

Code: 19CS4501B

III B.Tech - I Semester – Regular Examinations – JANUARY 2022

**ADVANCED COMPUTER NETWORKS
(COMPUTER SCIENCE & ENGINEERING)**

Duration: 3 hours

Max. Marks: 70

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- Note: 1. This question paper contains two Parts A and B.
2. Part-A contains 5 short answer questions. Each Question carries 2 Marks.
3. Part-B contains 5 essay questions with an internal choice from each unit. Each question carries 12 marks.
4. All parts of Question paper must be answered in one place
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PART – A

1. a) List the applications of the Internet.
b) How Two Systems in an Ethernet Network Communicate?
c) What is a “Router”?
d) What is Real-time Protocol?
e) What is Call Control protocol?

PART – B

UNIT – I

2. a) How long does it take to transmit x KB over a y -Mbps link? Give your answer as a ratio of x and y . 6 M
b) Explain the various factors that impact network performance. 6 M

OR

3. a) Explain Cost-Effective Resource Sharing. 6 M
b) What is Delay \times Bandwidth Product? Explain. 6 M

UNIT – II

4. a) What types of devices are used in an Ethernet network?
Explain. 6 M
- b) Explain the need for using frequency hopping spread spectrum in wireless networks. 6 M

OR

- a) Explain Cell Phone Technologies. 6 M
5. b) Explain about 802.15.1 standard. 6 M

UNIT-III

- a) Explain about switch basics. 6 M
6. b) Give an example of an arrangement of routers grouped into autonomous systems (AS) so that the path with the fewest hops from a point A to another point B crosses the same AS twice. Explain what Border Gateway Protocol would do with this situation. 6 M

OR

7. a) How do routers determine that an incoming IP packet is to be multicast? Give answers. 6 M
- b) Explain virtual private networks. 6 M

UNIT – IV

8. a) Explain Real-time Protocol Header format. 6 M
- b) Describe Additive Increase/Multiplicative Decrease Transmission Control Protocol in congestion control. 6 M

OR

9. a) Explain Expedited Forwarding and Assured Forwarding. 6 M
b) Explain first-in, first-out queuing discipline. 6 M

UNIT – V

10. a) Explain the H.323 protocol for Internet telephony. 6 M
b) Explain Overlay Networks. 6 M

OR

11. a) With suitable example describe Peer-to-Peer Networks. 6 M
b) Describe Content Distribution Networks. 6 M