Enrollment No.......................................

Faculty of Science
End Sem (Even) Examination May-2019
BC3CO05 Problem Solving and Programming-II
Programme: B.Sc. (CS)   Branch/Specialisation: Computer Science

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

Q.1   i.   What will be the output of the following code?   **1**

```
#include<stdio.h>
void main(){
int x=1;
if(x--)
printf("Hello");
--x;
printf("%d",x);  }
```
         (a) Compile error   (b) 1   (c) Hello   (d) 0

   ii.   According to the following code, select the best suitable statement   **1**
```
int x=5,y=3,z;
z=add(&x,&y);
```
         (a) The function add is called by passing the values
         (b) The function add is called by passing reference
         (c) Both (a) and (b)
         (d) None of these

  iii.   What is the output of this program?   **1**
```
#include<stdio.h>
intmain(){
int *ptr;
ptr = (int*)calloc(1,sizeof(int));
    *ptr = 10;
printf("%d\n",*ptr);
    return 0; }
```

	(a) 0	(b) -1	(c) 10	(d) None of these	

iv. Which header file should be included to use functions like malloc() and calloc()? **1**

(a) memory.h (b) stdlib.h (c) string.h (d) dos.h

v. Select a function which is used to read a single character from a file at a time? **1**

(a) fscanf() (b) getch() (c) fgetc() (d) fgets()

vi. If there is any error while opening a file, fopen will return? **1**

(a) NOTHING (b) EOF

(c) NULL (d) Depend on Compiler

vii. The first graphics card, introduced in August of 1981 by IBM, was known as **1**

(a) Monochrome Display Adapter (MD(A)

(b) Hercules Graphics Card (HG(C)

(c) Color Graphics Adapter (CG(A)

(d) Enhanced Graphics Adapter (EG(A)

viii. A multiple-frequency monitor is also called **1**

(a) Multisync monitor (b) Multiscan monitor

(c) Asynchronous monitor (d) All of these

ix. Syntax of Circle in Graphic programming **1**

(a) circle(x,y,r); (b) void circle(x,y,r);

(c) getcircle(x,y); (d) void getcircle(x,y,r);

x. The basic use of initgraph() function is **1**

(a) Switch the output from text mode to graphics mode

(b) Switch the output from graphics mode to text mode

(c) Switch the output from user mode to operating system mode

(d) None of these

Q.2 i. What is call by reference? **2**

ii. Explain four different ways to define a function with example. **8**

OR iii. What do you mean by Macro? Explain the working of manifest constant with macro. Give any two examples. **8**

Q.3 i. What is Null pointers? Give the syntax of declaration of a pointer. **2**

ii. Write a program to pass an array in function. **3**

iii. Write a program for calloc function. Explain how memory is allocated using calloc function. **5**

OR iv. Explain the following term with example **5**

(a) typedef (b) Bit fields

Q.4 i. Explain the utility of fopen() function using suitable diagram. **4**

ii. What is fread() function? Write its syntax and explain using example. **6**

OR iii. Explain the following terms **6**

(a) fgets() (b) fputs() (c) fwrite()

Q.5 i. What do you mean by video pages? Explain. **4**

ii. Explain three different components of VDU. **6**

OR iii. Write a program to print "Medi-Caps University" in maximum color. **6**

Q.6 Attempt any two:

i. How can we fill colour in Regular and Non-Regular Shapes using C programming? **5**

ii. Write a C program using moverel() and linerel() function. **5**

iii. Write a program to draw ellipse and rectangle in C language. **5**

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Marking Scheme
BC3CO05 Problem Solving and Programming-II

Q.1 i.   What will be the output of the following code?   **1**
          (c) Hello
     ii. According to the following code, select the best suitable statement   **1**
          int x=5,y=3,z;
          z=add(&x,&y);
          (b) The function add is called by passing reference
     iii. What is the output of this program?   **1**
          (d) None of these
     iv. Which header file should be included to use functions like malloc()   **1**
          and calloc()?
          (b) stdlib.h
     v.   Select a function which is used to read a single character from a file at   **1**
          a time?
          (c) fgetc()
     vi. If there is any error while opening a file, fopen will return?   **1**
          (c) NULL
     vii. The first graphics card, introduced in August of 1981 by IBM, was   **1**
          known as
          (a) Monochrome Display Adapter (MDA)
     viii. A multiple-frequency monitor is also called   **1**
          (d) All of these
     ix. Syntax of Circle in Graphic programming   **1**
          (a) circle(x,y,r);
     x.   The basic use of initgraph() function is   **1**
          (a) Switch the output from text mode to graphics mode

Q.2 i.   Call by reference   **2**
          Definition   1 mark
          Function call syntax   1 mark
     ii. Four different ways to define a function   **8**
          1 mark for each (1 mark * 4)   4 marks
          Example. 1 mark for each (1 mark * 4) 4 marks
OR   iii. Definition of Macro   2 marks   **8**
          Working of manifest constant with macro 2 marks
          Any two examples.
          2 marks for each example (2 marks * 2) 4 marks

Q.3 i.   Definition of Null pointers   1 mark   **2**
          Syntax of declaration of a pointer. 1 mark
     ii. Program to pass an array in function.   **3**
     iii. Program for calloc function.   3 marks   **5**
          How memory is allocated   2 marks
OR   iv. Explain the following term with example   **5**
          (a) typedef
          Definition   1 mark
          Example   1.5 marks
          (b) Bit fields
          Definition   1 mark
          Example   1.5 marks

Q.4 i.   Utility of fopen() function and diagram 2 marks   **4**
          Explanation   2 marks
     ii. Definition of fread() function   2 marks   **6**
          Syntax   1 mark
          Example.   3 marks
OR   iii. Explain the terms   **6**
          2 marks for each   (2 marks * 3)

Q.5 i.   Definition of video pages   **4**
     ii. Three different components of VDU.   **6**
          1 mark for each   (1 mark * 3)
OR   iii. Program to print "Medi-Caps University" in maximum color.   **6**
          Program   2 marks
          Logic   2 marks
          Function   2 marks

Q.6   Attempt any two:
     i.   Regular Shapes using C programming   2 marks   **5**
          Non-Regular Shapes using C programming 3 marks
     ii. C program using moverel() and linerel() function.   **5**
          Declaration Syntax   1 mark
          Function   2 marks
          Logic   2 marks
     iii. Program to draw ellipse in C language 2.5 marks   **5**
          Program to draw rectangle in C language 2.5 marks

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