

Total No. of Questions: 6

Total No. of Printed Pages:3

Enrollment No.....



Faculty of Engineering
End Sem (Odd) Examination Dec-2022
CA5CO33 Advanced C Programming

Programme: BCA-MCA
(Integrated) /MCA

Branch/Specialisation: Computer
Application

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. Indirect recursion is also called? 1
(a) Tree Recursion
(b) Mutual recursion
(c) Head Recursion
(d) None of these
- ii. How many times will the program print "Hello"? 1
`#include<stdio.h>`
`void main()`
`{`
`printf("Hello");`
`main();`
`}`
(a) Infinite times (b) 655 times
(c) Only 1 time (d) Compilation error
- iii. Which is known as generic pointer? 1
(a) void pointer (b) int pointer
(c) char pointer (d) float pointer
- iv. Identify the wrong declaration statement. 1
(a) `int *p,a=10;` (b) `int a=10,*p=&a;`
(c) `int *p=&a,a=10;` (d) Both (b) & (c)

P.T.O.

[2]

- v. Correct statement about C structure.? **1**
- ```
int main()
{
 struct abc
 {

 };
 return 0;
}
```
- (a) It is wrong to define an empty structure  
 (b) Member variables can be added to a structure even after its first definition.  
 (c) There is no use of defining an empty structure  
 (d) None of these
- vi. Members of a union are accessed as \_\_\_\_\_. **1**
- (a) union\_name.member (b) union\_variable.member  
 (c) union\_name;member (d) union\_variable:member
- vii. The program execution starts from **1**
- (a) The function which is first defined  
 (b) main() function  
 (c) The function which is last defined  
 (d) The function other than main()
- viii. If there is any error while opening a file, fopen() will return? **1**
- (a) Nothing (b) EOF  
 (c) NULL (d) Depends on compiler
- ix. The C programming language provides a keyword called \_\_\_\_\_, **1**  
 which you can use to give additional name to a data type.
- (a) type (b) typedef (c) typed (d) tpdef
- x. What is the index of the last argument in command line arguments? **1**
- (a) argc – 2 (b) argc + 1 (c) argc (d) argc – 1
- Q.2 i. Define function. **2**  
 ii. What is recursion? Explain different types of recursions with example. **8**  
 OR iii. Write a note on in-built string functions. **8**

[3]

- Q.3 i. Write difference between malloc() and calloc(). **2**  
 ii. Differentiate call by value and call by reference with the help of program. **8**  
 OR iii. What is array of function pointers? Write a program which implements the concept of array of function pointers. **8**
- Q.4 Attempt any two:
- i. What is structure and union? How they differ from each other? **5**  
 ii. Write a program to scan and print name, roll\_no, percentage, current semester of 5 students by applying array of structure. **5**  
 iii. Explain structure within a structure with example. **5**
- Q.5 i. What is file handling? Write any three functions used in file handling. **4**  
 ii. Write a program to copy one file into another. **6**  
 OR iii. What is preprocessor directive? Explain different types of preprocessor directive. **6**
- Q.6 Write short note on any two:
- i. Command Line Arguments **5**  
 ii. Typedef **5**  
 iii. Self-referential structures **5**

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**Marking Scheme**  
**CA5CO33 Advanced C Programming**

|     |         |                                                              |                                     |          |
|-----|---------|--------------------------------------------------------------|-------------------------------------|----------|
| Q.1 | i)      | (b) Mutual recursion                                         | 1 Mark                              | <b>1</b> |
|     | ii)     | (a) Infinite times                                           | 1 Mark                              | <b>1</b> |
|     | iii)    | (a) void pointer                                             | 1 Mark                              | <b>1</b> |
|     | iv)     | (c) int *p=&a,a=10                                           | 1 Mark                              | <b>1</b> |
|     | v)      | (c) There is no use of defining an empty structure           | 1 Mark                              | <b>1</b> |
|     | vi)     | (b) union_variable.member                                    | 1 Mark                              | <b>1</b> |
|     | vii)    | (b) main() function                                          | 1 Mark                              | <b>1</b> |
|     | viii)   | (c) NULL                                                     | 1 Mark                              | <b>1</b> |
|     | ix)     | (b) typedef                                                  | 1 Mark                              | <b>1</b> |
|     | x)      | (d) argc – 1                                                 | 1 Mark                              | <b>1</b> |
| Q.2 | i.      | Definition and syntax                                        | 2 Marks                             | <b>2</b> |
|     | ii.     | Define Recursion<br>Types with example                       | 2 Marks<br>6 Marks                  | <b>8</b> |
| OR  | iii.    | Function (4 functions)                                       | 2 Marks each<br>(2 Marks*4)         | <b>8</b> |
| Q.3 | i.      | Difference (Two)                                             | 1 Mark each<br>(1 Mark*2)           | <b>2</b> |
|     | ii.     | Call by value with program<br>Call by reference with program | 4 Marks<br>4 Marks                  | <b>8</b> |
|     | OR iii. | Definition<br>Program with output                            | 2 Marks<br>6 Marks                  | <b>8</b> |
| Q.4 |         | Attempt any two:                                             |                                     |          |
|     | i.      | Defining structure                                           | 1.5 Marks                           | <b>5</b> |
|     |         | Defining union                                               | 1.5 Marks                           |          |
|     |         | Difference                                                   | 2 Marks                             |          |
|     | ii.     | Program with output                                          | 5 Marks                             | <b>5</b> |
|     | iii     | Explanation<br>Program                                       | 2.5 Marks<br>2.5 Marks              | <b>5</b> |
| Q.5 | i.      | File handling<br>Each function (Any three)                   | 1 Mark<br>1 Mark each<br>(1 Mark*3) | <b>4</b> |
|     | ii.     | Program with output                                          | 6 Marks                             | <b>6</b> |

|     |      |                                                         |                                      |          |
|-----|------|---------------------------------------------------------|--------------------------------------|----------|
| OR  | iii. | Preprocessor directive<br>Preprocessor directive (four) | 2 Marks<br>1 Mark each<br>(1 Mark*4) | <b>6</b> |
| Q.6 |      | Write short note on following (any two):                |                                      |          |
|     | i.   | Command Line Arguments with syntax                      | 5 Marks                              | <b>5</b> |
|     | ii.  | Typedef with example                                    | 5 Marks                              | <b>5</b> |
|     | iii. | Self-referential structures with example                | 5 Marks                              | <b>5</b> |

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