

**MCA (Revised) / BCA (Revised)**

**Term-End Examination**

**December, 2017**

05510

**MCS-022 : OPERATING SYSTEM CONCEPTS AND  
NETWORKING MANAGEMENT**

*Time : 3 hours*

*Maximum Marks : 100*

*(Weightage 75%)*

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**Note :** *Question no. 1 is compulsory. Answer any three questions from the rest.*

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1. (a) Define a Real Time Operating System. Give any two examples of a real time operating system. What are the most important issues in the design of a real time operating system ? 10
- (b) What is Token Ring ? How does it work ? Differentiate between token ring and token bus. 10
- (c) What is meant by Trust Relationship ? Discuss the role of Kerberos and Domain controller in maintaining trust relationships. 10

- (d) Write the Linux/Unix commands for the following : 10
- (i) Show the users logged in on the network.
  - (ii) List the files having more than one digit in the name.
  - (iii) Tell the system to run the process continuously even if the user logs out.
  - (iv) To allow a user to communicate with another user, logged in by splitting the screen and providing two-way communication.
  - (v) To kill a process after one hour.
2. (a) List and explain the file systems supported by Linux operating system. Also, write the security features provided by Linux in each file system. 10
- (b) Differentiate between gateways, routers and switches. 6
- (c) Differentiate between relative and absolute pathnames using an example for each in Linux. 4
3. (a) Explain the concept of pipes, filters and redirection in Linux operating system. Give an example for each. 6
- (b) Explain the basic purpose of enabling the offline features in Windows 2000 operating system. 4

- (c) Write a Linux shell script for automatic grouping of files given in a directory. All files will be grouped on the basis of their size and will be saved into the newly created folders based on file size groups given below : Files will be grouped into 0 to 5 kB, 5 kB to 5 MB, 5 MB to 1 GB and greater than 1 GB. 10
- Note* : Make suitable assumptions, if necessary.
4. (a) Explain how distributed operating system is better than network operating system. 5
- (b) Write the step-by-step procedure to create a group named "MCS22". Now add a user "Kamal" in Windows 2000 operating system. Assume user "Kamal" is already a member of the guest account in your system. 5
- (c) What is X-Window system ? Explain the X-Window library and X-Toolkit. 5
- (d) Explain the characteristics of multiprocessor operating system. 5
5. Write short notes on the following : 4×5=20
- (a) LAN Topologies
- (b) Optical Fibers
- (c) Network Monitoring Tools
- (d) Active Directory in Windows 2000