Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 70069

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2022.

Second Semester

Computer Science and Engineering

CS 3251 — PROGRAMMING IN C

(Common to Computer and Communication Engineering/Information Technology)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the various types of operators?

2. What is the use of preprocessor directive?

3. Declare a float array of size 5 and assign 5 values to it.

4. Sort the following elements using selection sort method 23,55,16,78,2.

5. How is pointer arithmetic done?

6. Which is better to use? Macro or function. Justify your answer.

7. What is meant by structure definition?

8. Define self-referential data structure.

9. Why are files needed?

10. Give an example for fseek().

PART B — (5 × 16 = 80 marks)

11. (a) Explain the storage classes in 'C' with suitable examples.

Or

(b) Explain the looping statement in C with suitable examples.

12. (a) (i) Write a C program to multiply two matrices (2D array) by getting input from the user. (8)

(ii) Write a C program to find scaling of two matrices (2D array) which will be entered by a user. (8)

Or

(b) (i) Write a C program to find determinant of a matrix (2D array) which will be entered by a user. (8)

(ii) Write a C program for matrix transpose. (8)

13. (a) (i) Classify the function prototypes with suitable examples. (8)

(ii) Write a C program to design the scientific calculator using built-in functions. (8)

Or

(b) (i) Explain the concept of pass by value and pass by reference. Write a C program to swap the content of two variables using pass by reference. (8)

(ii) Explain about pointers and write the use of pointers in arrays with suitable example. (8)

14. (a) What is a structure? Create a structure with data members of various types and declare two structure variables. Write a program to read data into these and print the same. Justify the need for structured data type.

Or

(b) Write a C program to create mark sheet for students using self-referential structure.

15. (a) (i) Write a C program to get name and marks of 'n' number of students from user and store them in a file. (8)

(ii) Write a C program to read name and marks of 'n' number of students from user and store them in a file. If the file previously exits then append the information into the existing file. (8)

Or

(b) (i) Write a C program to write all the members of an array of structures to a file using fwrite(). Read the array from the file and display on the screen. (8)

(ii) Describe command line arguments with example C program. (8)

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Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 60025

CSE1

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2022.

Second Semester

Computer Science and Engineering

CS 3251 — PROGRAMMING IN C

(Common to : Computer and Communication Engineering/Information Technology)

(Regulations 2021)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write short notes on Keywords in C language.
2. What is difference between the statements a = 5 and a == 5 in language C?
3. Write down the syntax for array declaration.
4. What is the purpose and prototype of the function 'strcpy'?
5. Define the term recursion in language C.
6. What is the relation between the operators '&' and ' * ' in C pointers?
7. In language C can we allocate memory dynamically? How?
8. What are the key differences between structure and union?
9. What will be the impact if 'fclose( )' function is avoided in a file handling C program?
10. What are command line arguments?

PART B — (5 × 16 = 80 marks)

11. (a) Draw the structure of a C program and explain each part in detail.

Or

(b) Enumerate the difference between 'else-if ladder' and 'switch – case' statements with appropriate C programs.

12. (a) (i) What is an array? Explain about various types of arrays in detail. (8)

(ii) Explain the usage of 'strcat( )' with an C program. (8)

Or

(b) (i) Differentiate binary search from linear search. (8)

(ii) Write a C program to compare two strings without using the function 'strcmp( )'. (8)

13. (a) What is modular Programming? How does the Language C support modular programming? Explain in detail.

Or

(b) What is the necessity of parameter passing in C Programs? What are the two types of doing that? Explain any one in detail.

14. (a) (i) What is the purpose of the concept 'structure' in Language C? Explain in detail with an example program. (8)

(ii) Why is singly linked list called as self-referential structure? Explain. (8)

Or

(b) (i) Write short notes on 'Array of structures'. (8)

(ii) Write a comparative analysis on various storage classes of language C. (8)

15. (a) What is file? What are facilities available in language C to handle files? Explain.

Or

(b) Explain the various file accessing policies available in language C with appropriate programs.

Reg. No. :

07/06/18

Question Paper Code : 40027

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Second Semester
Computer Science and Engineering
CS 8251 – PROGRAMMING IN C
(Common to : Computer and Communication Engineering/
B.Tech. Information Technology)
(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. What is external storage class ?
2. How does a preprocessor work ?
3. What is an array ? Write the syntax for multi-dimensional array.
4. Design a C program for compare any two string.
5. List the advantages of recursion.
6. When null pointer is used ?
7. State the meaning of the root word struct.
8. Specify the use of typedef.
9. How can you restore a redirected standard stream ?
10. What does argv and argc indicate in command-line arguments ?

