

**B.Tech. – VIEP – COMPUTER SCIENCE AND
ENGINEERING (BTCSVI)**

Term-End Examination

00113

June, 2018

BICS-019 : OPERATING SYSTEMS

Time : 3 hours

Maximum Marks : 70

***Note :** Question no. 1 is **compulsory**. Attempt any **six** questions from the rest. All questions carry equal marks.*

1. What is an operating system ? Can a computer work without an operating system ? Justify your answer. Discuss the main functions of an operating system. 10

2. What is a process ? Explain different stages of a process with the help of a diagram. 10

3. What is paging ? How is it different from segmentation ? Briefly explain segmentation with paging. 10

4. What is a deadlock ? Explain deadlock detection algorithm. 10

5. What is CPU scheduling ? Explain the following CPU scheduling algorithms with the help of example : 10
- (a) SJF
 - (b) FCFS
6. Explain the different levels of file directories. 10
7. What is a semaphore ? Explain race condition and methods to prevent race condition. 10
8. What is multithreading ? Explain its advantages. What is critical section and thread synchronization ? Explain briefly. 10
9. What is Process Control Block (PCB) ? Briefly explain any five fields of PCB. 10
10. Write short notes on any **two** of the following : 2×5=10
- (a) Device Management
 - (b) Disk Scheduling
 - (c) Virtual Memory
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