

B.E. / B.Tech. (Model Curriculum) Semester-I & II  
**ESC103 - Programming for Problem Solving**

P. Pages : 2

Time : Three Hours



**GUG/W/23/13172**

Max. Marks : 80

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- Notes :
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Due credit will be given to neatness and adequate dimensions.
  4. Assume suitable data wherever necessary.

1. a) Explain Algorithm and Flowchart with suitable example. 8
- b) Describe the following with example. 8
- i) # define
  - ii) # include

**OR**

2. a) Describe history of C programming. What are the features of C-language. 8
- b) Write short note on. 8
- i) Global variables.
  - ii) Local variables.
- Also write example of each.
3. a) Explain all operators in C programming Language with example. 8
- b) Describe all conditional statements with suitable example. 8

**OR**

4. a) Write a C program to swap the values of two integer variable. Show the output. Draw the flowchart. 8
- b) List and explain different types of data type. Show the size and range in tabular format. 8
5. a) Write a C program to find whether the given number is prime or not. Show the output. Draw the flowchart. 8
- b) Write a C-program to print Fibonacci series upto 20 numbers. 8

**OR**

6. a) Discuss Call-by-value and call-by-reference with suitable example. 8
- b) What is function? What is function prototype, function header and function arguments? Explain with suitable example. 8

7. a) Write a C program to check even numbers and odd numbers from the elements of array. (Consider – 10 elements) **8**
- b) Explain two-dimensional array. Write a C-program to find Transpose of given matrix. Also show output. **8**

**OR**

8. a) Discuss string in detail with an example. **8**
- b) Describe following functions with example of each. **8**
- i) strchr
  - ii) strstr
  - iii) strlen
  - iv) strcpy
9. a) Write a C program to create employee structure with following fields. **8**
- name,
  - e\_id;
  - designation
- Also read and print the information for 5 employees.
- b) Explain structures in C language. Give its syntax and example and compare it with unions. **8**

**OR**

10. a) Write short notes on. **8**
- i) Break statement.
  - ii) Continue statement.
  - iii) goto statement.
- b) Explain pointer to pointer with an example. **8**

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