

# POKHARA UNIVERSITY

Level: Bachelor  
Programme: BE  
Course: Computer Network

Semester: Spring

Year : 2015  
Full Marks: 100  
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? 7  
Discuss its merits and demerits with a suitable example.
- b) Explain the functions of TCP/IP layers brief. How does a switch differ 8  
from a hub? Explain.
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 8  
control.
3. a) Design an algorithm for CSMA/CD with a suitable example. 8  
b) What are the major advantage of using routing? Differentiate between 7  
distance vector routing and link state routing.
4. a) The existing network of Pokhara University (172.16.0.0/22) is to be 8  
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.
- 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 8  
types of proxy.
- a) Define Cipher. Explain with figure about Asymmetric Key and 7  
Symmetric Key Cryptography.
- b) Explain how email system works. Why is DHCP server required in a 8  
computer network?
7. Write short notes on: (**Any two**) 2×5
  - a) IPSEC
  - b) TCP/UDP
  - c) VPN.