

MCA (SEM- III)
Data Communication Networks
(OCT-16)

Q.P. Code : 511302

(3 Hours)

[Total Marks : 100]

- N.B. :**
- 1) Question No.1 is **compulsory**.
 - 2) Attempt any **four** from the remaining **six** questions.
 - 3) All questions carry equal marks.

1. (a) Explain why layered architecture is preferred in communication. Explain OSI model in detail. 10
 (b) Discuss guided media used in data communication. 10
2. (a) Calculate the CRC for 100101000111 using the divisor 110011. 10
 (b) Discuss RSA public key crypto system with example. 10
3. (a) Discuss the services provided by the data link layer and explain HDLC frame format in detail. 10
 (b) Discuss the 4-way handshake for TCP connection termination. 10
4. (a) Define congestion. Discuss the various methods of preventing and reducing the congestion. 10
 (b) What are the services provided by the network layer? Explain the Bellman Ford Routing algorithm. 10
5. (a) Explain the methods of converting digital data in to analog signal. 10
 (b) What is classful addressing? Discuss Class A, class B, Class C, Class D and Class E addresses with its ranges in decimal dotted notation and example. 10
6. (a) What is sliding window? Explain Go back N protocol in detail. 10
 (b) Explain any two IEEE standards in detail. 10
7. Write Short Notes on any four :- 20
 - a) ARP
 - b) DHCP
 - c) Tunneling
 - d) FTP
 - e) ALOHA