

Reg. No.



MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL

A Constituent Institution of Manipal University

II SEMESTER M.C.A.

END SEMESTER EXAMINATIONS, APRIL 2017

SUBJECT: ADVANCED COMPUTER NETWORKS [MCA 4202]

**REVISED CREDIT SYSTEM
(22/04/2017)**

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitably assumed.

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| 1A. | Explain the use of Data Chunks in SCTP protocol. | 5 |
| 1B. | What are the different levels of addresses used in an internet employing the TCP/IP protocols? | 3 |
| 1C. | What are the advantages of IPV6 protocol? | 2 |
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| 2A. | Explain the Network Address Translation technology with a neat diagram. | 5 |
| 2B. | How is the flow control feature implemented at receiver site in SCTP protocol? | 3 |
| 2C. | What is the need of HELLO message in OSPF? | 2 |
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| 3A. | Explain the TCP segment format with a neat diagram. | 5 |
| 3B. | Mention the solutions for two node loop instability. | 3 |
| 3C. | What do you mean by back pressure? | 2 |

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| 4A. | Explain the techniques used for transition from IPv4 to IPv6. | 5 |
| 4B. | Calculate the checksum for the following ICMP packet:
Type: Echo Request Identifier: 15
Sequence number: 25 Message: GOOD | 3 |
| 4C. | What is the difference between integrated services and differentiated services? | 2 |
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|-----|---|---|
| 5A. | Explain the IPV4 datagram format with a neat diagram. | 5 |
| 5B. | What are connection identifiers in ATM network? | 3 |
| 5C. | Assume a system uses five protocol layers. If the application program creates message of 150 bytes and each layer adds a header of 20 bytes to the data unit, what is the efficiency of the system? | 2 |