(3)

ode No.: 17CS2203PC | R17 | H.T.No. | | | R | 0 | | | | | |

# CMR INSTITUTE OF TECHNOLOGY: HYDERABAD

UGC AUTONOMOUS

II-B.Tech. II-Semester End Examinations (Supply) – JUNE/JULY– 2022

COMPUTER NETWORKS

(CSE)

Time: 3 Hours] [Max. Marks: 70]

Answer Any **Five** Questions. Each Question Carries **14** Marks

[5 x 14=70M]

| S. No. | Question | BTL | CO | PO |
|---|---|---|---|---|
| 1 | a. Explain in detail about the TCP/IP reference model with a diagram. 7M<br>b. Compare and contrast TCP/IP and OSI reference model. 7M | II | CO1 | 1,2,12 |
| 2 | Elaborate in detail about different guided transmission media. | IV | CO1 | 1,2,12 |
| 3 | a. Draw and explain HDLC frame format. 7M<br>b. Summarize on Ethernet. 7M | II | CO2 | 1,2,12 |
| 4 | Solve the following. Let $g(x) = x^3 + x + 1$ and the data word is $x^3+1$, then find the code word generated at sender using CRC. Check whether it is correctly arrived or not at receiver. | III | CO2 | 1,2,12 |
| 5 | Explain IPV4 header format with neat diagram and differentiate it with IPV6. | II | CO3 | 1,2,1 |
| 6 | Explain Leaky Bucket congestion control algorithm and Token Bucket congestion control algorithm. | II | CO3 | 1,2,1 |
| 7 | Explain 3 way handshake protocol of TCP. Compare and contrast TCP and UDP. | II | CO4 | 1,2, |
| 8 | Discuss in detail FTP and SMTP application layer protocols. | IV | CO5 | 1,2 |

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Code No.: 17EC4105PE

R17 H.T.No. | | | R | 0 | | | | | | |

CMR INSTITUTE OF TECHNOLOGY: HYDERABAD
UGC AUTONOMOUS
IV– B.Tech. – I – Semester End Examinations (Supply) – January– 2022
COMPUTER NETWORKS
(ELECTRONICS & COMMUNICATION ENGINEERING)

[Time: 3 Hours] [Max. Marks: 70]

**Note:**
1. This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have i, ii, iii as sub questions.
4. Illustrate your answers with NEAT sketches wherever necessary.

**PART-A** **10 X 2M = 20 M**

| *S.No* | *Question* | *Blooms Taxonomy Level* | *CO* | *PO* |
|---|---|---|---|---|
| 1 | What is meant by protocol. | II | 1 | 1,2,3 |
| 2 | Write the advantages of optical fiber over twisted-pair and coaxial cables. | II | 1 | 1,3 |
| 3 | What is piggybacking? | II | 2 | 1,3 |
| 4 | List the difference between switch and router. | IV | 2 | 2,3 |
| 5 | Deduct the issues in routing? | V | 3 | 1,2,3 |
| 6 | Explain the functions of Data link layer. | II | 3 | 1,3 |
| 7 | Define Tunneling. | I | 4 | 1,2,3 |
| 8 | List out the socket primitives for TCP. | I | 4 | 1,3 |
| 9 | Compare RPC and RTP. | V | 5 | 1,3 |
| 10 | How does persistence timer is useful in TCP ? | I | 5 | 2,3 |

**PART-B** **5 X 10M = 50 M**

| | | | | |
|---|---|---|---|---|
| 11.A | i. Identify the different layers of the TCP\IP model? What are the functions of each layer(6M)<br>ii. Explain the different types of cables in computer network (4M) | III<br>II | 1<br>3 | 1,3 |
| | **OR** | | | |
| 11.B | i. Compare the packet, circuit and message switching in computer networks . (5M)<br>ii. Explain the functionality of each layer in OSI reference model with suitable diagram. (5M) | II | 2 | 2,3 |

de No.: 20-CS-PC-224

R20 H.T.No. | | | R | 0 | | | | | | |

# CMR INSTITUTE OF TECHNOLOGY: HYDERABAD

UGC AUTONOMOUS

II-B.Tech. II-Semester End Examinations (Regular) – JUNE/JULY – 2022

COMPUTER NETWORKS

(Common to CSE, CSD and CSM)

