**(Pages: 2)** **Reg. No……**
**Name……**

# B TECH DEGREE EXAMINATION

**Eighth Semester**

Applied Electronics and Instrumentation Engineering

## AI010 803 Computer Networks

(New Scheme-Regular)

Time: Three Hours Maximum: 100 marks

### PART A

*Answer **all** questions briefly.*
*Each question carries* **3 *marks***.

1. Calculate the latency, from first bit sent to last bit received for: 1Gbps Ethernet with a single store-and-forward switch in the path and a packet size of 5000 bits. Assume that each link introduces a propagation delay of 10μs and that the switch begins retransmitting immediately after it has finished receiving the packet.
2. A sliding window protocol is there for a 1 Mbps point-to-point link to the stationary satellite evolving around the earth at an altitude of $3x10^4$ km. Assume that each frame carries 1 KB of data. What is the minimum number of bits needed for the sequence number in the following cases? Speed of light is $3x10^8$ m/s. RWS=1.
3. What are the properties of a switch?
4. Explain identifiers in RPC.
5. With an example explain domain hierarchy.

(5 × 3 = 15 marks)

### PART B

*Answer **all** questions.*
*Each question carries 5 marks.*

6. Explain IEEE 802.15.1 standard.
7. Explain network requirements?
8. What are the functions of a bridge in a network?
9. Compare different congestion avoidance mechanisms.
10. Explain SNMP protocol.

(5 × 5 = 25 marks)

### PART C

*Answer any **one** full question from each module.*
*Each full question carries* **12 *marks***.

MODULE 1

11. Explain OSI architecture for networks. **Turn over**

OR

12. Explain Internet architecture.

## MODULE 2

13. Explain HDLC protocol.

OR

14. Compare stop and wait protocols with sliding window protocols.

## MODULE 3

15. Explain spanning tree algorithm.

OR

16. How IP routers forwad datagrams in an internetwork?

## MODULE 4

17. Explain segment formation in TCP.

OR

18. Describe slow start mechanism in congestion control.

## MODULE 5

19. Explain overlay networks.

OR

20. Explain web service protocols.

(5 x 12=60marks)

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