

This question paper contains 3 printed pages]

Roll No. _____

Sl.No.

233

B.C.A. (Part-II)

B.C.A. (Part - II) EXAMINATION, 2017

(Faculty of Science)

(Three-Year Scheme of 10+2+3 Pattern)

Paper-233

OPERATING SYSTEMS

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.

PART-I

***Each question is of 2 marks.
Words limit for the answers is 40 words.***

PART - II

***Each question is of 4 marks.
Words limit for the answers is 80 words.***

PART - III

Each question is of 12 marks.

PART-I

1. Give short answers to the following- **[10×2=20]**
- a) What do you mean by Operating System?
 - b) Discuss the goal of 'Authentication'.
 - c) What is 'Multiprogramming System'?
 - d) Enlist the various services provided by the Operating System?
 - e) What is System Call?

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P.T.O.

- f) Write the definition of Process?
- g) Enlist the various states of process.
- h) What is 'Thread'?
- i) What do you mean by 'Logical Address'?
- j) Differentiate between 'File' and 'Directory'.

PART-II

Each Question is of 4 marks. Limit for the answer is 80 words.

- 2. Discuss various criteria for measuring the performance of scheduling mechanism? [4]
- 3. Write the method of recovery from deadlock. [4]
- 4. Explain 'Demand paging' in brief? [4]
- 5. Discuss the file system in brief. [4]
- 6. What do you mean by Encryption? Discuss. [4]

PART-III

Each Question is of 12 marks.

- 7. Discuss 'Process Control Block (PCB)' with the help of proper illustration. Also, explain various types of schedulers. [12]

OR

Explain various preemptive scheduling mechanisms in detail.

- 8. How can a deadlock situation be avoided? Discuss. [12]

OR

How to detect a 'Deadlock'? Explain.

9. Discuss 'Single Program Partition', 'Fixed-Sized Partitioning' and 'Variable Sized Partition' memory allocation techniques in brief. [12]

OR

Explain various 'Page Replacement Algorithms' in brief with the help of suitable example of each?

10. Discuss strategies of contiguous, linked and indexed allocation in file system. [12]

OR

Explain the various types of directory systems with the help of suitable example of each.

11. How a file can be protected? Discuss various protection mechanisms used for protecting files. [12]

OR

In today's scenario, what kind of security is need in context of Computer System? Discuss various security threats in brief.