

# PURBANCHAL UNIVERSITY

**2019**

Bachelor in Information Technology (B.I.T.)/ Sixth Semester / Final

Time: 03:00 hrs.

Full Marks: 80/Pass Marks: 32

**BIT373CO: Computer Network (New Course)**

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

*Figure in the margin indicate full marks.*

## Group A

**Answer TWO questions.**

**2×12=24**

- 1(a) Using a sample bit stream and diagram list the differences between Synchronous and Asynchronous transmission. 6
- (b) What is packet switched network? Differentiate between Datagram network and virtual circuit network. 2+4
2. Why do we use Hamming code technique? A seven bit Hamming code is received as 1110101 then using Hamming code technique find the correct code that has been transmitted. 3+9
- 3(a) What are design issues of Data link layer? Explain Bit stuffing and Byte stuffing with suitable example. 2+4
- (b) Write down different types of wireless transmission media in details. 6

## Group B

**Answer SEVEN questions.**

**7×8=56**

4. Explain flow control and sliding window protocol of data link layer.
5. What are the differences between Distance vector routing and Link state routing algorithm. Describe Dijkstra's Shortest path algorithm with suitable example. 4+4
- 6(a) For the network address 192.168.10.0 /27 . Calculate: 5
  - (a) How many subnets does the chosen subnet mask produce?
  - (b) How many valid host per subnet are available?
  - (c) What are the valid subnet?
  - (d) What are the Broadcast address for each subnet?
  - (e) What are the valid host in each subnet?

(2)

(b) Identify network and Broadcast address for:

3

(i) 192.168.0.3 /25

(ii) 10.10.1.97/23

④ 7(a) Mention the general function and frame format of Media access control and Logical Link control. 4

✓ (b) What is asynchronous Transfer Mode (ATM). Explain ATM reference model. 4

③ 8. Explain different design issues and elements of transport layer. 8

⑤ 9. What is Framing? Discuss all the framing methods used in Data link layer. 3+2 3+5

⑥ 10. Why congestion occurs in network layer? Explain Leaky bucket and Token bucket algorithm in detail. 4+4

② 11. What is HDLC ? Discuss the frame format of HDLC. 4+4

12. Write short note on any TWO: 2×4=8

(a) DES (b) VSAT (c) ICMP

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