2024/FYUG/EVEN/SEM/
CSCDSM–151T/063

FYUG Even Semester Exam., 2024

COMPUTER SCIENCE

(2nd Semester)

Course No. : CSCDSM–151T

(Programming with C)

Full Marks : 70
Pass Marks : 28

Time : 3 hours

The figures in the margin indicate full marks for the questions

SECTION—A

Answer any *ten* questions : 2×10=20

1. What is variable? How do you declare a variable in C?
2. What are the different data types used in C?
3. Define token. Give example.

4. What do you mean by function prototype? Give example.

5. Write down the benefits of using function.

6. What are actual arguments and formal arguments? Give examples.

7. What is pointer? How do you declare a pointer variable?

8. Explain pointer to pointer with an example.

9. Define array. How do you initialize a one-dimensional array?

10. Define user-defined data type with example.

11. Explain self-referential structure.

12. What are the differences between array and structure?

13. Define C processor.

14. What do you mean by formatted output? Give example.

15. Write the importance of file programming.

SECTION—B

Answer any *five* questions : 10×5=50

16. Explain 'while', 'do-while' and 'for' loops with suitable examples. What is the difference between 'while' and 'do-while' loops?

17. *(a)* Discuss the structure of a C program. 5

(b) Write a C program to find the area of a circle. Also write a C program to find prime numbers between 1 and 100. 5

18. Define storage classes in C. Discuss the following storage classes : 2+8=10

(a) Static

(b) Auto

19. How does recursion differ from iteration? Also write the coding for 'calculation of factorial of an integer number' using—

(a) iteration;

(b) recursion. 2+4+4=10

20. *(a)* Write a C program to find the smallest and largest of *n* numbers. 5

(b) What is string? Write the purpose of null string in C. 1+2=3

(c) How do you declare 2D array? 2

21. (a) If a = 8 and its address is 1000, then what are the values of (2a) and *(2a)? 2

(b) What do you mean by command-line argument? Give an example. 2

(c) Write a C program to calculate the sum and average of *n* numbers using their pointers. 6

22. (a) Write a program to show the process of passing a structure to a function. 6

(b) Define the following in connection with structure : 1×4=4

(i) tag

(ii) member

(iii) dot (.) operator

(iv) struct keyword

23. (a) Define a structure namely 'student' with the following fields :

(i) Student name

(ii) Roll number

(iii) Address

(iv) Phone number

Read at least 10 students' details and then display these on the output screen. 7

(b) What is union? Write the properties of union. 1+2=3

24. (a) Write a C program to copy the contents of one file to another. 6

(b) What is macro? How does it differ from a function? 1+3=4

25. (a) Discuss the various functions available for file operations. 8

(b) What is library function? Give example. 2

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