



Biomedical Engineering

CSE-494: Bioinformatics  
Midterm Exam  
Allowed time 1 hour



Faculty of Engineering

**Question 1: [5 Marks]**

Draw:

- Data acquisition system diagram.
- Data transmission system diagram.

**Question 2: [5 Marks]**

Write down:

- Markov matrices (first order, second order).
- Objectives of encoding before transmission.
- Types of compression with techniques.
- Different categories for calculating number of arrangements in combinatorics.
- Binomial Theory law.

**Question 3: [5 Marks]**

Explain:

- M-length approximation.
- Parity check code in 2 dimension

**Question 4: [5 Marks]**

With applying Hamming code on original message "1 0 0 1"

- Find Transmission message.
- Check and correct message if received message is "0 0 0 1 1 1 0"