

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 typedof declaration ? How is it declared ? 3
- (b) What is Pointer arithmetic ? Write names of ooperations 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 ()` 8
- (b) `fflush` and `ftell ()` 8
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. 1

UNIT-IV

8. (a) Define a macro to check whether a given year is leap year or not. Include this macro in C-language program of your choice. 4

(b) Explain the following :

- (i) Conditional compilation directive
- (ii) Macro replacement directive
- (iii) Error directive

9. Differentiate between the following :

(a) #define and #undef

8

(b) #if and #else

8