PART – B (5×13=65 Marks)

11. a) i) Explain the different types of operators used in C with necessary program. (8)
    ii) Write a C program to check the integer is Palindrome or not. (5)

(OR)

b) Describe the decision making statements and looping statements in C with an example. (13)

12. a) Write the C program to multiply two matrices (two-dimensional array) which will be entered by a user. The user will enter the order of a matrix and then its elements and similarly input the second matrix. If the entered orders of two matrices are such that they can't be multiplied by each other, then an error message is displayed on the screen. **(13)**

(OR)

b) i) What are the different types of string function ? Describe with their purpose. **(5)**

ii) Write the C program to find the number of Vowels, Consonants, Digits and white space in a string. **(8)**

13. a) i) Explain the purpose of a function prototype. And specify the difference between user defined function and built-in functions. **(8)**

ii) Write the C program to find the value of sin(x) using the series up to the given accuracy (without using user defined function) also print sin(x) using library function. **(5)**

(OR)

b) What is difference between pass by value and pass by reference ? Write the C coding for swapping two numbers using pass by reference. **(13)**

14. a) Define structure in C. Also specify the pointer and structure with example. **(13)**

(OR)

b) i) Write a C program for accessing structure member through pointer using dynamic memory allocation. **(6)**

ii) Write a short note on singly linked list and specify how the node are created in singly linked list. **(7)**

15. a) Explain the types of file processing with necessary examples. **(13)**

(OR)

b) Write the C coding for finding the average of number stored in sequential access file. **(13)**

PART – C

(1×15=15 Marks)

16. i) Write the case study of "How sequential Access file is differ from Random Access file". **(10)**

ii) Write a C program to write all the members of an array of structures to a file using fwrite (). Read the array from the file and display on the screen. **(5)**

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 80093

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2019.

Second Semester

Computer Science and Engineering

CS 8251 — PROGRAMMING IN C

(Common to Computer and Communication Engineering/Information Technology)

(Regulation 2017)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Differentiate between formatted and unformatted input statements. Give one example for each.
2. What is the use of preprocessor directive?
3. Define an array.
4. Write a C function to compare two strings.
5. What is the need for functions?
6. What is the output of the following code fragment?

```
int x= 456, *p1, **p2;
p1=&x; p2=&p1;
printf ("Value of x is : %d\n", x);
printf("Value of *p1 is : %d\n", *p1);
printf ("Value of *p2 is : %d\n", *p2);
```

7. Compare and contrast a structure with an array.
8. What is the output of the following code fragment?

```
struct point
{
int x;
int y;
};
struct point origin, *pp;
main ( )
{
pp = & origin;
printf (" origin is (%d% d)\n", (*pp).x,pp → y);
}
```

9. Why files are needed?
10. What is the use of command line argument?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What is the purpose of a looping statement? Explain in detail the operation of various looping statements in C with suitable examples. (12)

(ii) Write a C program to find the sum of 10 non-negative numbers entered by the user. (4)

Or

(b) (i) What is a storage class? Explain the various storage classes in C along with suitable example. (12)

(ii) Write a C program to find the largest among 3 numbers entered by the user. (4)

12. (a) Explain binary search procedure. Write a C program to perform binary search and explain. (16)

Or

(b) Discuss how you can evaluate the mean, median, mode for an array of numbers. Write the C program to evaluate the mean, median and mode for an array of numbers and explain. (16)

13. (a) What is recursion? Explain the procedure to compute $\sin(x)$ using recursive functions. Write the C code for the same. (16)

Or

(b) What is pass by reference? Explain swapping of 2 values using pass by reference in 'C'. (16)

14. (a) What is dynamic memory allocation? Explain various C functions that are used for the same with examples. (16)

Or

(b) What is a self-referential structures? Explain with suitable examples. (16)

15. (a) Explain in detail various operations that can be done on file giving suitable examples. (16)

Or

(b) Explain in detail random access in files along with the functions used for the same in C. Give suitable examples. (16)

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Reg. No. :

07/06/18

Question Paper Code : 40027

B.E./B.Tech. DEGREE EXAMINATION, APRIL/MAY 2018
Second Semester
Computer Science and Engineering
CS 8251 – PROGRAMMING IN C
(Common to : Computer and Communication Engineering/
B.Tech. Information Technology)
(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. What is external storage class ?
2. How does a preprocessor work ?
3. What is an array ? Write the syntax for multi-dimensional array.
4. Design a C program for compare any two string.
5. List the advantages of recursion.
6. When null pointer is used ?
7. State the meaning of the root word struct.
8. Specify the use of typedef.
9. How can you restore a redirected standard stream ?
10. What does argv and argc indicate in command-line arguments ?

