

KRISHNA KANTA HANDIQUI STATE OPEN UNIVERSITY
MCA/MScIT/PGDCA 1st Semester Examination, 2015
MCA(S1)03/MScIT(S1)03/PGDCA(S1)03
Computer Programming using C

Time: 2 hours

Maximum marks: 50

The figures in the margin indicate full marks for the questions

1 *Answer any three questions from the following:* 2×3=6

- a What will be the output of the following Code Segment?

```
main ( )  
{  
    char s[10];  
    strcpy (s, "abc");  
    printf("%d%d" , strlen(s) ,  
    sizeof(s));  
}
```

- b What is the output of the following statement?

```
for ( i=1; i<4; i++)  
    printf("%d" , (i%2) ? i : 2*i);
```

- c How are global variable declared?
d How a structure is different from an array?
e What is the meaning of the following statement:

```
int * b ;  
b = (int*) malloc (x*2);
```

2 *Answer any three questions from the following:* 4×3=12

- a Using suitable example differentiate between a function declaration and function definition.
b Compare the following pairs of statement with respect to their syntax and function:
i) break and continue

- c Using suitable example differentiate between pointer(*) and address(&) operator.
d What is a pre-processor? How a macro is different from a function? Give example.

3 *Answer any two questions from the following:* 6×2=12

- a Explain the different types of memory allocation in C.
b Write a recursive function to calculate the factorial of a positive integer.
c Explain the following file functions:
(i) fgetc () (iii) fwrite ()
(ii) ftell () (iv) fread ()
d What is a file? Explain how the file open and file close functions are handled in C.

4 *Answer any two questions from the following:* 10×2=20

- a Differentiate the following with suitable example:
(i) While and do... while loop
(ii) Call-by-Value and Call-by-reference.
b How does the use of pointers economize memory space?
Write a C program to find the smallest and largest values in an array.
c Define a structure in C, which stores subject wise marks of student. Using a student array, write a C-program to calculate the total marks for all the students.
d Write short note:
(i) String manipulation function
(ii) Algorithm and Flow Chart