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Question Paper Code: **22117**

**B.E./B.Tech.Degree Examinations, April/May 2011  
Regulations 2008**

First Semester

Common to all branches

**GE2112 Fundamentals of Computing and Programming**

Time: Three Hours

Maximum: 100 marks

Answer ALL Questions

Part A - (10 x 2 = 20 marks)

1. Define the term Computer.
2. What is the binary and hexadecimal equivalent for the decimal number 245?
3. Differentiate between hardware and software.
4. What are the benefits of internet.
5. What is the difference between program and algorithm.
6. What are the benefits of pseudo code?
7. Is 'main' a keyword in C language? Justify your answer.
8. What is a ternary operator? Give suitable example.
9. What is function prototyping? Why is it necessary?
10. What are the advantages of unions over structures?

Part B - (5 x 16 = 80 marks)

11. (a) (i) Write a detailed note on the generation of computers. (10)  
(ii) Convert the following binary number into decimal, octal and hexadecimal equivalent. (6)

1111111101.111111

OR

11. (b) Explain the different components of a computer system with block diagram. (16)  
12. (a) (i) State and explain the various steps involved in development of a software. (8)  
(ii) Differentiate between application software and system software. (8)

OR

12. (b) Explain in detail the various types of services provided by the internet (16)  
13. (a) Draw the flowchart and write an algorithm to sort a list of numbers in ascending order. (16)

OR

13. (b) (i) Explain the features of PowerPoint package. (6)  
(ii) List and explain the features supported by spreadsheet package. (6)  
(iii) Briefly write about Desktop Publishing Software. (4)

14. (a) (i) With suitable examples, explain the different types of operators available in C. (8)  
(ii) For each employee, the employee number, name and his annual salary are given. The income tax is calculated as follows: for annual salary up to Rs. 20,000, there is no tax. If the annual salary is above Rs.20,000, and up to Rs.50,000, tax is computed as 20% of the salary. If the annual salary is above Rs.50,000, for the amount up to Rs. 50,000 tax is computed as 20% of the amount and for the amount that exceeds Rs . 50,000 tax is computed as 30%. Write a C program using nested if-else statement to compute and print the income tax of each employee. (8)

OR

14. (b) (i) Write a C program for sorting an array of size 20. (8)  
(ii) Explain the various looping constructs. Give an example for each and explain the working of the construct. (8)  
15. (a) (i) Write a C program to reverse a given string. (10)  
(ii) Differentiate pass by value and pass by address in C. (6)

OR

15. (b) (i) Write a C program to convert the given string from lowercase characters to uppercase and uppercase to lowercase.(eg. HellO=hELLo) (8)  
(ii) List and explain the various preprocessor directives supported by C language. (8)