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Tribhuvan University
Institute of Science and Technology
2080
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Bachelor Level / Second Year/ Forth Semester/ Science
Computer Science and Information Technology (CSC 258)
(Computer Networks)
(NEW COURSE)

Full Marks: 60
Pass Marks: 24
Time: 3 hours.

Candidates are required to give their answers in their own words as for as practicable.
All figures in the margin indicate full marks.

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Section A
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Long Answer Questions.
Attempt any **TWO** questions.   (2×10=20)

1. What is classful addressing? Explain link state routing with a suitable example.   (3+7)

2. What is flow control? How does stop-and-wait ARQ protocol handle error? What are its disadvantages?   (2+6+2)

3. Explain TCP header with a neat diagram. Highlight on its uses.   (7+3)

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Section B
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Short Answer Questions.
Attempt any **EIGHT** questions.   (8×5=40)

4. Explain different types of network topologies.   (5)

5. What do you understand by circuit switching? Explain. What are its advantages and disadvantages?   (3+2)

6. State the functionality of logical link control. Briefly explain HDLC.   (2+3)

7. Differentiate between unicast and multicast routing.   (5)

8. What is the difference between port and socket? Explain leaky bucket algorithm with an example.   (1+4)

9. What do you understand by DNS? Explain FTP and SFTP.   (1+4)

10. Explain the architecture of SDN.   (5)

11. Suppose you are given an IP address 192.168.0.0, perform subnetting and divide the given network into 2 subnets. Calculate total number of hosts that can be configured, range of the IP addresses.   (5)

12. Write short notes on: (2×2.5=5)
    a. IPv4
    b. Infrared