Code No. : 12513 O

# VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS), HYDERABAD
*Accredited by NAAC with A++ Grade*
## B.E. II-Semester Backlog Examinations, September-2022
## Programming for Engineers
(Mech. Engg.)

Time: **3 hours**                                                                 Max. Marks: **60**

*Note: Answer all questions from **Part-A** and any **FIVE** from **Part-B***

### Part-A (10 × 2 = 20 Marks)

| Q. No. | Stem of the question | M | L | CO | PO |
|---|---|---|---|---|---|
| 1. | Write the general syntax for if – else control statement. | 2 | 1 | 1 | 1 |
| 2. | Write down the significance of break statement inside a switch statement | 2 | 1 | 1 | 1 |
| 3. | What are header files? Name at least two header files. . | 2 | 1 | 2 | 1 |
| 4. | What is a recursive function? | 2 | 1 | 2 | 1 |
| 5. | Write down the applications of using arrays. | 2 | 2 | 3 | 1 |
| 6. | Differentiate between scanf() and gets() functions | 2 | 2 | 3 | 1 |
| 7. | Write the memory size required to store the address of char pointer and double pointer. | 2 | 3 | 4 | 1 |
| 8. | Differentiate between a structure and union. | 2 | 1 | 4 | 1 |
| 9. | What is the general syntax of fprintf()? | 2 | 1 | 4 | 1 |
| 10. | #include<stdio.h><br>#define max 10<br>void main()<br>{<br>  #if(max%2)<br>  printf("Vasavi");<br>  #endif<br>  printf("College");<br>} | 2 | 4 | 4 | 2 |

### Part-B (5 × 8 = 40 Marks)

| | | M | L | CO | PO |
|---|---|---|---|---|---|
| 11. a) | Explain various looping control structures with suitable example. | 4 | 2 | 1 | 1 |
| b) | Demonstrate a C program to input an integer number and check last digit of number is even or odd. | 4 | 4 | 1 | 2 |
| 12. a) | What is user defined function? Explain pass by value and pass by reference in functions with example. | 4 | 3 | 2 | 1 |
| b) | What is recursive function? Explain with suitable example. | 4 | 2 | 2 | 2 |

| | | | M | L | CO | PO |
|---|---|---|---|---|---|---|
| 13. | a) | Write a program to display transpose of given 3*3 matrix. | 4 | 4 | 3 | 2 |
| | b) | What is a string? Explain at least 4 built-in string functions with example. | 4 | 2 | 3 | 1 |
| 14. | a) | What is pointer? Explain with example to store and print the address of variable using pointer | 4 | 2 | 4 | 1,2 |
| | b) | Define a structure "personal" that would contain person name, date of joining and salary. | 4 | 3 | 4 | 2 |
| 15. | a) | Write a program in C that copies the contents of one file to another file. | 4 | 4 | 4 | 2 |
| | b) | Explain the pre-processor directives | 4 | 1 | 4 | 1 |
| 16. | a) | Write a program to find the sum of the digits of a given non negative integer. | 4 | 4 | 1 | 2 |
| | b) | List and explain various storage classes available in C and state the reason why Register storage classes are less frequently used. | 4 | 2 | 2 | 1 |
| 17. | | Answer any *two* of the following: | | | | |
| | a) | What is an array? Explain one dimensional array declaration and initialization with suitable example. | 4 | 2 | 3 | 1 |
| | b) | Explain how structures are passed to a function? | 4 | 2 | 4 | 2 |
| | c) | Explain fopen() function. | 4 | 1 | 4 | 1 |

M : Marks;   L: Bloom's Taxonomy Level;   CO; Course Outcome;   PO: Programme Outcome

| i) | Blooms Taxonomy Level – 1 | 25% |
|---|---|---|
| ii) | Blooms Taxonomy Level – 2 | 40% |
| iii) | Blooms Taxonomy Level – 3 & 4 | 35% |

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