Roll No. ....

D–991

M. A./M. Sc. (Fourth Semester) (Main/ATKT) EXAMINATION, May-June, 2020

MATHEMATICS

Paper Fifth (A)

[Programming in C (with ANSI Features)–II]

Time : Three Hours]   [*Maximum Marks : 70*

Note : Attempt all Sections as directed.

Section—A   1 each

(Objective/Multiple Choice Questions)

Note : Attempt all questions.

Choose the correct answer :

1. Which is not a storage class ?

    (a)   Auto

    (b)   Struct

    (c)   Typedef

    (d)   Static

2. Which of the following statements is correct ?

    (I)   The value stored in the CPU register can always be accessed faster than that stored in memory.

    (II)   A register storage class variable will always be stored in a CPU register.

    (a)   Only I is correct.

    (b)   Only II is correct.

    (c)   Both I and II are correct.

    (d)   Both I and II are incorrect.

3. In case of a conflict between the names of a local and global variable what happens ?

    (a)   The global variable is given a priority.

    (b)   The local variable is given a priority.

    (c)   Which one will get a priority depends upon which one is defined first.

    (d)   The compiler reports an error.

4. Where will the space be allocated for an automatic storage class variable ?

    (a)   In CPU register

    (b)   In memory as well as in CPU

    (c)   In memory

    (d)   On disc

5. What is the format specifier used to print a string or character array in C printf or scanf function ?

    (a)   %C

    (b)   %f

    (c)   %S

    (d)   %W

P. T. O.

6. Choose a correct statement about C language arrays :

   (a) An array address is the address of first element of array itself.

   (b) An array size must be declared if not initialized immediately.

   (c) Array size is the sum of sizes of all elements of the array.

   (d) All of the above

7. Which of the following is the correct syntax to declear a 3-dimensional array using pointers ?

   (a) Char * a [ ], [ ];

   (b) Char ** a [ ];

   (c) Char *** a;

   (d) All of the mentioned

8. Which of the following is the correct syntax to send an array as a parameter to function ?

   (a) func (& array);

   (b) func (# array);

   (c) func (* array);

   (d) func (array [size]);

9. Any C program :

   (a) Must contain at least one function

   (b) Need not contain any function

   (c) Needs input data

   (d) None of the above

P. T. O.

10. What will happen after compiling and running the following code ?

    main()

    {

      printf ("%p", main);

    }

    (a) Error

    (b) Will make an infinite loop

    (c) Some address will be printed

    (d) None of these

11. Chose the correct statement :

    (I) The body of a function should have only one return statement.

    (II) The body of a function may have many return statement.

    (III) A function can return only one value to the calling environment.

    (IV) If return statement is omitted, then the function does its job but returns no value to the calling environment.

    (a) I and II

    (b) I and III

    (c) II and III

    (d) II and IV

12. The default parameter passing mechanism is :

    (a) Call by value

    (b) Call by reference

    (c) Cell by value result

    (d) None of these

13. Choose the statement which is incorrect with respect to dynamic memory allocation :

   (a) Memory is allocated in a less structured area of a memory known as heap.

   (b) Used for unpredictable memory requirements.

   (c) Execution of the program is faster than that of static memory allocation.

   (d) Allocated memory can be changed during the runtime of the program based on the requirement of the program.

14. Which of the following operators can be applied on structure variable ?

   (a) Equality comparison (= =)

   (b) Assignment (=)

   (c) Both of the above

   (d) None of the above

15. How will you free the allocated memory ?

   (a) Remove (var_name);

   (b) Free (var_name);

   (c) Delete (var_name);

   (d) Dalloc (var_name);

16. Choose correct statement about union :

   (a) It is used defined data type.

   (b) Union is defined by keyword union.

   (c) Dot operator (.) is used to access members of a union.

   (d) All of the above

P. T. O.

17. What is a C FILE data type ?

   (a) FILE is like a structure only

   (b) FILE is like a union only

   (c) FILE is like a userdefine int data type

   (d) None of the above

18. Where is a file temporarily stored before read or write operations in C language ?

   (a) Notepad

   (b) RAM

   (c) Hard Disk

   (d) Buffer

19. What are the C functions used to read or write a file in Binary mode ?

   (a) fprintf ( ), fscanf ( );

   (b) fread ( ), rwrite ( );

   (c) readf ( ), writef ( );

   (d) printf ( ), scanf ( );

20. Choose the correct syntax for FSCANF and FPRINTF in C language :

   (a) fprintf ("format specifier", variable, fp);
        fscanf ("format specifier", variable, fp);

   (b) fprintf (fp, count, "format specifier", variable);
        fscanf (fp, count, "format specifier", variable);

   (c) fprintf (fp, "format specifier", variable);
        fscanf (fp, "format specifier", variable);

   (d) None of the above

Section—B 1 each

(Very Short Answer Type Questions)

Note : Attempt all questions. Answer in 1-2 sentences.

1. Write name of different storage classes.
2. Define global variable.
3. Write the name of any *two* sorting algorithms.
4. Write the syntax of multidimensional array.
5. What is conditional compilation ?
6. Write any *two* uses of functions.
7. Why do we use structure in C program ?
8. What is linked list ?
9. Explain < stdio.h> header file.
10. Write any *two* operations which are used during file handling.

Section—C 2 each

(Short Answer Type Questions)

Note : Attempt all questions. Answer in 2-3 sentences.

1. Write keywords that are used for different storage classes.
2. What is scope of global variable ?
3. Write the name of standard library string functions.
4. Explain pointer arithmetic.
5. What is recursion ?
6. Write a short note on main functions.
7. Explain enum declaration.
8. Explain array of structure.
9. What is buffer ?
10. What is error handling ?

Section—D 4 each

(Long Answer Type Questions)

Note : Attempt all questions.

1. Explain automatic storage class and register storage class.

   Or

   Explain static storage class and enternal storage class.

2. Write a short note on accessing array elements through pointers with an example.

   Or

   Write a program that converts all lowercase character in a given string to its equivalent uppercase character.

3. Explain # if and # elif directives with an example.

   Or

   Explain call by value and call by reference.

4. Write difference between structure and union.

   Or

   Write a note on dynamic memory allocation.

5. What is file ? How to open and close a file ?

   Or

   Explain standard library for input and output.