

**M.Tech 1st Semester (ECE) CBCS Scheme****Examination, December-2017****DATA COMMUNICATION NETWORKS****Paper-MTECE 21 C5***Time allowed : 3 hours]**[Maximum marks : 100*

**Note :** *Question No. 1 is compulsory. Attempt total five questions by selecting one question from each section.*

1. (a) What is circuit switching ?  
(b) What are advantages and disadvantages of optical fiber ?  
(c) Write a detail note on parallel and serial transmission.  
(d) What are the types of errors ?

**Section-A**

2. (a) Discuss the various signal encoding techniques. 10  
(b) List out various transmission media used in communication networks. Also discuss their applications. 10
3. (a) Differentiate between synchronous and asynchronous transmission with example. 10

- (b) How does a single bit error differ from a burst error ? Can burst error be detected with CRC ? Which type of techniques is used for identifying burst error ? 10

#### Section-B

4. What is the difference between character and bit oriented protocols ? Which one is efficient and why ? 20
5. Explain about synchronous and statistical TDMA in detail with neat diagram. 20

#### Section-C

6. Explain in detail the concept of CSMA/CD and FDDI with the help of diagrams. 20
7. (a) Define switch. Describe the need of switching. Explain the packet switching in detail. 10
- (b) Explain in detail about ATM cell format. 10

#### Section-D

8. Explain in detail about OSI model protocol architecture with neat diagram. 20
9. Discuss about ISDN concept and architecture. Also list its various protocols with their application. 20