

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-IV (New) EXAMINATION – WINTER 2015

Subject Code:2140702**Date:01/01/2016****Subject Name: Operating System****Time: 2:30pm to 5:00pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain different types of OS and also Explain different types of tasks done by OS. **07**
- (b) Define and explain following terms: **07**
 (i) Authentication (ii) Mutual Exclusion (iii) Monitor (iv) Segmentation
- Q.2** (a) Define a process. Explain the process state transition with a neat diagram. **07**
- (b) What is PCB? Discuss its major fields. **07**
- OR**
- (b) Explain the classical thread model with its implementation strategies. **07**
- Q.3** (a) Explain Context Switching. Discuss performance evaluation of FCFS (First Come First Serve) & RR (Round Robin) scheduling. **07**
- (b) Explain the IPC Problem known as Dining Philosopher Problem. **07**
- OR**
- Q.3** (a) Explain the use of Banker's Algorithm for multiple resources for Deadlock Avoidance with illustration. **07**
- (b) Explain IPC Problem – Readers & Writers Problem. **07**
- Q.4** (a) Explain the following UNIX commands **07**
 (i) grep (ii) cut (iii) chmod (iv) finger
- (b) Explain the following allocation algorithms: 1) First-fit 2) Best-fit 3) Worst-fit **07**
- OR**
- Q.4** (a) Write short note: RAID levels. **07**
- (b) Explain SSTF and LOOK disk scheduling algorithms. **07**
- Q.5** (a) Explain any two File Allocation Methods from the following: (i) Contiguous Allocation (ii) Linked Allocation (iii) Indexed Allocation **07**
- (b) Explain Swapping in Detail. **07**
- OR**
- Q.5** (a) Explain the Trojan Horse and Trap doors program threats. **07**
- (b) Explain UMA and NUMA multiprocessors. **07**
