



**Sri Lanka Institute of Information Technology BSc
Degree in IT/IS/CSNE/SE
Year 1 – Semester 1
IT1020 – Introduction to Computer Systems**

Model Paper

- I. Convert following binary IP addresses to dotted-decimal IP addresses and mention the class of the IP address
 - a. 10011010.00011111.00010000.00001101
 - b. 11000000.10101000.00001010.00000001
- II. Convert the following dotted-decimal into binary IP addresses and mention the class of the IP address
 - a. 16.134.21.10
 - b. 224.15.12.19
 - c. 172.16.101.1
- III. ABC company has a network for their IT department and one of the IP addresses found in their PC is 192.168.10.1. As the system engineer it is your duty to maintain the records of the IP addresses. Therefore, calculate the following
 - a. What is the class of the given IP address?
 - b. What is the subnet mask of the network?
 - c. What is the Network address?
 - d. What is the broadcast address?
 - e. What are the first two usable IP addresses, which can be assigned to devices
 - f. What are the last two usable IP addresses, which can be assigned to devices
- IV. Use a figure and explain what a Network Topology is
- V. List four classes of physical threats in a network.
- VI. Draw a diagram and explain how you get the Internet in SLIIT
- VII. Compare and contrast the IPv4 and IPv6
- VIII. Draw a diagram and explain how to distinguish the IPv4 classes in binary form of the IP addresses.
- IX. Explain what is subnet mask and why it is used in IPv4 addressing.