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Code No. : 11015

**VASAVI COLLEGE OF ENGINEERING (*Autonomous*), HYDERABAD**  
**B.E. (CBCS) I-Semester Main Examinations, December-2017**

**Computer Programming**

Time: 3 hours

Max. Marks: 60

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

**Part-A (10 × 2 = 20 Marks)**

1. Convert  $(111010)_{16}$  to  $( )_2$
2. What is the difference between blackbox and whitebox testing?
3. What are the different exit controlled loops? Why the name has been given like this? Justify.
4. What is the output of the following C code fragment?  

```
int main()
{
    int x;
    for(x=-1;x>-9;x--)
    {
        if(x>-4)
        {
            continue;
            printf("Welcome to C Programming\n");
        }
        else break;
    }
    return 0;
}
```
5. What is recursion? Give an example.
6. What is calling function and called function? Give an example.
7. What is the use of pointers?
8. Design a user defined function which accepts 2 strings string1 and string2 as parameters and copies n characters of string1 to string2.
9. What is the output of the following C code fragment?  

```
int main()
{
    enum day {MON=-1, TUE, WED=6, THU, FRI, SAT};
    printf("%d %d %d %d %d", MON, TUE, WED, THU, FRI);
    return 0;
}
```
10. Give the syntax for 'pointer to structures'.

**Part-B (5 × 8 = 40 Marks)**

*(All sub-questions carry equal marks)*

11. a) What are the different types of operators in C language? Explain with examples  
b) Write a program that prompts the user to enter three numbers and then prints them vertically (each on one line), first forward and then reversed (the last one first), as shown in the following design.  
*Please enter three numbers: 12 65 42*

Your numbers forward:

12

65

42

Your numbers reversed:

42

65

12

12. a) What is type conversion? Explain with examples.
- b) A Fibonacci number is a member of a set in which each number is the sum of the previous 2 numbers. The series is 0,1,1,2,3,5,8,13,21,... Write a program that calculates and prints numbers in the Fibonacci series. You are required to use three variables *fib1*, *fib2* and *fib3*.
13. a) What is bubble sort technique? Sort the following characters in the ascending order using bubble sort.  
'h', 'u', 'c', 'm', 'b', 'p', 'e'
- b) A company "xyz" has conducted a technical online test for B.E final year students. Student roll numbers and their scores are recorded. Develop a C program which accepts student roll numbers and their scores and determine the following information
- i) Check if a student with a given number has appeared for the test or not.  
ii) Find the student who scored maximum score.
14. a) How is an array variable passed as parameter to a function? Develop a C program to find the biggest number in the given array of numbers by passing the array as a parameter.
- b) Given a sentence as input with only words and spaces in between. Develop a C program to accept the sentence as input and count the number of words with a given input word length.  
For example: If the given input sentence is "Education is not the learning of facts but the training of mind to think", If the given input length of word is 8 then output count is 2 (learning and training).
15. a) What are the different modes to open a file? Explain the procedure required to read the data from a file and write it into another file with the help of C functions.
- b) Write a program to create a structure named 'student' with member variable as rollno, marks and name. Create three variables of this type. Then display the name of the student who got highest marks among these three students
16. a) Explain about different storage classes.
- b) Write a menu driven program (using switch-case) to perform arithmetic operation (+, -, \*, /). The program continues till the user desires to quit.
17. Answer any *two* of the following:
- a) Design a C program to add four given matrices.
- b) Explain about dynamic memory allocation.
- c) What are self referential structures? Explain with examples.