named as *cricket* with the following member fields [6]

- Team name
- Captain name
- A structure called *players* with the member fields like player's name, total runs scored by a player, total wickets taken by a player.

There are eight cricket teams and each cricket team has eleven cricket players. Write a program which will find the information of a player who has scored maximum runs for his team.

- (3) Define a structure that can describe an *Hotel*. It should have members that include the name, star rating, tariff and number of rooms. [6]

Write a function which will print the information of all the hundred hotels based on their tariff i.e lowest tariff to highest tariff.

- Q.3** (1) Write the output of following code. [3]

```
main() {  
    float arr[5] = {12.5, 10.0, 13.5, 90.5, 0.5};  
    float *ptr1 = &arr[0];  
    float *ptr2 = ptr1 + 3;  
    printf("%f", *ptr2);  
    printf("%d", ptr2 - ptr1);  
    return 0;}
```

- (2) Write a program to print the string which having highest number of characters from entered 5 strings using array of pointers. [6]

- (3) What is the value of the following expressions? [3]

```
char *a[5] = {"cool", "groovy", "sweet", "dreading", "awesome"};  
(a) *(a+2)          (b) *(a[2]+2)          (c) **(a+1)
```

OR

- Q.3** (1) Write a program to find longest word in given statement using pointer. [6]

- (2) What is the output of following code? [2]

```
main() {  
    char *p = "How are you?";  
    printf("%s", p+4);  
    printf("%c", *(p+8));  
}
```

- (3) What is the value of following expressions? [4]

```
char city[2][25] = {"Baroda", "Ahmedabad"};  
(a) *(city+1)+4          (b) **(city+1)  
(c) *city+3              (d) (*(city+1)+2)
```