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Total No. of Questions : 09]   [Total No. of Pages : 02

Paper ID [MC102]

(Please fill this Paper ID in OMR Sheet)

MCA (Sem.- 1st)
PROGRAMMING IN C (MCA-102)

Time : 03 Hours   Maximum Marks : 60

Instruction to Candidates:

1) Attempt any **One** question from each sections A, B, C & D.

2) Section - E is **Compulsory**.

Section - A

(1 × 10 = 10)

Q1) (a) What are the four classes of data types supported by ANSI C.

(b) Explain stepwise the automatic type conversion for the following.

int i, x;

float f;

double d;

long int l;

x = 1/i + i * f − d;

Q2) (a) How can enum be used to create user defined data type?

(b) Write a program that reads a string including blank spaces until '\n' is encountered.

Section - B

(1 × 10 = 10)

Q3) (a) What are the differences between while & do while construct.

(b) Write a program that accepts a string, reverses the string and prints it.

Q4) (a) Write a program that finds the largest of three numbers using nested if statement. Also give its flowchart.

(b) Write a program that uses a recursive function to print fibonacci sequence. (Fibonaaci sequence is 0, 1, 1, 2, 3, 5, 8 and so on)

Section - C

(1 × 10 = 10)

Q5) (a) What is the difference between a structure and a union.

(b) Write a program that defines a structure book having members name, author and price and compares two variables of type book.

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Q6) (a) Write a program using pointers to compute the sum of all elements stored in an array.

(b) Explain the difference between Call by Value & Call by Reference.

Section - D

(1 × 10 = 10)

Q7) (a) Explain fseek( ) function.

(b) Write a program that sorts an array using bubble sort method.

Q8) (a) Write a program that writes all reads ten numbers and writes all odd numbers to a file ODD & all even numbers to a file EVEN.

(b) Explain malloc( ) function using an example.

Section - E

(10 × 2 = 20)

Q9) a) What will be the output of the following

```
int a = 5, b, c;
b = ++a;
c = a++;
Printf("%d %d %d \n", a,b,c);
```

b) What will be the output of the following
   (i) Printf("%11.4e", -98.7654);
   (ii) Printf("%-20.10s", "NEW DELHI 110001");

c) What is the difference between a character 'A' & string "A".

d) What is the difference between a static and auto variable?

e) Define register variable.

f) Explain strcmp function.

g) What is a preprocessor directive?

h) What is type casting?

i) What will be output of the following

```
float y;
int fem = 995, mal = 1000, x;
x = fem/mal;
y = (float)fem/mal;
Printf("%d %y", x,y);
```

j) What is scale factor in pointer variables.

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