

(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 prob-
lem 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 $\text{sqrt}()$ and $\text{pow}()$ 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

fact loop
fact dowhile loop
fact while loop

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(b) Define enumerated datatype. Describe its importance with a simple C program. 5

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7. ✓ (a) Define Structure and Union. Union consume less memory than Structure. True or False ? Justify your answer with example. 5

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(b) Write a C program to copy the contents of one file to another file in reverse order. 5

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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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putc. ← write

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