'ime: 3 Hours] [Max. Marks: 70]

Answer Any **Five** Questions. Each Question Carries **14** Marks

[5 x 14=70M]

| S. No. | Question | BTL | CO | PO | Marks |
|---|---|---|---|---|---|
| 1 | i) Explain OSI Reference Model with neat Diagram? | II | 1 | 1,2, 12 | 7M |
| | ii) Classify Guided Transmission Media? Explain Fiber Optics with neat diagram? | II | | | 7M |
| 2 | i) Explain Cyclic Redundancy Checks method with an Example? | II | 1 | 1,2, 12 | 7M |
| | ii) Explain in detail about the sliding window protocol using Selective Repeat. | II | | | 7M |
| 3 | i) Illustrate how slotted ALOHA improves the performance of pure ALOHA? | II | 2 | 1,2, 12 | 7M |
| | ii) Explain CSMA with Collision Detection? | II | | | 7M |
| 4 | i) Explain in detail the Uses of Bridges? | II | 2 | 1,2, 12 | 7M |
| | ii) Illustrate the terms Repeaters, Hubs, Switches, Routers? | II | | | 7M |
| 5 | i) Explain how the Store-and-Forward Packet Switching happens Network layer with neat diagram? | II | 3 | 1,2, 12 | 7M |
| | ii) Identify different approaches to Congestion Control? | III | | | 7M |
| 6 | i) Explain distance vector routing algorithm in network layer? | II | 3 | 1,2, 12 | 7M |
| | ii) Compare and contrast of Virtual-Circuit and Datagram Networks? | IV | | | 7M |
| 7 | i) Define IP address? Explain IPv6 Header format? | I | 4 | 1,2, 12 | 7M |
| | ii) Distinguish the message types of Internet Control Message Protocol (ICMP). | IV | | | 7M |
| 8 | i) Define the Terms HTTP, FTP, electronic mail, DNS | I | 5 | 1,2, 12 | 7M |
| | ii) Inspect TCP Congestion Control with neat sketch. | IV | | | 7M |

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# CMR INSTITUTE OF TECHNOLOGY: HYDERABAD

UGC AUTONOMOUS

II-B.Tech. II-Semester End Examinations (Supply) – JUNE/JULY – 2022

COMPUTER NETWORKS

(CSE)

Time: 3 Hours] [Max. Marks: 70]

Answer Any **Five** Questions. Each Question Carries **14** Marks

[5 x 14=70M]

| No. | Question | BTL | CO | PO | Marks |
|---|---|---|---|---|---|
| 1 | i) Explain OSI Reference Model with neat Diagram? | II | 1 | 1,2, 12 | 7M |
| | ii) Classify Guided Transmission Media? Explain Fiber Optics with neat diagram? | II | | | 7M |
| 2 | i) Explain Cyclic Redundancy Checks method with an Example? | II | 1 | 1,2, 12 | 7M |
| | ii) Explain in detail about the sliding window protocol using Selective Repeat. | II | | | 7M |
| 3 | i) Illustrate how slotted ALOHA improves the performance of pure ALOHA? | II | 2 | 1,2, 12 | 7M |
| | ii) Explain CSMA with Collision Detection? | II | | | 7M |
| 4 | i) Explain in detail the Uses of Bridges? | II | 2 | 1,2, 12 | 7M |
| | ii) Illustrate the terms Repeaters, Hubs, Switches, Routers? | II | | | 7M |
| 5 | i) Explain how the Store-and-Forward Packet Switching happens Network layer with neat diagram? | II | 3 | 1,2, 12 | 7M |
| | ii) Identify different approaches to Congestion Control? | III | | | 7M |
| 6 | i) Explain distance vector routing algorithm in network layer? | II | 3 | 1,2, 12 | 7M |
| | ii) Compare and contrast of Virtual-Circuit and Datagram Networks? | IV | | | 7M |
| 7 | i) Define IP address? Explain IPv6 Header format? | I | 4 | 1,2, 12 | 7M |
| | ii) Distinguish the message types of Internet Control Message Protocol (ICMP). | IV | | | 7M |
| 8 | i) Define the Terms HTTP, FTP, electronic mail, DNS | I | 5 | 1,2, 12 | 7M |
| | ii) Inspect TCP Congestion Control with neat sketch. | IV | | | 7M |

