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Question Paper Code	12544
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B.E. / B.Tech. - DEGREE EXAMINATIONS, NOV / DEC 2023
 First Semester
Computer Science and Business Systems
20ESPC106 - FUNDAMENTALS OF COMPUTER SCIENCE
 (Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

PART - A (10 × 2 = 20 Marks)
 Answer ALL Questions

- | | <i>Marks,</i> |
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| | <i>K-Level, CO</i> |
| 1. What are the advantages and disadvantages of an Algorithm? | 2,K1,CO1 |
| 2. Write a c program to print whether the given number is odd or even. | 2,K1,CO1 |
| 3. Draw and show the flowchart for switch statement. | 2,K1,CO2 |
| 4. Why do we need function prototype? | 2,K1,CO2 |
| 5. List out any four functions that can be performed on character strings. | 2,K1,CO4 |
| 6. Define function and list out its types. | 2,K1,CO4 |
| 7. Differentiate structure and union. | 2,K2,CO5 |
| 8. Define enum. Write its advantages. | 2,K1,CO5 |
| 9. Write a c program for user defined header. | 2,K1,CO6 |
| 10. List the various available file modes. | 2,K2,CO6 |

PART - B (5 × 13 = 65 Marks)
 Answer ALL Questions

11. a) Explain in detail about the various types of type casting with suitable examples. 13,K2,CO1

OR

- b) Write a c program to demonstrate the following 13,K2,CO1

(i). Sum of the series 1+2+3+4....n

(ii). Print the pyramid as follows

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1
2 3
4 5 6

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.....

12. a) Explain in detail about the following with an example program 13,K2,CO2
- (i). While statement
- (ii). Do...while statement

OR

b) Explain how functions are classified depending upon their input and output parameters with and without returning values. *13,K2,CO2*

13. a) (i). Explain the features of pointers? Write a C program to print address of a variable. *7,K2,CO4*
(ii). Explain the declaration of pointers and pointer to pointer with examples. *6,K2,CO4*

OR

b) Illustrate the following string handling functions with example: *13,K2,CO4*
a. strcpy() b. strcmp() c. strcat() d.strlen() e. strncat().

14. a) Define Union. Illustrate how to declare, initialize and access members of Union with an example. *13,K2,CO5*

OR

b) Illustrate a program to read and display the information of all the employees in a company using array of structures. *13,K2,CO5*

15. a) Explain different modes of opening files with syntax and example. *13,K2,CO6*

OR

b) What are the file I/O functions in C. Illustrate the task performed by each function. *13,K2,CO6*

PART - C (1 × 15 = 15 Marks)

16. a) Explain the various Conditional Branching Statements used in C with its syntax and flow diagram. *15,K2,CO3*

OR

b) (i). Write a program to calculate area of a circle using function and explain predefined functions. *8,K2,CO3*

(ii). Demonstrate a C program to convert time to minutes using functions. *7,K2,CO3*