

**C 3256**

B.E./B.Tech. DEGREE EXAMINATION, MAY/JUNE 2007.

First Semester

Civil Engineering

GE 1102 — FUNDAMENTALS OF COMPUTING

(Common to all branches except Marine Engineering)

(Regulation 2004)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the characteristics of von Neumann architecture?
2. Find the equivalent octal number for AF6.
3. Write the procedure for subtracting two binary numbers using two's complement.
4. What is an icon? Give an example.
5. What is meant by Desktop publishing?
6. What are the functions of an editor?
7. List the bitwise operators supported by C language.
8. What are the advantages of switch statement?
9. What is the difference between union and structure?
10. Write the C code for finding the sum of N integers using pointers?

PART B — (5 × 16 = 80 marks)

11. (a) (i) What are the advantages of stored program computers? (4)  
(ii) List the registers used in a computer and explain their use. (6)  
(iii) Convert 225.225 to octal and hexadecimal. (6)

Or

- (b) (i) Draw the basic block diagram of a digital computer and explain the functions of each unit. (8)
- (ii) Classify computers based on their usage and explain their characteristics. (8)
- 12. (a) (i) What are the functions of an operating systems? (4)
- (ii) What are the merits of High level languages? (3)
- (iii) Show the step-by-step division process when  $(-160)/(+12)$  is computed. (9)

Or

- (b) (i) Explain the working of an interpreter using a flow chart. (8)
- (ii) Explain how multiplication and division of binary numbers can be done using arithmetic shift operation. (8)
- 13. (a) (i) Draw the flow chart for find the sum of all the odd numbers in a given set of numbers. (8)
- (ii) Describe the features of MS-word. (8)

Or

- (b) (i) Describe the features of Spreadsheet. What are its applications? (8)
- (ii) Write a pseudocode for finding the factorial of given number. (8)
- 14. (a) (i) Explain the following control statements using examples:  
WHILE statement; IF ELSE IF statement. (8)
- (ii) Write a C program to read a line of mixed text and to display after converting all upper case to lower case, all digits to 0 and all other special characters to\*. (8)

Or

- (b) (i) Write a C program to sort the elements of an  $n \times n$  matrix and to display the elements in the following pattern : (8)

5 4 3

6 1 2

7 8 9

- (ii) With examples, explain how input and output operations are managed in C. (8)

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15. (a) (i) Write a C program using pointers to concatenate two strings. (8)  
(ii) Write notes on preprocessor directives. (8)

Or

- (b) (i) Write a C program to read  $m \times n$  matrix and to check whether the element of last column of each row is the sum of the elements of the other columns in that row. (8)  
(ii) Explain the use of structure within a structure and array of structures using examples. (8)
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