

ADVANCED PROGRAMMING IN C

Time Allowed : 3 Hours

Maximum Marks : 80

Note : **Question No. 1 is compulsory.** Attempt five questions in all, selecting one question from each unit.

All questions carry equal marks.

Compulsory Question

1. (a) What is typedef declaration ? How is it declared ? 3
- (b) What is Pointer arithmetic ? Write names of operations that can be performed on pointers. 3
- (c) Explain pointer to void data type ? 2

- (d) Differentiate gets () and f gets () input string functions. 3
- (e) How data elements of a two-dimensional array are accessed using pointer ? 3
- (f) Explain FILE pointer. 2

UNIT-I

- 2. (a) What is a union data type ? How memory is allocated to a union object ? Explain with an example. 8
- (b) Define structure within structure declaration. Write a program in C-language to transfer such structure to a function sub-program. 8
- 3. (a) Explain representation of array of names (strings) in memory. How this array is accessed? 8
- (b) Write a program in C-language to concatenate two strings by using strcat function. 8

UNIT-II

- 4. (a) How memory is allocated dynamically using pointers ? Explain with an example. 8
- (b) Describe how pointer is transferred to function and pointer is returned to main program. 8
- 5. (a) Differentiate between pointer to string and pointer to pointer. 8
- (b) Describe array of pointer with an example and also write one application of array of pointer. 8

UNIT-III

- 6. Differentiate the following file handling functions :
 - (a) EOF() and EOLN()
 - (b) fflush and ftell().
- 7. (a) Write a program in C-language to create a file STUDENT and store data taking input from keyboard. 8

- (b) Differentiate between text mode and binary mode of file handling. 8

UNIT-IV

8. (a) Define a macro to check whether a given year is leap year or not. Include this macro in a C-language program of your choice.

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- (b) Explain the following :

(i) Conditional compilation directive 4

(ii) Macro replacement directive 4

(iii) Error directive. 4

9. Differentiate between the following :

(a) # define and # undef 8

(b) # if and # else 8