

Navrachana University
School of Business and Law
Bachelor of Computer Applications
End-Semester Examination November 2017
SYBCA Semester-III
Data Communication and Computer Networks (CA206)

Date: 21/11/2017
Time: 1:00 pm to 3:00 pm

Marks: 40

Instructions:

- Write each answer on a new page
- Use of a calculator is not permitted

Q1. Answer the following questions.**(10 Marks)**

1. Define cryptanalysis? What is brute-force approach or exhaustive key search.
2. What are the ingredients of a public-key encryption scheme?
3. What are the three applications of public-key cryptosystems?
4. Explain the three types of transmission impairments?
5. Differentiate between passive and active attacks.

Q2. Answer the following questions. (Any 3)**(12 Marks)**

1. Write a short note on fiber optic propagation modes.
2. What are the parameter or design features of a Feistel Cipher Structure?
3. Site a few examples where radio waves, microwaves, and infrared waves are used?
4. A network with bandwidth of 10 Mbps can pass only an average of 12,000 frames per minute with each frame carrying an average of 10,000 bits. What is the throughput of this network?
5. Write a short note on steps involved in designing a computer network.

Q3. Answer in detail (Any 3)**(18 Marks)**

1. Compare DES and 3DES algorithms.
2. Explain AES algorithm.
3. Explain various approaches to message authentication?
4. Explain digital to digital conversion techniques?