Code: IT3T5

II B.Tech - I Semester–Regular/Supplementary Examinations November 2019

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 I/O structure?

   b) What is Dual-Mode operation?

   c) State the Process in memory.

   d) What is message passing system?

   e) What is critical section?

   f) What is semaphore?

   g) What is circular wait?

   h) How do you avoid the dead-lock?

   i) What is demand paging?

   j) What is thrashing?

   k) Differentiate contiguous allocation and linked allocation?

PART – B

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

3 x 16 = 48 M

2. a) Explain the essential properties of Operating Systems.

10 M

   b) Explain in detail the different OS services.   6 M

3. a) Drawn a neat diagram for life cycle of process and
      explain in detail.   8 M

   b) Explain multi core Programming.   8 M

4. a) Differentiate the preemptive and non-preemptive
      scheduling algorithm with a suitable example.   8 M

   b) Consider the 3 processes, P1, P2 and P3 shown in the
      table

Process	Arrival time	Time unit required
P1	0	5
P2	1	7
P3	3	4

      Find out the completion order of the 3 processes under
      the i) FCFS ii) SJF iii) RRS (quantum unit=2).   8 M

5. a) Explain dead-lock characters with neat diagrams. How do you overcome this issue? 10 M

   b) What is the Page? How do you deal with shared pages? 6 M

6. a) Discuss the page FIFO and LRU replacement algorithms. 10 M

   b) What are the different types of directories? Explain with neat diagrams. 6 M