

Q.P. Code :03596

[Time:2½ Hours]

[ Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. All Questions are compulsory.
  2. Figures to the right indicate marks.
  3. Illustrations, in-depth answer and diagram will be appreciated.
  4. Mixing of sub-questions is not allowed.

Q1 Attempt all (each of 5 marks)

15

## A Multiple choice questions

- i. Given the declaration  
Struct abc a,b,c;  
Which of the following statements are legal?
  - a. printf("%d",b);
  - b. A=b;
  - c. A=b+c;
  - d. scanf("%d",&a);
  - e. None of the above.
- ii. The keyword used to transfer control from a function back to the calling function is
  - a. switch
  - b. goto
  - c. go back
  - d. return
  - e. None of these
- iii. According to the standard C specification, what are the respective minimum sizes (in bytes) of the following three data types: short; int; and long?
  - a. 1,2,2
  - b. 1,2,4
  - c. 1,2,8
  - d. 2,2,4
  - e. None of the above.
- iv. When applied to a variable, what does the unary "&" operator yield?
  - a. The variable's address
  - b. The variable's right value
  - c. The variable's binary form
  - d. The variable's value
  - e. The variable's format
- v. F=fopen (filename,"r");  
Referring to the code above , what is the proper definition for the variable F?
  - a. FILE F;
  - b. FILE\*F
  - c. INT F;
  - d. Struct FILE F;
  - e. Char \*f;

## B Fill in the blanks

- a. A variable defined inside a function is called as ----- variable and is not available to other function.
- b. The ----- statement when executed in a switch statement causes immediate exit from the structure.

- c. In an exit-controlled loop, if the body is executed n times, the test condition is evaluated ----- times.
- d. The function----- is used to determine the length of a string.
- e. The ----- operator is true when both the operands are true.

## C Short answers.

- a. Rewrite the expression  $a=a+1$  using shorthand operator.
- b. What is recursion? Explain.
- c. In a C expression, how is a logical AND represented?
- d. Consider the following C declarations  

```
Char buf [] = "hello world!";
Char *buf="hello world!";
```

 In term of code generation, how do the two definitions of buf, both presented above, differ?
- e. With every use of a memory allocation function, what function should be used to release allocated memory which is no longer needed?

## Q2 Attempt the following (Any three)

- a. Write the output of following program.  

```
#include <stdio.h>
Void main()
{ int m=12345;
long n =987654;
printf("%d\n",m);
printf("%10d\n",m);
printf("%010d\n",m);
printf("%-10d\n",m);
printf("%10ld\n",n);
}
```
- b. Briefly explain importance of the comments in C programming.
- c. State and explain different data types available in c.
- d. Write a short note on implicit type conversion.
- e. Write a C program to read a character form keyboard and then prints it in reverse case. That is, if the input is upper case, the output will be output will be the lower case and vice versa.
- f. State and explain for statement in programming with suitable example.

## Q3 Attempt the following (Any three)

- a. Consider an array of unsorted number for elements. Write a C program to find duplicate number is in array if exist then replace second occurrence onwards of that number by 0.
- b. Explain working of getchar() and putcher() functions with suitable program.
- c. Write a c program to perform copying of one string into another string each with and without strcpy
- d. State the different categories of functions. Write a C program to explain any one
- e. Write a C program to calculate power of a number with Recursion function.
- f. With the help example formal parameters and Actual parameters.

## Q4 Attempt the following (Any three)

- a. Explain the various ways of declaring and initializing of pointer variables.
- b. Explain working of calloc() with suitable example
- c. Write a structure in C to store id.,name and percentage of students.accept.record from user and print the same
- d. Distinguish between STRUCTURE & UNION
- e. What is file? List out and explains one line different functions available for performing file related operations.
- f. Write a C program to create a file to accept detail about student like ClassName, RollNo,studentName through keyboard into the file 'SOURCE'. Print the content of 'SOURCE'file.

Q5 Attempt the following (Any three)

15

- a. Write a C program to print following pattern. Accept the number of lines from the user.  
\*  
\*\*  
\*\*\*
- b. Write a C program to Accept numbers from the user till he enters '0'. Perform addition of those numbers and print total.
- c. Write a union to store data of book in the form of title, author and no-of -pages. insert the data and print the same.
- d. Explain the switch case expression in C programming
- e. Write a short note on ternary operator.

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