

MEVD - 202

M.E./M.Tech., II Semester

Examination, June 2016

Real Time Operating System

Time : Three Hours

Maximum Marks : 70

- Note :** i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Explain the batch processing systems. Also discuss about the user service and batch monitor function. 7
b) Explain the memory management requirements. Also give the comparison for logical organization and physical organization. 7
2. a) What are the two models of interprocess communication? What are the strengths and weaknesses of the two approaches. 7
b) Explain Kernel structure and task scheduling with proper diagram. 7
3. a) Differentiate between pre-emptive and non-pre-emptive scheduling. Briefly describe Round Robin scheduling. 7
b) What is required to support dynamic memory allocation in the following schemes:
i) Contiguous memory allocation
ii) Pure segmentation
iii) Pure paging 7

4. a) Discuss Rate Monotonic Analysis (RMA) and Earliest Deadline First (EDF) with the help of example. 7
b) List and briefly explain several potential advantages of a microkernel design compared to a monolithic design. 7
5. a) Explain how scheduling is possible in the case of multiprocessor and distributed system. 7
b) Discuss Benchmarking Real Time Operating System. 7
6. a) Explain briefly: 7
i) Performance metrics of RTOS
ii) Programming in Vxworks
b) Explain the task scheduling and task management process. 7
7. a) Describe the role of UNIX as real time operating system. Explain inter process communication in UNIX environment. 7
b) Explain the relationship between window mobile pocket pc and smartphone. 7
8. Write short note on (any two) 14
a) PSOS
b) VRTX
c) Priority inheritance protocol
