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IV--Sem/CSE/2017(S)(New)

**OPERATING SYSTEM AND SYSTEM
PROGRAMMING**

(Code : CST-402)

Full Marks : 70

Time : 3 hours

Answer any five questions

Figures in the right-hand margin indicate marks

1. (a) Define Operating System. 2
- (b) Explain structure of operating system with suitable diagram. 5
- (c) What is a process ? Draw the process state diagram and explain. 7
2. (a) Define Semaphore. 2
- (b) Define PCB. Explain the different fields stored in PCB. 5
- (c) State process scheduling. Explain types of Schedulers. 7

(Turn Over)

3. (a) State context switching. 2
(b) What is process synchronization ? Explain. 5
(c) State and explain job scheduling. 7
4. (a) State principle of concurrency. 2
(b) What are interacting processes ? Explain process synchronization. 5
(c) Define Page. Explain Demand paging method of memory management. 7
5. (a) Name two operating system. 2
(b) What is swapping ? Explain the principle of swapping by using suitable diagram. 5
(c) Define virtual memory. Explain virtual memory using segmentation method of memory management. 7
6. (a) Define SPOOLING. 2
(b) Define device management. Explain techniques of device management. 5

(3)

- (c) Explain how Deadlock can be detected, recovery and prevented. 7
7. (a) Define Systems Programming. 2
- (b) What is an Assembler ? Explain function carried out by an Assembler. 5
- (c) What is the function of compiler ? Explain the seven phases. 7
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