PART – B (5×13=65 Marks)

11. a) i) Explain the different types of operators used in C with necessary program. (8)
    ii) Write a C program to check the integer is Palindrome or not. (5)

(OR)

b) Describe the decision making statements and looping statements in C with an example. (13)

12. a) Write the C program to multiply two matrices (two-dimensional array) which will be entered by a user. The user will enter the order of a matrix and then its elements and similarly input the second matrix. If the entered orders of two matrices are such that they can't be multiplied by each other, then an error message is displayed on the screen. **(13)**

(OR)

b) i) What are the different types of string function ? Describe with their purpose. **(5)**

ii) Write the C program to find the number of Vowels, Consonants, Digits and white space in a string. **(8)**

13. a) i) Explain the purpose of a function prototype. And specify the difference between user defined function and built-in functions. **(8)**

ii) Write the C program to find the value of sin(x) using the series up to the given accuracy (without using user defined function) also print sin(x) using library function. **(5)**

(OR)

b) What is difference between pass by value and pass by reference ? Write the C coding for swapping two numbers using pass by reference. **(13)**

14. a) Define structure in C. Also specify the pointer and structure with example. **(13)**

(OR)

b) i) Write a C program for accessing structure member through pointer using dynamic memory allocation. **(6)**

ii) Write a short note on singly linked list and specify how the node are created in singly linked list. **(7)**

15. a) Explain the types of file processing with necessary examples. **(13)**

(OR)

b) Write the C coding for finding the average of number stored in sequential access file. **(13)**

PART – C

(1×15=15 Marks)

16. i) Write the case study of "How sequential Access file is differ from Random Access file". **(10)**

ii) Write a C program to write all the members of an array of structures to a file using fwrite (). Read the array from the file and display on the screen. **(5)**

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 90150

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2019

Second Semester

Computer Science and Engineering

CS 8251 – PROGRAMMING IN C

(Common to Computer and Communication Engineering/Information Technology)

(Regulations 2017)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A **(10×2=20 Marks)**

1. Differentiate break and continue statement in C programming language.
2. List the various types of C operators.
3. Name any two library functions used for string handling.
4. Given an array int a [10] = {101, 012, 103, 104, 105, 106, 107, 108, 109, 110}. Show the memory representation and calculate its length.
5. What are the steps in writing a function in a program ?
6. Is it better to use a macro or a function ?
7. What is register storage in storage class ?
8. Write the syntax for pointers to structure.
9. What are two main ways a file can be organized ?
10. List the File Operations in C paradigm.

PART – B **(5×16=80 Marks)**

11. a) i) Describe the structure of a C program with an example. **(8)**
    ii) Explain the various operators used in C. **(8)**

(OR)

b) Explain about the various decision making and branching statements in C programming language.

12. a) i) Describe the following with respect to arrays :- need of an array, declaration of array and accessing an array element. (8)

ii) Explain in algorithm and write a C program to re-order a one-dimensional array of numbers in descending order. (8)

(OR)

b) Write a C program to find the transpose of a matrix.

13. a) i) Discuss on recursive function . Write a C program to find factorial of n using recursion. (8)

ii) Write a C program to reverse a string using recursion. (8)

(OR)

b) Explain the concept of pass by value and pass by reference with suitable example in C programming language.

14. a) Write a C program using structures to prepare the students mark statement. The number of records is created based on the user input.

(OR)

b) Write a C program using structures to prepare the employee pay roll of a company. The number of records is created based on the user input.

15. a) Explain in detail about command line arguments with an example of generating Fibonacci series of a number in C programming language.

(OR)

b) i) Write short notes on File functions in C,

1. fseek()
2. ftell()
3. rewind()
4. feof()
5. fscanf().

ii) Discuss about the modes of file handling.