

Exam. Code: 0916
Sub. Code: 33417

2056
B.E. (Computer Science and Engineering)
Fourth Semester
CS-404: Computer Networks

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Section.*

x-x-x

- Q1. a) Write short notes on Repeaters, Bridges, Switches, and Routers
b) Explain the Network Layer and its major functions
c) Explain the Shortest Path Routing algorithm.
d) Compare IPv4 and IPv6 addressing formats.
e) Explain the working of DNS and HTTP protocols. (10)

Section – A

- Q2. a) Explain the components of a Data Communication System. Discuss different data flow modes and data representation techniques (05)
b) Explain different network topologies and their advantages. (05)
- Q3. a) Compare LAN, MAN, and WAN networks with their applications in modern networking. (05)
b) Explain Frequency Division Multiplexing (FDM) and Time Division Multiplexing (TDM). (05)
- Q4. a) Explain the Ethernet technology (IEEE 802.3 standard) and its working mechanism (05)
b) Explain the working principle of ALOHA and CSMA protocols (05)

P.T.O.

(2)

Section – B

- Q5. a) Explain the Network Layer functions in detail. Discuss the importance of logical addressing. (05)
- b) Explain the concept of flooding routing algorithm and its advantages and limitations (05)
- Q6. a) Explain the working of Address Resolution Protocol (ARP) and Reverse ARP (RARP) (05)
- b) Explain multiplexing and demultiplexing in the transport layer with suitable examples. (05)
- Q7. a) Compare TCP and UDP protocols with respect to reliability, connection establishment, and applications. (05)
- b) Explain Email architecture and the SMTP protocol used for mail transfer. (05)

x-x-x