

BT-2/J08

8235

Fundamentals of Computer and Programming in C**Paper : CSE-101E**

Amit

Time : Three Hours]

[Maximum Marks : 100

Note :— Attempt **FIVE** questions in all, selecting at least **ONE** question from each unit.

UNIT—I

1. (a) "Floating point numbers in a computer are represented by a 10 bit mantissa (including sign bit) and a 6 bit exponent (including a sign bit). The approximate value of the maximum number that can be represented is (assume the mantissa is stored in normalized form) 2^{63} ." Comment on the validity of the above statement. 6
- (b) What is virtual memory ? 4
- (c) What is kernel ? 4
- (d) Write the main features of Windows 2000. 6
2. (a) The capacity of a memory unit is defined in terms of the number of words multiplied by the number of bits/word. What will be the number of separate address and data lines needed for a memory of $4K \times 16$? 6
- (b) Convert the following decimal numbers into binary :
110.25, 444, 567.29, 89.56. 6
- (c) Differentiate between DOS and UNIX. 6

(d) Write the name of two I/O devices.

2

UNIT—II

3. Differentiate between :—

- (i) OSI and TCP/IP.
- (ii) IP address and mac address.
- (iii) Linker and loader.
- (iv) Compiler and Interpreter.

5×4

4. (a) What protocols are used for E-mail ?

- (b) Differentiate between serial and parallel communication.
- (c) Differentiate between Internet and WWW.
- (d) Write the features of an assembler.

5×4

UNIT—III

5. (a) Write a recursive function to obtain factorial of a given number. 5

(b) Let x be an array, which of the following operations are illegal :

- (i) ++x
- (ii) x + 1
- (iii) x++
- (iv) x * 2.

5

(c) What do you mean by operator hierarchy ? Discuss in brief. 10

6. (a) Write a program for matrix multiplication. 10

- (b) What is type casting ? Discuss with example. 10

UNIT—IV

7. (a) What are various operations commonly used in file handling ? Discuss with examples. 12
- (b) "Is there any difference or similarity between UNION and Structure ?" Justify your answer. 8
8. (a) What are enumerated data type ? What are these applications ? Give examples. 10
- (b) How error handling is performed in C ? What is its scope and limitations ? 10

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