

Code: IT3T5

II B.Tech - I Semester–Regular/Supplementary Examinations
November 2018

OPERATING SYSTEMS CONCEPTS
(INFORMATION TECHNOLOGY)

Duration: 3 hours

Max. Marks: 70

PART – A

Answer *all* the questions. All questions carry equal marks

11x 2 = 22 M

1.

- a) What is a multiprocessor system?
- b) Draw O.S Structure.
- c) Briefly describe the function of fork system call.
- d) State shared data problem.
- e) What is Process Control Block?
- f) What is a semaphore?
- g) List the necessary conditions for deadlock.
- h) What is starvation?
- i) Write about CPU-i/o burst cycle.
- j) What is a Contiguous allocation?
- k) What is meant by file system mounting?

PART – B

Answer any **THREE** questions. All questions carry equal marks.

3 x 16 = 48 M

2. a) What is an operating system? Explain its functions. 6 M

b) Discuss in detail about real-time, multimedia and handheld operating systems. 10 M

3. a) Elaborate on the three multithreading models. 9 M

b) Portray queuing diagram representation of process scheduling. 7 M

4. a) Explain in detail about the following CPU scheduling algorithms:

i) FCFS

ii) SJF

iii) Round Robin

iv) Priority Scheduling 8 M

b) What is critical section problem? Provide a software based solution to it. 8 M

5. a) Write in detail about deadlock prevention . 8 M

b) Explain the concept of paging. 8 M

6. a) Illustrate Demand paging with a suitable example. 8 M

b) Discuss in detail about various directory structures. 8 M