CS-63

BACHELOR OF COMPUTER APPLICATIONS (BCA) (Pre-Revised)

Term-End Examination

February, 2021

CS-63 : INTRODUCTION TO SYSTEM SOFTWARE

Time : 2 hours *Maximum Marks : 60*

Note : *Question number* ***1*** *is* ***compulsory****. Attempt any* ***three*** *questions from the rest.*

1. (a) Write an algorithm and draw the corresponding flowchart for checking whether the given number is a palindrome or not. *10*

(b) Describe multiprogramming with dynamic partition with necessary figures. *10*

(c) Describe how fixed records input/output (I/O) and variable length records I/O are implemented in UNIX system. *10*

2. (a) List and explain the important tasks performed during : *6*

(i) Lexical analysis

(ii) Syntax analysis

(iii) Semantic analysis

(b) What is the usefulness of Context-Free Grammar (CFG) ? Explain with an example. *4*

3. (a) Write and explain the mutual exclusion algorithm for two processes. *6*

(b) What is an inode ? If we are copying or moving the files, what is the significance of an inode in this respect ? *4*

4. (a) Write a shell program to swap the value of 2 variables. *5*

(b) Explain CPU scheduling process and demand paging in UNIX O/S. *5*

5. (a) Briefly explain the following Disk Space Management methods : *5*

(i) Linked list

(ii) Bitmap

(b) Explain a Symbol Table, its structure and importance of it in the process of parsing. *5*