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# CMR INSTITUTE OF TECHNOLOGY: HYDERABAD

## UGC AUTONOMOUS

## II–BTECH II–Semester End Examinations (Supply) – FEBRUARY– 2022

## COMPUTER NETWORKS

## (COMPUTER SCIENCE AND ENGINEERING)

**[Time: 3 Hours]** **[Max. Marks:**

Answer Any **Five** Questions. Each Question Carries **14** Marks

[5 x 1

| S. No. | Question | BTL |
|---|---|---|
| 1 | i. Explain the functions of various layers in ISO-OSI reference model<br>ii. Discuss about the various transmission media available at the physical layer. | V<br>VI |
| 2 | i. Compare LAN and WAN with suitable examples.<br>ii. Explain various network topologies with neat sketch. | I<br>IV |
| 3 | i. Describe guided transmission media in detail.<br>ii. Elaborate on the design issues of data link layer. | V<br>I |
| 4 | i. Describe Light wave transmission in detail.<br>ii. Explain CRC method of error checking with example. | VI<br>I |
| 5 | i. Explain about the Efficiency and Delay in Datagram Networks in detail.<br>ii. Compare and Contrast Static Routing Algorithm and Dynamic Routing Algorithm | V<br>II |
| 6 | i. Discuss about the shortest path routing algorithms used in computer networks<br>ii. Explain how CSMA Collision Detection technique works in detail. | IV<br>VI |
| 7 | i. Discuss about TCP connection establishment with example.<br>ii. Explain the contents of TCP header in detail. | IV<br>II |
| 8 | i. Write about the working process of Simple Mail Transfer Protocol.<br>ii. What is HTTP? Describe in brief about HTTP request methods. | V<br>VI |

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02/03/22 (AN)

Code No.: CS-PCC-224

R18 H.T.No. | | | R | 0 | | | | | | |

# CMR INSTITUTE OF TECHNOLOGY: HYDERABAD

UGC AUTONOMOUS

II-B.Tech. II-Semester End Examinations (Supply) – FEBRUARY – 2022

COMPUTER NETWORKS

(CSE)

[Time: 3 Hours] [Max. Marks: 70]

Answer Any **Five** Questions. Each Question Carries **14** Marks [5 x 14=70M]

| S. No. | Question | BTL | CO |
|---|---|---|---|
| 1 | Explain Functions of TCP/IP layers with a neat sketch. | II | 1 |
| 2 | Apply the standard CRC method for transmitting a bit stream 10011101. The generator polynomial is x3+1.<br><br>i. What is the actual bit string transmitted?<br>ii. Suppose the third bit from the left is inverted during transmission. How will receiver detect this error? | III | 1 |
| 3 | Illustrate Carrier Sense Multiple Access with Collision Detection (CSMA/CD) and Carrier Sense Multiple Access with Collision Avoidance (CSMA/CA) protocols. | II | 2 |
| 4 | Explain working principle of spanning tree bridges. | II | 2 |
| 5 | Compare Connection-Oriented and Connectionless Service networks. | II | 3 |
| 6 | Demonstrate Distance Vector routing algorithm with an example. | II | 3 |
| 7 | Illustrate connection establishment & connection release in Transport layer. | II | 4 |
| 8 | Explain how Domain Name Servers work. | II | 5 |

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