

GUJARAT TECHNOLOGICAL UNIVERSITY**M. E. - SEMESTER – I • EXAMINATION – WINTER 2012****Subject code: 715302****Date: 09-01-2013****Subject Name: OS Programming****Time: 02.30 pm – 05.00 pm****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) What is deadlock? Explain deadlock prevention in detail. **07**
 (b) Write short note on : Types of ioctl function calls. **07**

- Q.2** (a) What is deadlock avoidance? Explain Banker's algorithm. **07**
 (b) Write short note on: Memory Management in Linux. **07**

OR

- (b) Explain System administration commands of Linux. **07**

- Q.3** (a) Explain the architecture of Linux. **07**
 (b) What is segmentation? Explain with example. **07**

OR

- Q.3** (a) Explain swapping in memory management. **07**
 (b) Explain various page replacement strategies. **07**

- Q.4** (a) Write a shell script to implement getopts statement having command line arguments -c -d -e. **07**

Where, options are -c clear the screen,

-d show list of files in current working directory,

-e start editor

- (b) Write salient features of Linux O. S. **04**

- (c) What are the advantages and disadvantages of thread? **03**

OR

- Q.4** (a) Write a program to get/set environment variable in Linux. **07**

- Q.4** (b) Write a program under Linux platform which takes a set of integer numbers from the command-line and prints their average value. **07**

- Q.5** (a) What is a zombie process? **02**

- (b) Can Linux and Windows read each others' files? **02**

- (c) Write the name of Linux Configuration tool. **02**

- (d) Write a shell script to check whether command line arguments supplied file name exists or not? **04**

OR

- (d) Write a program to extract host information like operating system name, host name, version number etc. **04**

- (e) What is the difference between Monolithic and Micro kernel? **04**

OR

- (e) List and explain important device files in Linux. **04**
