POKHARA UNIVERSITY

Level: Bachelor   Semester: Spring   Year   : 2015
Programme: BE   Full Marks: 100
Course: Computer Network   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) Why computer network is playing considerable role in present day life? Discuss its merits and demerits with a suitable example.   7

   b) Explain the functions of TCP/IP layers brief. How does a switch differ from a hub? Explain.   8

2. a) Differentiate copper cable and optical fiber cable with a suitable example.   7

   b) Explain how Stop and Wait flow control differs from go-back-N flow control.   8

3. a) Design an algorithm for CSMA/CD with a suitable example.   8

   b) What are the major advantage of using routing? Differentiate between distance vector routing and link state routing.   7

4. a) The existing network of Pokhara University (172.16.0.0/22) is to be divided into network of 4 different schools. Among 4 schools two schools need to be subdivided into 3 different departments. Provide a complete IP Address Plan which includes Network Address, Broadcast Address, Usable IP Pool, Subnet Mask and Wildcard Mask.   8

   b) What do you understand by port addressing? Explain UDP header format.   7

5. a) Explain TCP congestion control.   7

   b) Why do we need DNS in the field of networking? Explain the different types of proxy.   8

6. a) Define Cipher. Explain with figure about Asymmetric Key and Symmetric Key Cryptography.   7

   b) Explain how email system works. Why is DHCP server required in a computer network?   8

7. Write short notes on: (**Any two**)   2×5
   a) IPSEC
   b) TCP/UDP
   c) VPN.