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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APR / MAY 2014
COMMON TO ALL BRANCHES
 First Semester
GE 8151 - COMPUTING TECHNIQUES
 (Regulations 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART- A (10 × 2 = 20 Marks)

1. How the computers are classified?
2. What is pseudocode ?
3. What will be the output of the following program?

```
#include<stdio.h>
main()
{
int a=1, b=5,x;
x=a + - 5 + b * ( b / a);
printf("%d",x); }
```

4. Write the typical structure of a C program.
5. What is the major advantage of arrays.
6. Write the outputs of the following program when the values $a = 81$ and $a = 90$?

```
#include<stdio.h>
main()
{
int a;
if(a > 70)
printf("Good");
else if(a > 80)
printf("Great");
else if(a > 90)
printf("Excellent"); }
```

7. Write any two advantages of function?
8. Give an example to differentiate the string functions *strcpy* and *strncpy*.
9. What is the need for structure data type ?
10. Write any two storage classes

PART – B (5 × 16 = 80 Marks)

11. i) Draw the architecture of a general purpose computer and explain its major components. (8)
- ii) Convert a decimal number, $(139.25)_{10}$ into Binary. (4)
- iii) Convert a hexadecimal number, $(37D1)_{16}$ into decimal number. (4)

12. a) i) List the numerical and logical operators in C. Explain each with example. (10)
ii) What is 'switch-case' statement? Give an example with complete rules. (6)

(OR)

- b) i) Explain the modifiers short/long, signed/unsigned over the basic data types with example. (8)
ii) Write a C program to accept a number of arbitrary length and reduce it to the single digit. (8)
(E.g. 657 -> 6 + 5 + 7 = 18 -> 1 + 8 = 9)

13. a) i) How to initialise values to single and two dimensional arrays? Discuss the cases with & without using size of the arrays in initialisation. Give an example for each. (8)
ii) Write a C program to find the maximum and minimum number in a single dimensional array of numerical values. (8)

(OR)

- b) How to use character arrays? Write any four string functions and explain each of its usage with an example. (16)

14. a) Explain how to define, declare, and call a function with a function to find the factorial of a given number. Write a main program to compute $\frac{n!}{(n-r)!}$ using this function. (16)

(OR)

- b) i) What is pointer variable ? Explain with example for integer and character pointers (8)
ii) Illustrate pass by value and pass by reference, with swap function. (8)

15. a) i) What is the importance of pre-processor directives? Write any two pre-processor directives and describe its usage with example. (8)
ii) Compare structure variable with array variable. Give example for each. (8)

(OR)

- b) i) Define a structure variable to store date. Declare necessary tags to store current date and date of birth and show how to compute age. (10)
ii) Discuss the similarities and differences between structure and union variables. (6)

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