M.Sc Computer Science

School of Distance Education

University of Kerala

III Semester- Assignment questions

1. <u>DCS 31 Data Mining and Warehousing</u>
   1. Explain the following
      a) Data Mining Applications
      b) Data Mining and Society
      c) Datamining Trends
      d) DataMining Softwares

2. <u>DCS 32 Distributed Systems</u>

   a) Explain the challenges of distributed system
   b) Give examples of distributed systems
   c) Explain the features of SUN Network File System
   d) Explain the features of Andrew File System
   e) Explain the threats in Cloud
   f) Explain the Advantages and Disadvantages of Cloud Based data Storage

3.DCS 33 Information security

Short Answer:

1. Define the terms: Encryption, Cipher, and Cryptogology

2. Apply *Rail fence* cipher to recover the plain text from the cipher. The Text is: 'AAIXDISEANNRCPIOAAZGTTEETNRMI' using 10 columns in rail.

3. Define CAPTCHA.

4. What is Access Control Matrix?

5. What is GSM protocol?

6. Give 3 examples of malware.

Essays:

1. Describe the concept of *"Fiestel Cipher Structure"*.

2. Employ the basic *Diffie-Hellman* key exchange to two users Sumanth and Hemanth.

   They agree on a common prime q=83 and a primitive root α=5.

   Sumath has Private key XA=6, compute his Public key YA?

Hemanth has Private key XB=10, compute his public key YB?

Compute the shared secret for the session.

3. Explain MAC.

4. What are the different types of Firewalls and explain the merits and demerits

5. Explain the Concept of Digital Watermarking.

6. Explain various software flaws and how it affects the security owned by an organization.

DCS 34 Compiler Design

1. Discuss

a) Assembly language fundamentals(8085 based assembly language Programming)

b) Macroprocessor design Options

c) Linkage Editors

d) Bootstrap Compilers

II. Explain

a) LEX Package on UNIX systems
b) YACC package on UNIX systems

5. DCS 35 B Digital Image Processing

1) Explain image compression

a) Coding Redundancy

b) Interpixel Redundancy

c) Psychovisual Redundancy

d) Lossless Predictive coding

e) Lossy Predictive Coding

f) Transform coding

2) Explain Image Compression Standards- Procedure for JPEG

3) Explain Concepts of Image Security