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Roll No. .... /030835

**3rd Sem / Comp., IT**  
**Subject:- Data Communications**

Time : 3Hrs.    M.M. : 100

**SECTION-A**

**Note:** Multiple choice questions. All questions are compulsory (10x1=10)

- Q.1 Which of the following is the components of data communication. (CO1)  
a) Sender                                      b) Receiver  
c) Protocol                                      d) All of above
- Q.2 Network components are connected to the same cable in the \_\_\_\_\_ topology. (CO1)  
a) Mesh                                      b) Bus  
c) Star                                      d) Ring
- Q.3 Which of the following parameters is not related with network performance. (CO2)  
a) Jitter                                      b) Throughput  
c) Latency                                      d) Analog
- Q.4 \_\_\_\_\_ parameter is not related with the characteristics of analog signals. (CO2)  
a) Amplitude                                      b) Modem  
c) Frequency                                      d) Phase
- Q.5 Which of the following scheme is not related with analog to analog conversion. (CO3)  
a) Amplitude modulation  
b) Pulse modulation

- c) Frequency modulation  
d) Phase modulation

- Q.6 FSK is the example of which type of conversion. (CO3)  
a) Analog to analog                      b) Digital to analog  
c) Analog to digital                      d) None of above
- Q.7 Which of the following is not a type of multiplexing. (CO4)  
a) ADM                                      b) FDM  
c) TDM                                      d) WDM
- Q.8 \_\_\_\_\_ not a type unguided transmission media. (CO5)  
a) Fiber Optics                                      b) Microwave  
c) Radio wave                                      d) Infrared
- Q.9 The following technique is not the part of error detection. (CO6)  
a) Parity checking                      b) Checksum  
c) CRC                                      d) Bitcode
- Q.10 The signal rate is sometimes also called as \_\_\_\_\_ rate. (CO2)  
a) Baud                                      b) Bit  
c) Signal                                      d) None of above

**SECTION-B**

**Note:** Objective type questions. All questions are compulsory. (10x1=10)

- Q.11 In \_\_\_\_\_ mode the data can flow in both the direction but only one is possible at a time. (CO1)
- Q.12 \_\_\_\_\_ is the time taken by the whole message to travel from the sender to the receiver. (CO2)

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- Q.13 List the name of any two causes behind impairments. (CO2)
- Q.14 Phase shift keying is a type of digital to analog conversion. (T/F) (CO3)
- Q.15 In \_\_\_\_\_ transmission, the set of bits are transmitted simultaneously from the sender and receiver. (CO3)
- Q.16 WDM stands for \_\_\_\_\_. (CO4)
- Q.17 Microwave is a type of guided media. (T/F) (CO5)
- Q.18 List any two types of unguided media. (CO5)
- Q.19 \_\_\_\_\_ bits acts as redundant bit that helps in error detection. (CO6)
- Q.20 CRC stands for \_\_\_\_\_. (CO6)

### SECTION-C

**Note:** Short answer type questions. Attempt any twelve questions out of fifteen questions. (12x5=60)

- Q.21 Explain LAN along with its diagram and advantages. (CO1)
- Q.22 Explain terms amplitude, frequency and phase in context to analog signals. (CO2)
- Q.23 Explain any two parameters related with the network performance. (CO2)
- Q.24 What do you mean by digital to analog conversion. Explain its any one technique. (CO3)
- Q.25 Explain pulse code modulation in brief with diagram. (CO4)
- Q.26 Explain the concept of FDM with the help of diagram. (CO4)
- Q.27 Differentiate between fiber optics and coaxial cables. (CO5)

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- Q.28 What is analog to analog conversion. Explain its any one technique. (CO3)
- Q.29 What are analog signals. Explain periodic and aperiodic analog signals. (CO2)
- Q.30 Explain in brief the transmission of digital signals. (CO2)
- Q.31 What is NRZ. Explain various NRZ schemes with example. (CO3)
- Q.32 Explain the term multiplexing in context with data communication. (CO4)
- Q.33 Differentiate between synchronous and asynchronous TDM. (CO4)
- Q.34 Differentiate between serial and parallel transmission. (CO3)
- Q.35 Explain different types of errors that occurs during data transmission. (CO6)

### SECTION-D

**Note:** Long answer type questions. Attempt any two questions out of three questions. (2x10=20)

- Q.36 What is data communication. Explain its various components in detail. (CO1)
- Q.37 What is error detection through parity bit. Discuss how block parity is used to detect double errors and correct single errors. (CO6)
- Q.38 What do you mean by unguided media. Explain any two types of unguided media in detail. (CO5)
- (**Note:** Course outcome/CO is for office use only)

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