VASAVI COLLEGE OF ENGINEERING (*Autonomous*), HYDERABAD
B.E. I Year I-Semester Examinations*, July/August-2016
Programming in C and Problem Solving

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2=20 Marks)

1. What is the use of #*include* directive in C programming?

2. Convert the binary number 1 011.11 into its equivalent Hexadecimal and octal numbers.

3. What is the difference between '*break*' and '*continue*' statement in C programming?

4. One Apple contains about 25 calories. A person burns up 100 calories by running a mile. Write a program which asks a person to type in the number of apples he/she wants to eat and displays the number of miles he/she should run to burn up the calories.

5. Write the base case of a recursive function that calculates the factorial of a given number.

6. Given the following sorted array int L[ ]={ 1,3,4,6,8,9,11} how many comparisons will the linear search take to find the element 3.

7. Give the declaration of a pointer to a character variable.

8. Write a function to return the length of a string.

9. Define a structure that can store a players details of a game, including name and age.

10. If a file exists and you try to open it in a write mode what happens to the contents in the file.

Part-B (5 × 10 = 50Marks)
(All bits carry equal marks)

11. a) Explain the process of software development.

    b) You are trying to figure out where to go on vacation. Here are the different scenarios: First, check how many vacation days you have. If you have less than 2 days, you will stay at home. If you have between 2 and 4 days, you will go to Asheville. If you have more than 4 days, you check your budget. If your budget is greater than $1200, you will go to Aruba. Otherwise, if it is greater than $800, you will go to Miami. If it is not greater than $800 you will go to Orlando. Draw a flowchart which takes as inputs the numbers of days and the money you have and then displays the result based on the above scenarios.

12. a) Differentiate between do-while and while loop.

    b) Write a program, which counts the number of time an integer between 0 and 9 has been entered by the user. The program will ask the user to enter a number between 0 and 9, exit when a negative number is entered (values outside of the range will be discarded). Upon exit it will print the number of 0, 1... entered.

13. a) Explain the concept of bubble sort with an example.

    b) Write a program to do addition of two matrices.

14. a) How pointers help in inter-function communication? Illustrate with a suitable example.

b) Write a function that takes two strings as input and returns 1 if the strings are equal 0 otherwise.

15. a) What is the use of 'union' in c programming? Illustrate with an example.

b) Declare a structure for storing the details of a book like Title, Author and Price. Create a structure array and initialize an array of 5 books. Write a function that takes the array of structure as input, and prints the details.

16. a) Explain about the different types of computer languages.

b) Write a program to accept one character for the following ,i,b,g,y,o,r and print the corresponding rainbow color using a switch case statement. In case the user gives any character other than the one mentioned then display the following message "This color does not belong to rainbow".

17. Write short notes on any two of the following:

a) Preprocessor commands with an example

b) Use of command line arguments with an example

c) File handling Functions

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