

**I.D. No. 24442**

**B.Tech. 7th Semester F. Scheme Electronics &  
Communication Engg-III Examination, May-2014**

**DATA COMMUNICATION**

**Paper-ECE-407-F**

*Time allowed : 3 hours]*

*[Maximum marks : 100*

*Note : Question no. 1 is compulsory, attempt one question  
from each sections.*

1. (a) Define carrier recovery. 5×4
- (b) What is intranet and extranet.
- (c) Discuss DDD network.
- (d) Explain band width efficiency.

**Section-A**

2. (a) Explain clock recovery ckt. with its timing diagram. 10
- (b) Discuss trellis encoding. 10
3. (a) Determine the maximum bit rate for a FSK signal with a mark frequency of 99 KHz, a space freq. of 101KHz, and the bit rate is 10 Kbps. 15
- (b) Give differences between PSK and QAM ? 5

**Section-B**

4. (a) Discuss history of data communication. 10
- (b) Explain asynchronous modems. 10
5. (a) Explain serial interface CCITT X.21. 10
- (b) Discuss centronics parallel interfaces. 10

**Section-C**

- 6. Explain open system interconnection (OSI). 20
- 7. (a) Discuss synchronous protocols. 10
- (b) Discuss integrated services digital network (ISDN). 10

**Section-D**

- 8. (a) Discuss AT & T's FDM hierarchy. 10
- (b) Explain TI digital carrier systems. 10
- 9. Discuss in detail TCP/IP reference model. 20