

H-4/27/22

Roll No.

IV Semester Examination, 2022

M.Sc.

MATHEMATICS

Paper V

(Programming In 'C'-With ANSI Features-II)

Time : 3 Hours]

[Max. Marks : 56

Note : All questions are compulsory. Question Paper comprises of 3 sections. Section **A** is objective type/multiple choice questions with no internal choice. Section **B** is short answer type with internal choice. Section **C** is long answer type with internal choice.

SECTION A

1×11=11

(Objective Type/Multiple Choice Questions)

Choose the correct answer :

1. Which is not a storage class ?

- (a) Auto (b) Struct
(c) Typedef (d) Static

2. A 'C' program is a combination of :

- (i) statement, (ii) function, (iii) variables
(a) (i) and (ii)

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(b) (ii) and (iii)

(c) (i) and (iii)

(d) (i), (ii) and (iii)

3. Prior to using a pointer variable, it should be :

- (a) declared (b) initialized
(c) both (a) and (b) (d) none of these

4. Running merge sort on an array of size 'n' which is already sorted is :

- (a) $O(n)$ (b) $O(n \log n)$
(c) $O(n^2)$ (d) none of these

5. What will happen after compiling and running following code ?

```
main ( )  
{  
    printf("%P", main);  
}
```

- (a) error
(b) will make an infinite loop
(c) some address will be printed
(d) none of the above

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6. A preprocessor command :
- (a) need not start on a new line
 - (b) need not start on the first column
 - (c) has as the first character
 - (d) comes before the first executable statement
7. Which function is used to delete the allocated memory space ?
- (a) Dealloc ()
 - (b) Free ()
 - (c) Both (a) and (b)
 - (d) None of the above
8. If the mode includes *b* after the initial letter, what does it indicates ?
- (a) text file
 - (b) big text file
 - (c) binary file
 - (d) blue print text
9. Which of the following can be used as a collection point of data ?
- (a) register
 - (b) buffer
 - (c) flag register
 - (d) accumulator

10. What will be the size of the following structure ?
- ```
include < stdio.h >

struct temp.
{ int a [10]
char p ;
}
```
- (a) 5
  - (b) 11
  - (c) 41
  - (d) 44
11. A programmer can create custom header files that must be end with :
- (a) .h-extension
  - (b) .i-extension
  - (c) .ios-extension
  - (d) .a-extension

**SECTION B****3×5=15****(Short Answer Type Questions)****Note :** Attempt All questions.**Unit-I**

1. Explain the storage class with example.

*Or*

Write a short note on Global variables.

**Unit-II**

2. Write a program to print the address of a variable along with its value.

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Or

Write a program using pointers to determine the length of character string.

### Unit-III

3. Write a short note on C preprocessor.

Or

What is recursion ? Explain in brief.

### Unit-IV

4. Define structure with syntax.

Or

What do you mean by arrays within structures ?

### Unit-V

5. Describe error handling.

Or

WAP for opening and closing a file.

### SECTION C

6×5=30

(Long Answer Type Questions)

**Note :** Attempt All questions.

### Unit-I

1. Write any two rules for syntax related to ANSI and use those rules in the program.

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Or

Write a program to find perimeter of a circle using global variable.

### Unit-II

2. Describe pointer expression with example.

Or

Explain arrays as function argument.

### Unit-III

3. Describe simple macro substitution.

Or

Explain conditional compilation.

### Unit-IV

4. WAP using malloc function.

Or

Define basic list operations and how to create a linked list ?

### Unit-V

5. Write a program to error handling in file operation.

Or

Explain < stdio.h > header file with syntax with example.

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