POKHARA UNIVERSITY

Level: Bachelor   Semester:Fall   Year   : 2020
Programme: BE   Full Marks: 100
Course: Computer Networks   Pass Marks: 45
                                            Time   : 3hrs.

Candidates are required to give their answers in their own words as far as practicable.

The figures in the margin indicate full marks.

Attempt all the questions.

1. a) Describe the demerits of computer network. Differentiate between client/server and peer-to-peer network models.   7

   b) How are interfaces, protocols and services of layered system related? Discuss the differences between OSI and TCP/IP models.   8

2. a) List the major function of Internetworking device. Briefly explain the design issues of network Layer?   7

   b) What are the metrices of network performances? Describe them in short.   8

3. a) Explain how selective repeat works with figure.   7

   b) Describe framing by character count. How does byte stuffing overcome the disadvantages of character count algorithm?   8

4. a) Why summarization is important? P.U. is planning to design new network for four different departments. Each department consists of 24 hosts with IP address 172.16.1.0/27. Explain the process how you will allocate the IP address, subnet mask for each of the department using above IP address.   8

   b) Explain IPV4 header protocol format and also differentiate between IPV4 and IPV6 features.   7

5. a) Describe 4 way TCP handshaking with suitable diagram.   8

   b) Why congestion is prominent in Networks?. Explain Explicit and Implicit control algorithm with a suitable example.   7

6. a) What is SMTP? Differentiate POP and IMAP protocols.   8

   b) What do you mean by Network security? Explain the operation of Data Encryption Standard Algorithm.   7

7. Write short notes on: (Any two)   2×5
   a) CSMA/CD
   b) DHCP
   c) Firewall