Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_\_

G:\logo and QP Template\logo 3 Feb 2018 final.tif

**End Semester Examination – Nov/Dec– 2018**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **18CS1004** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PROGRAMMING FOR PROBLEM SOLVING** | **Max. marks :** | **100** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Q. No.** | **Questions** | **Course**  **Outcome** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | | |
| 1. | Give any two examples for secondary memory. | CO1 | 1 |
| 2. | Predict the error in the following code.  #include<stdio.h>  main(){  int number;  printf(“Enter a number”);  scanf(“%d”,number);  printf(“the number entered is %d”, number);  } | CO1 | 1 |
| 3. | List any four keywords in C programming language. | CO2 | 1 |
| 4. | Select the valid identifiers from the following.   |  |  |  |  | | --- | --- | --- | --- | | \_num | 2temp | No\_1 | My data | | CO2 | 1 |
| 5. | Differentiate while and do-while control statements. | CO3 | 1 |
| 6. | Give the syntax of goto statement. | CO3 | 1 |
| 7. | Predict the value at num[1][2] if  int num[3][4]={1,3,4,2,4,5,6,7,8}; | CO5 | 1 |
| 8. | State the string termination character. | CO5 | 1 |
| 9. | Define a function. | CO4 | 1 |
| 10. | Define function prototype. | CO4 | 1 |

|  |  |  |  |
| --- | --- | --- | --- |
| **PART B (6 X 3= 18 MARKS)** | | | |
| 11. | Define any three characteristics of computer. | CO1 | 3 |
| 12. | Illustrate any one logical operator in C with suitable example. | CO2 | 3 |
| 13. | Differentiate selection control statement and iteration control statement. | CO3 | 3 |
| 14. | Review the following integer array.  int num[] = {5,6,7,8};  Give sample C code to display the elements of the *num* array. | CO5 | 3 |
| 15. | Define recursion. | CO4 | 3 |
| 16. | Define self-referential structure. | CO5 | 3 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **PART C(6 X 12= 72 MARKS)**  **(Answer any five Questions from Q.no 17 to 23. Q.No 24 is a Compulsory Question)** | | | | |
| 17. | a. | Explain any two debugging techniques. | CO1 | 4 |
| b. | Explain software development life cycle. | CO1 | 8 |
|  |  |  |  |  |
| 18. | a. | Explain any four relational operators with sample code. | CO2 | 8 |
| b. | Define conditional operator with syntax and suitable example. | CO2 | 4 |
|  |  |  |  |  |
| 19. | a. | Illustrate the three looping control statements with sample code. | CO3 | 6 |
| b. | Differentiate break and continue in C programming. | CO3 | 4 |
| c. | Sketch the flowchart of ‘if else’ control statement. | CO3 | 2 |
|  |  |  |  |  |
| 20. | a. | Write the C program for bubble sort. Illustrate the various steps to sort the following data in ascending order.  10, 30, 5, 20, 9, 8 | CO5 | 8 |
| b. | Brief linear search with an example. | CO5 | 4 |
|  |  |  |  |  |
| 21. |  | Differentiate call by value and call by reference with suitable examples. | CO4 | 12 |
|  |  |  |  |  |
| 22. | a. | Write a program in C to add two matrices of MXN order. | CO6 | 6 |
| b. | List any three library functions for string processing in C with suitable examples. | CO4 | 6 |
|  |  |  |  |  |
| 23. | a. | Explain the three types of error diagnostics. | CO1 | 6 |
| b. | Define the steps to develop a program. | CO1 | 6 |
| **Compulsory:** | | | |  |
| 24. | a. | Develop an application in C using structures to maintain and display the records with the name, register number, place and percentage of marks of n students. | CO6 | 6 |
| b. | Develop a program to swap two values using pointers. | CO5 | 6 |