Roll No. .....

OLE-97669

BCA 3rd Semester (New) Examination – April, 2021

INTRODUCTION TO OPERATING SYSTEM

Paper : BCA-201

Time : Three Hours] *[Maximum Marks : 80*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt any ***four*** questions at least ***one*** question from each Unit. Question Number **1** is ***compulsory***. All questions carry equal marks.

1. Explain the following :

(a) What is Operating System ?

(b) What do you mean by early systems ?

(c) Logical vs physical address space.

(d) Segmentation.

(e) Deadlock characterization.

(f) Thrashing.

(g) Banker's Algorithm.

(h) Bit vector.

UNIT – I

2. (a) Why Operating System is necessary for a computer system ? Also explain the role of an operating system as a resource manager of a computer system.

(b) Explain the following in detail :

(i) Distributed Systems

(ii) Real-Time Systems

3. Explain the following in detail :

(a) Process and Operation on Processes

(b) Threads and Inter-Process Communication

UNIT – II

4. What is deadlock ? What are the various strategies to deal with deadlock ? Explain.

5. (a) What is CPU Scheduling ? Explain the Scheduling Criteria in detail.

(b) Explain the following in detail :

(i) FCFS Scheduling Algorithm

(ii) SJF Scheduling Algorithm

UNIT – III

6. (a) What is virtual memory ? List out the advantages and disadvantages of memory management.

(b) What is swapping ? How does it help in memory management ? Explain.

7. (a) What is paging and how it works ? How does paging differ from segmentation ? Explain.

(b) Explain the Page replacement algorithms in detail.

UNIT – IV

8. What is Disk scheduling ? Explain FCFS, SSTF, LOOK and SCAN scheduling in detail.

9. Explain the following in detail :

(a) File system structure and Allocation methods

(b) Free space management