Voc(S-III) — BCA
(CC – 6)

2023

Time : 3 hours

Full Marks : 70

Pass Marks : 32

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

*Answer from **all** the Groups as directed.*

Group – A

(Objective Type Questions)

1. Select the correct answer of the following : $1 \times 5 = 5$

   (a) Which program act as a core program of complete operating system ?

   (i) Fork (ii) Kill

   (iii) Kernel (iv) None of these

(b) Operating system acts as a :

(i) Resource allocater

(ii) Control program

(iii) Interface

(iv) All of these

(c) Compiler designing phases :

(i) Lexical analysis

(ii) Semantic analysis

(iii) Syntax analysis

(iv) All of these

(d) A ready queue is :

(i) An inverted list

(ii) A circular linked list

(iii) A linked list

(iv) None of these

(e) Unix is written in :

(i) Perl (ii) 'C' language

(iii) Java (iv) None of these

2. Fill in the blanks of the following : 1×5 = 5

(a) Kernel is part of _____.

(b) Pwd command is used to _____.

(c) A software interrupt is also known as _____.

(d) A process created by the main process is called a _____.

(e) _____ command is used to search pattern in file.

Group – B

(Short-answer Type Questions)

3. Answer any **four** questions in not more than **200** words each : 5×4 = 20

(a) What is Kernel in operating system ? Explain.

(b) Differentiate time sharing and real time system.

(c) Define Operating System. Explain the functions of OS.

(d) Write a shell script to find factorial of a given number.

(e) Differentiate between multitasking and multiprocessing.

(f) Explain FCFs with the help of an example.

Group – C

(Long-answer Type Questions)

4. Answer any **four** questions of the following : 10×4 = 40

(a) Write a shell script to reverse the digits of a given number.

(b) Write a shell script to check whether an inputted number is prime or not.

(c) Explain the following :

(i) Chmod

(ii) Grep

(iii) bc

(iv) Cat

(v) Banner

(vi) cp

(d) Define deadlock. Explain the four necessary condition to occur deadlock.

(e) Discuss the UNIX system architecture.

(f) Explain the following :

(i) Mutual Exclusion

(ii) Round Robin Scheduling

(iii) Multiprogramming