

(Please write your Exam Roll No.)

Exam Roll No. 0253530418

END TERM EXAMINATION

FIRST SEMESTER [MCA] NOVEMBER-DECEMBER 2018

Paper Code: MCA-103

Subject: Programming in C

Time: 3 Hours

Maximum Marks: 75

Note: Attempt all questions as directed. Internal choice is indicated.

- Q1 (a) Write the difference between following:- (2.5)
(i) Signed and unsigned characters
(ii) Short and long integer variables
- (b) Define a preprocessor directive that finds cube of any mathematical expression. How they are different from functions? (2.5)
- (c) Differentiate between do while and repeat until loop statements. (2.5)
- (d) What is the output of the following program? (2.5)
- ```
main ()
{
int arr[5]={1,2,3,4,5};
int *ptr=arr;
for (i=0;i<5; i++) printf("%u", ptr++);
}
```
- (e) Explain the difference between structure and union type variables. (2.5)
- (f) What are the various logical operators in C? Define with suitable examples. (2.5)
- (g) Write a C function which reverses an input string which is passed as parameter to it. (2.5)
- (h) What is the output (2.5)
- ```
main ()
{
int A=6, B;
B=++A+A++; printf("%d,, %d", A, B)
}
```
- (i) Define register variable with suitable example. What is their purpose of use? Are they faster than automatic variables? (2.5)
- (j) What do you mean by a pointer? Write any of its three advantages. (2.5)

UNIT-I

- Q2 (a) What is the difference between call by value and call by reference for a function? Explain with suitable example. (6)
- (b) Write a program which will count number of words and lines in a given text. (6.5)

OR

- Q3 (a) Explain the difference between if else if statement and switch statement with suitable examples. Can you suggest at least one scenario when switch statement can not be used over first one? (6)
- (b) Write a C function which takes three strings as input and concatenates first two strings at the tail of third one in that order (i.e. it is the first string then second string is concatenated). (6.5)

UNIT-II

- Q4 (a) What do you mean by dynamic memory allocation method and how are the different from static allocation? (6)

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(b) Write a program which will read the values of 10 students where information pertaining to one student can be his/her roll number, name, sex, course, marks and date of birth. Find who has topped in the class.

- Q5 (a) What do you mean by pointer to a function and pointer to a pointer? (6)
(b) Write a C function which multiplies two matrices using pointers only. (6.5)

OR

UNIT-III

- Q6 (a) Write a program that copies the content of file at command prompt. (6)
(b) What is the use of argc and argv? How they are passed and utilized? Explain using suitable example. (6.5)

OR

- Q7 (a) How is error handling is achieved in c? Explain using suitable example. (6)
(b) Explain fseek(), fread() and fwrite() functions with suitable examples. (6.5)

UNIT-IV

- Q8 (a) Explain file structure in Linux operating system. (6)
(b) What do you mean by a thread? Generate a small thread of your choice. (6.5)

OR

- Q9 Explain following with suitable examples:- (12.5)
(i) chown (ii) chmod (iii) chdir (iv) stat (v) fork()

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