

P P SAVANI UNIVERSITY

First Semester of B. Tech. Examination

January 2022

SECE1050 Programming for Problem Solving

27.01.2022, Thursday

Time: 9:00 a.m. To 11:30 a.m.

Maximum Marks: 60

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in same answer sheet.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION - I

- Q - 1** Answer the Following: (Any five) [05]
- (i) List any two input and two output devices.
- (ii) What is the purpose of following line in C program?
`#include<stdio.h>`
- (iii) What will be the output of following code snippet of C program?
`int main(){
int counter=10;
while (--counter >= 0);
printf("%d", counter);
return 0;
}`
- (iv) Define program and software.
- (v) State the difference between variable and constant.
- (vi) What will be the output of following code snippet? Is answer correct? If not correct then give reason.
`int main(){
int data=4;
printf("%d", data/5);
return 0;
}`
- (vii) What is the use of >> operator in C programming?
- Q - 2 (a)** Define data type. What is the purpose of declaring data type in C program? Explain any four data types available in C programming language. [05]
- Q - 2 (b)** Draw block diagram of hierarchy of memory. Explain primary memory in detail. [05]
- OR**
- Q - 2 (a)** Write a note on generation of computers. [05]
- Q - 2 (b)** List various operators available in C. Explain in detail relational and logical operator with suitable line of code. [05]
- Q - 3 (a)** Explain in detail the structure of C program with suitable example. [05]
- Q - 3 (b)** Draw the following symbols used in flowchart: Start/Stop/Terminal, Input, Processing, Decision, Output, and Connector. Also draw flowchart for the following C code. [05]
- ```
int main()
{
int a=2, b=3, c=5, d=6;
if (a > b)
printf(""Test 0\n");
elseif (c > d)
printf("Test1");
```

```
printf(""Test2"");
return 0;
}
```

OR

- Q - 3 (a) Explain the use of break and continue with appropriate example. [05]  
Q - 3 (b) Explain with suitable example and flow chart use of if-else statement in C. Show all possible use of if statement. [05]  
Q - 4 Attempt any one: [05]  
(i) Write a C program to input a number between 1 to 9999 and display sum of its digits.  
(ii) Write a C program to check whether the input year is leap year or not.

**SECTION - II**

- Q - 1 Answer the Following: (Any five) [05]  
(i) State difference between fclose() , fflush() and fflushall()  
(ii) What is void pointer?  
(iii) Write output of the following code:  
int main()  
{  
    int var1,var2;  
    int \*ptr;  
    var1=1331;  
    ptr=&var1;  
    var2=\*ptr;  
    printf("%d\n",var2);  
    return 0;  
}  
(iv) Differentiate between arrays and structure.  
(v) What will be the value of str1 for the following C statement?  
str1 = strcmp("Hello", "World");  
(vi) How macros are undefined in C?

- Q - 2 (a) Explain how Multi-Dimensional array is initialized, accessed with suitable example. [05]  
Q - 2 (b) Define String. List various string handling functions in C. Explain any three with suitable example. [05]

OR

- Q - 2 (a) Write a note on following: (a) File inclusion directive, (b) Macro substitution directives and (c) Compiler control directives. [05]  
Q - 2 (b) Explain elements of User Defined Function with appropriate example. [05]  
Q - 3 (a) Explain recursion function in detail. Also explain various situations where the concept of recursion is used with proper line of implementation. [05]  
Q - 3 (b) Define structure. Write syntax to declare structure. Also explain how structure is stored in memory with proper representation. [05]

OR

- Q - 3 (a) List different mechanism of calling function in C. Explain the concept of call by value with suitable example. [05]  
Q - 3 (b) Explain various functions that are used in dynamic memory allocation in C. [05]  
Q - 4 Attempt any one: [05]  
(i) Define File in C. Explain steps that are required to implement file in C.  
(ii) Define pointer. Explain various pointer operators with appropriate example.

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