

(Set-A₁)

B.Tech-1st (All Br.)

Computer Programming

Full Marks : 70

Time : 3 hours

**Answer six questions including Q.No.1
which is compulsory.**

The figures in the right-hand margin indicate marks.

Symbols carry usual meaning.

1. Answer *all* questions : **2 × 10**

- (a) What is the difference between Flowchart and Algorithm ?**
- (b) What is the difference between Keywords and Identifiers ? Give two examples for each.**
- (c) Switch case is preferred over if else ladder. True or False ? Justify your answer.**
- (d) What is the difference between Array and Union ?**
- (e) Define Function and its types with syntax ?**

(Turn Over)

- (f) Define scope and lifetime of a variable ?
Differentiate between the scope and lifetime of local and global variable ?
 - (g) Define include operator. Differentiate between #include "headerfiles" and #include<headerfile>?
 - (h) Define preprocessor directive. Mention its importance.
 - (i) Define Typecasting. Mention its importance.
 - (j) Differentiate between short, int, long data-types for whole numbers with example.
2. (a) Define Computer. Describe the Architecture of Computer with neat and clean diagram. 5
- (b) Define Problem. Describe the various problem solving technique with example. 5
3. (a) Differentiate between while loop and for loop. Write a C Program to find summation of even digits of a number. Suppose $n = 2685$ then output = $2+6+8 = 16$. 5

- (b) Why is goto keyword rarely used in C programming ? Write a C program to find Season of a given month. Take the name of month as input from user. Suppose user enter January then season is winter. Use Switch case. 5
4. (a) Define Modular Programs. Write a C program to find factorial of a number using for loop, while loop, and dowhile loop in a single program. Use function. 5
- (b) Define String. Write a C program to sort 10 strings of names of city in alphabetical order. 5
5. (a) Differentiate between User defined function and Standard function. Write a C program to find square root of a number without using sqrt() and pow() predefined functions. Use function and call by value for parameter passing. 5
- (b) Define Pointer variables. Describe its importance. Write a C program to swap two numbers using call by reference. 5
6. (a) Define 2D Array with syntax. Write a C program to find addition of two 3×3 matrices. 5

(4)

- (b) Define enumerated datatype. Describe its importance with a simple C program. 5
7. (a) Define Structure and Union. Union consume less memory than Structure. True or False ? Justify your answer with example. 5
- (b) Write a C program to copy the contents of one file to another file in reverse order. 5
8. Write short notes on any *two* : 5 × 2
- (a) Dynamic Memory Allocation
 - (b) Monolithic Programs
 - (c) Pragma Directives
 - (d) Recursion.
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