Roll No. ....   Total Pages: 04

2703

B.C.A. SECOND YEAR EXAMINATION, 2019
OPERATING SYSTEM

Time: Three Hours
Maximum Marks: 100

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly, all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book. Write your roll numbers on question paper before start writing answers of questions.

Question paper consists of three parts.
All THREE parts are compulsory.

PART – A   *[Marks: 20]*

(Very Short Answer)

*Consists 10 question of **two marks** each.*

*Maximum limit for each question is up to **40** words.*

PART – B   *[Marks: 20]*

(Short Answer)

*Consists 5 question of **four marks** each.*

*Maximum limit for each question is up to **80** words.*

PART – C   *[Marks: 60]*

(Long Answer)

*Consists 5 question of **twelve marks** each with internal choice.*

PART – A

Q.1 (i) What is an Operating System?

(ii) Define multi programming system.

(iii) What do you mean by Scheduling?

(iv) What is Deadlock?

(v) What do you mean by Swapping?

(vi) Define Virtual Memory.

(vii) Define Encryption.

(viii) What do you mean by Structure Sequential File?

(ix) Define distributed Process Management.

(x) What is Parallel Processing?

PART – B

Q.2 Explain Evolution of Operating System.

Q.3 What do you mean by Process State? Explain with process state diagram.

Q.4 What is paging? Give one algorithm for page replacement.

Q.5 Explain Storage Abstraction.

Q.6 Explain distributed memory management.

PART – C

Q.7 Describe the main advantages for an operating system designer and for a user in using virtual machine architecture.

OR

Explain the following:-

(a) Process Control and Real Time System

(b) Direct Memory Access Buffering

Q.8 What is process? Discuss various state. Describe difference among short-term, medium-term and long-term scheduling.

OR

Explain the Necessary and Sufficient Deadlock conditions with examples.

Q.9 Briefly describe different types of memory management techniques.

OR

(a) Explain the differences between Logical and Physical addresses.

(b) Explain the concept of swapping in memory management.

Q.10 Explain the following:-

(a) Security Design principles.

(b) File sharing information across network remote viruses.

OR

Write short notes on:-

(a)   Authentications

(b)   Encryption

(c)   Directories

Q.11 (a)   Define protection and what are the goals of protection?

(b)   Differentiate between Program threats and System threats.

OR

Write short notes on:-

(a)   Distributed Memory management

(b)   Security in distributed environment

(c)   Introduction of Linux and Unix operating system