Pokhara University

Level: Bachelor | Semester-Spring | Year: 2020
Programmer: BE | Full Marks: 70
Course: Computer Networks | Pass Marks: 31.5
Time: 2 hrs.

Candidates are required to give their answers in their own words as far as practicable.
The figure in the margin indicates full marks.

Attempt all the questions.

Section A: (5 ×10 = 50)

Q. No 1	Define Computer Networks. Discuss its merits and demerits and also the area of application in today's world.	10
Q. No 2	What do you understand by Client server and Peer to Peer architecture? Compare and Contrast between them with suitable diagram.	10
	OR	
	Explain about the operation of CSMA/CD technique with its flowchart. Discuss about Go Back N ARQ and Selective Repeat ARQ in brief	10
Q. No 3	Show how Hamming code technique will be used to compute error detection and correction with an example.(Assume a 7-bit number)	10
Q. No 4	Compare IPv4 and IPv6 header with their header diagrams.	10
Q. No 5	Define congestion and explain about leaky bucket and token bucket algorithm in brief.	10

Section B: (1 × 20 = 20)

Q.N 6

a) The existing network of Pokhara university (172.16.0.0/16) is to be subdivided into four different schools located at different states of the country connected with Network Service Provider (NSP). The location details of each school are enlisted below. 10

i. School of Engineering – Pokhara
ii. School of Law – Kathmandu
iii. School of Management – Chitwan
iv. School of Environment Research and Development – Nepalgunj

Design the network with complete IP Address plan for each school.

b) In RSA cryptosystem, a participant A uses two prime numbers p = 13 and q = 17 to generate her public and private keys. If the public key of A is 35, then what is the private key of A? 10