

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College under University of Calcutta)

B.A./B.SC. FOURTH SEMESTER EXAMINATION, MAY 2012

SECOND YEAR

COMPUTER SC. (Honours)

Date : 21/05/2012

Time : 11 am – 2 pm

Paper : IV

Full Marks : 75

Answer **any five** of the following questions :

1. a) Explain Nyquist theorem with its importance. [4]
b) What is delta modulation? [2]
c) “To transmit a file through LAN, D/D encoding is used” —Justify [2]
d) What do you mean by bit rate and band rate? [2+2]
e) Explain the concept of bandwidth. [3]
2. a) Distinguish between connection oriented and connectionless services in Network layer of OSI model. [3]
b) Describe advantages of digital transmission over analog transmission. [4]
c) Illustrate CRC with proper example. [5]
d) Write down the comparison between CRC and Check sum. [3]
3. Describe different flags in 8085. Write a assembly language programming in 8085 to find number of even and odd numbers from an array. [5+10]
4. a) Make a brief comparative study for maximum and minimum mode of operation in 8086 microprocessor. [6]
b) Discuss the use of ALE signal in 8085 microprocessor for multiplexing of address and data bus. [4]
c) Why 8155 is called a multipurpose programmable device? Describe the format of control word in 8155. [2+3]
5. a) If M be a message of length K bits and P be a predefined divisor of length $(n+1)$ bits, then prove that $T = \text{pow}(x, n) + F$ will be divisible by P , where F is the remainder when $\text{pow}(x, n)$ will be divided by P . [4]
b) Describe OSI layers with their functions. [11]
6. Explain the following instructions of 8085 with proper example and timing diagram : [3×5]
a) CALL
b) LDA
c) IN
7. Write notes on (**any three**) : [3×5]
a) IP addressing
b) TDM, FDM and WDM
c) ISDN
d) TCP
e) MIME

