

B.Tech Sem – VI (2007 Course) (Computer Engg.) : WINTER - 2018

SUBJECT: OPERATING SYSTEM

Day : Thursday
Date : 15/11/2018

W-2018-2849

Time: 10.00 AM TO 01.00 PM
Max. Marks: 80

N. B. :

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** questions from Section – I and Section – II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.
- 4) Draw neat and labeled diagram **WHEREVER** necessary.
- 5) Use of non-programmable calculator is **ALLOWED**.
- 6) Assume suitable data, if necessary.

SECTION – I

- Q.1**
- a) Compare between Parallel and Distributed operating system. **(04)**
 - b) Describe in detail Inter-process communication. **(04)**
 - c) Define the term Deadlock and explain the necessary conditions to occur Deadlock. **(06)**
- Q.2**
- a) List out various system calls and explain any two of them with suitable example. **(07)**
 - b) Explain the various services provided by OS with neat diagram. **(06)**
- Q.3**
- a) Define the term scheduler. Find average waiting time for the following processes with time quantum = 3 using Round Robin algorithm **(07)**

Process	Arrival time	Burst time
P ₀	0	5
P ₁	1	3
P ₂	2	8
P ₃	3	6

- b) Define the term preemptive and non-preemptive scheduling. State the characteristics of good process scheduling. **(06)**
- Q.4**
- a) Explain deadlock avoidance algorithm in detail with suitable example. **(07)**
 - b) Discuss the significance of recourse allocation graph in deadlock handling with example. **(06)**

P. T. O.

SECTION – II

- Q.5** a) Explain virtual memory with suitable example. (04)
b) Discuss multimedia file system with neat sketch. (04)
c) Explain levels of RAID technology with example. (06)
- Q.6** a) Consider the reference string with frame size = 3 (07)
7 0 1 2 0 3 0 4 2 3 0 3 2 1 2 0 1 7 0 1
Calculate number of page fault and page hit for the following algorithms:
i) FIFO
ii) LRU
- b) Compare segmentation and paging with suitable example. (06)
- Q.7** a) List the services provided by multimedia operating system. (07)
b) Describe guaranteed scheduling for processors and disk (06)
- Q.8** a) Write a case study on file management in UNIX operating System. (07)
b) Write a short note on (06)
i) OS design issues
ii) Windows 2000 I/O

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