

B.Sc. (I. T.) Sem. - III (2011 Course) : WINTER - 2018
SUBJECT: COMPUTER NETWORKS

Day: Wednesday
Date: 28/11/2018

W-2018-1101

Time: 02.30 pm to 04.30 pm
Max. Marks: 40

N.B.:

- 1) Attempt **ANY FIVE** full questions.
 - 2) Figures to the right indicate **FULL** marks
 - 3) Draw neat, labeled diagrams **WHEREVER** necessary.
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- Q.1** a) Distinguish between circuit, packet and message switching. (04)
- b) List the functions of the presentation layer in the ISO reference model. Which layer(s) perform these functions in the TCP/IP reference model? (04)
- Q.2** An organization is granted the IP address block **130.56.0.0/16**. The administrator wants to create 1024 subnets. Find: (08)
- a) Subnet mask
 - b) First and last addresses in subnet 1 and subnet 1024.
- Q.3** Draw a diagram depicting the following topologies and discuss the effect of a link failure in each: (08)
- a) 6 nodes arranged in a bus topology.
 - b) 4 nodes arranged in a ring topology.
- Q.4** Explain the CSMA/CD access control mechanism as implemented in the IEEE 802.3 protocol. (08)
- Q.5** Compare and contrast the Distance Vector routing protocol with the Link State routing protocol. Give one example of each. (08)
- Q.6** Explain the three-way handshake for setting up communication in TCP. (08)
- Q.7** a) Explain the differences between IPv4 and IPv6. (04)
- b) Write a note on the SMTP protocol. (04)

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