Roll No. ..... **Total Pages : 03**

OMMS/M-20 **13181**

INTRODUCTION TO COMPUTER NETWORKS

ITM-405

Time : Three Hours] [Maximum Marks : 70

Note : Attempt *Eleven* questions in all, selecting exactly *eight* questions from Part A and *three* questions from Part B.

Part A

1. List the way in which OSI and TCP/IP reference models are same and the ways in which they are different. **5**

2. Given message (M) = 101101001 and generator polynomial (G) = 1101. Generate CRC bits. **5**

3. What is the diference between CSMA and ALOHA ? **5**

4. Explain the concept of subnetting with the help of an example. **5**

5. Explain the following terms related to IEEE 802.11 : DCF, PCF, DIFS, NAV and Contention period. **5**

6. With the help of timing diagram explain the Selective repeat ARQ with sender and receiver windows. **5**

7. What are the features of TCP protocol and reason for its popularity ? **5**

8. With the help of an example explain Go-Back-N ARQ protocol. **5**

9. Explain the channelization problem of Cellular Networks. **5**

10. What is the difference between Distance vector and Link state routing ? **5**

Part B

11. What is the concept of ATM networks ? What was the reason for its failure to replace TCP/IP ? **10**

12. What is Statistical Multiplexing ? Explain FDM and WDM. **10**

13. What is HDLC Protocol ? How does it operate ? Give its configurations, frame and control field formats. **10**

14. Describe the traditional cryptographic techniques associated with network security and give *one* example of a symmetric key and a public key algorithm. **10**

15. What is the difference between IPv4 and IPv6 ? What are the various goals of IPv6 ? What is the purpose of extension header in IPv6 ? **10**