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Total Number of Pages : 1

AR-19

MCA

MCA 1ST SEMESTER REGULAR EXAMINATIONS, NOV/DEC 2019-20

MCA 101

Problem Solving and Programming using C

Time: 3 Hours

Max Marks: 70

The figures in the right hand margin indicate marks.

PART- A

Q.1 Answer all the following:

[10 X2 =20]

- State the role of break statement in switch..case control structure?
- State the syntax of do..while loop?
- What is an array ? What are the types of it?
- Explain about the characteristics of static and register storage classes?
- What is nesting of functions?
- What is a pointer and write the syntax to declare a pointer?
- How static variable are define and initialized?
- Illustrate the difference between structure and union?
- What is fopen()?
- Give the example of gets() and puts()?

PART-B

[Answer any five out of seven questions]

[10 X 5=50]

- What is an algorithm and flowchart? Explain with an example ?
 - Explain briefly about the basic structure of a c program. ?
- State the difference between while and do..while statement in brief with a suitable example.?
 - Write a program to display weekday as per the digit given within(1 to 7), i.e: 1 – Sunday, 2-Monday, 3-Tuesday etc. Use switch..case?
- Write a program to apply binary search on an array having elements in sorted order.?
 - Write the syntax and explain on string handling functions: strcmp(), strcmp(), strcpy(), strcat() using a suitable example?
- Write a program to create a structure called SUBJECTS having members: rollno, physics, chemistry, maths, total marks. Create a structure array to store 10 students marks. Calculate the total marks of each student. Use a structure pointer to find the topper?
 - Write a program in function using call-by-value & call-by-reference?
- Explain the syntax and example on malloc(), calloc(). Write a program to allocate N integer memory and then input the numbers and find the average. ?
 - Illustrate the character input/output functions with suitable examples?
- Explain how an array can be declared and initialized? Write a suitable program to interact with 1-D array elements.?
 - Explain Conditional operator and Bitwise operators?
- Write short notes.
 - Dynamic memory allocation
 - Control statements in C