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N – 5747

Reg. No. : .....

Name : .....

**Eighth Semester B.Tech. Degree Examination, April 2022**

**(2013 Scheme)**

**13.803 — COMPUTER COMMUNICATIONS (T)**

Time : 3 Hours

Max. Marks : 100

**PART – A**

Answer all questions.

1. What is multiplexing and demultiplexing in transport layer?
2. What are the main advantages of Fiber Optic Cable over UTP?
3. Differentiate between static routing algorithms and dynamic routing algorithms.
4. Define Distance-Vector Routing Protocol with one example.
5. Mention the importance of Autonomous System? Give the name of a protocol that handles routing within a single Autonomous System.
6. What do you mean by redundancy? What are three types of redundancy checks used in data communication?
7. Why do we need a bridge/switch?
8. What are the desirable properties of secure communication?
9. Briefly explain Multilevel Security models.
10. What is MD5 hashing algorithm?

**(10 × 2 = 20 Marks)**

P.T.O.



PART – B

Answer any **one** question from each module. Each carries **20** marks.

**Module – I**

11. (a) Briefly explain functions of OSI layers with neat diagram. **10**  
(b) Are there any alternative models to the OSI model? If yes, define it. **10**

OR

12. Explain the causes and the costs of Congestion for the following :

Scenarios :

1 : Two Senders and a Router with Infinite Buffers

2 : Two Senders and a Router with Finite Buffers. **20**

**Module – II**

13. Explain Link-State (LS) Routing Algorithm. **20**

OR

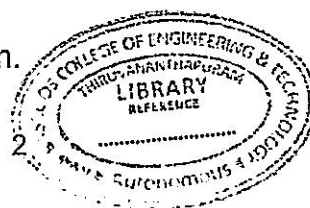
14. Describe the working of Inter-AS Routing in the Internet with a suitable protocol example. **20**

**Module – III**

15. (a) In which layer is ARP protocol used? How does address resolution protocol work? **10**  
(b) How does CSMA/CA work in WIFI? **10**

OR

16. (a) Describe Bit-Oriented Protocols (HDLC) and Clock-Based Framing (SONET), **10**  
(b) Explain Spanning Tree algorithm. **10**



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**Module – IV**

17. (a) Explain the Access Control Policies in the operation of a firewall and also specify any two limitations of a Firewall. **10**
- (b) Briefly explain how to send a digitally signed document with an example. **10**



18. Write notes on :

- (a) SSH
- (b) SSL
- (c) TLS
- (d) IPsec.

**20**

**(4 × 20 = 80 Marks)**

