

BCA Sixth Semester Examination, June – 2022
SECOND PAPER

Network Security & Cryptology
Paper Code-42602

Time Allowed: 1½ Hours

Maximum Marks : 35

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

PART-I

1. Answer any 5 questions. Each question carries 1 mark.
 (Words limit up to 20 words each) **5x1= 5**
 - a) What do you mean by Pseudo random functions?
 - b) What is Coin Flipping?
 - c) Define Proxy Firewall.
 - d) What is Symmetric Encryption?
 - e) Define the term “Hash function”.
 - f) What is Firewall? What is its use?
 - g) Define the use of Block Cipher in Cryptography.
 - h) What is AES?
 - i) What is MAC? What is its use?
 - j) Define Kerberos.
 - k) What is Digital Signature?
 - l) Define Denial of Service Attack.

2. Attempt any two questions. Each question carries 5 marks.
 (Word limit upto 50 words each) **2x5=10**
 - a) Distinguish between Symmetric and Asymmetric key Cryptography with example.
 - b) Describe the different types of attacks on double DES and triple DES.
 - c) Define CBC with a Random IV.
 - d) Why do we require Hash Function? Explain the requirements of a good Hash function?

Attempt any 2 questions in all .

Part-II

2X10=20

3. Explain ‘Block Cipher’ and its use in Cryptography.

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4. Describe Cryptography and the different phases of development of Cryptography.
5. Explain the RSA Crypto System. Briefly explain the RSA algorithm and its strengths.
6. What are the various pseudo random function families? Explain each of them with example.
7. Differentiate between the Homophonic Substitution Cipher and Polygram Substitution Cipher with example for each.
8. Describe the below transposition techniques:
 - a) Rail Fence Technique
 - b) Simple Columnar Transposition Technique.
9. What is Digital Signature? Explain any one digital signature scheme with example.
10. What is a Firewall? List out and explain the characteristics of a good firewall implementation.

B.C.A. (Sem. VI)

BCA Sixth Semester Examination, June – 2022

FOURTH PAPER
Artificial Intelligence & Expert Systems
Paper Code - 42604

Time Allowed: 1½ Hours**Maximum Marks : 35**

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

PART-I

1. Attempt any 5 questions out of the following. Each question carries 1 mark.

5x1=5

- a) What is Heuristic Search?
- b) What are the different types of agents?
- c) What is Frame Based System?
- d) Write the semantics of Bayesian Network.
- e) What do you understand by Knowledge Representation?
- f) What are the types of learning?
- g) Define Neural Network.
- h) What are the most important aspect of expert system?
- i) Differentiate Human Expert and Expert System.
- j) Define Reinforcement Learning.
- k) What is Fuzzy Logic?
- l) What is Predicate Logic?

Attempt any 2 questions out of the following. Each question carries 5 marks.

2x5=10

- a) State representation of facts in predicate logic with an example.
- b) What is Frame Based System? Explain.
- c) What are the properties of expert system?
- d) Discuss the memory bounded heuristic search.

Part-II

2X10=20

Attempt any 2 questions in all .

What is meaning of Artificial Intelligence? Define Artificial Intelligence in terms of human performance.

10

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Explain the difference between uninformed and informed search. List two examples of each type of algorithm

10

P.T.O.

5. Write algorithm for propositional resolution and unification algorithm.
6. Write short notes on :
- Best First Search
 - AND - OR Graph
7. Discuss about Bayesian Theory and Bayesian Network.
8. Write short notes on :
- Minimalist reasoning
 - Dempster - Shafer theory
9. With neat sketch explain the architecture , characteristic features and role of expert system.
10. Write short notes on :
- Learning by analogy
 - Learning by deduction.

BCA Sixth Semester Examination, June – 2022
(Faculty of Science)
THIRD PAPER
Data Warehousing and Data Mining
 Paper Code : 42603

Time Allowed: 1½ Hours

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

Maximum Marks : 35

1. Attempt any 5 questions out of the following. Each question carries 1 mark.

5x1=5

- a) What is Data Warehousing?
- b) What is the need of data warehouse?
- c) What is Data Cube?
- d) Define Snowflake Scheme.
- e) Define Data Mart.
- f) What is Data Preprocessing?
- g) Define Data Transformation.
- h) Define Aggregation.
- i) Define Data Reduction.
- j) Define Load Manager.
- k) List out the types of Meta Data.
- l) What is Query Manager?

2. Attempt any 2 questions out of the following. Each question carries 5 marks.

2x5=10

- a) Differentiate between Data warehouse and Data Mining.
- b) Explain the various schemas of a Data Warehouse.
- c) Explain Data Warehouse hardware architecture.
- d) List out the preprocessing technique available in data mining.

PART-II

Attempt any 2 questions in all .

2X10=20

- 3. Explain Data Warehouse designing approaches in detail.

4. What do you mean by Data Warehouse? Describe and differentiate between Data Warehouse and Data Base.
 5. Write a short note on :
 - a) Hardware partitioning
 - b) Star flake schema
 6. Describe about Dimension Modeling in detail.
 7. List out the OLAP operations and explain the same with an example.
 8. Define Meta Data and explain the types of Meta Data.
 9. Define Data Mining. Differentiate data mining tools and query tools.
 10. Explain the forms of data processing along with data cleaning.

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BCA (Sem. VI)

Roll No.

MIS

BCA Sixth Semester Examination, June 2022
(Faculty of Science)
FIRST PAPER
Management Information System
Paper Code :42601

Time Allowed: 1½ Hours

No supplementary answer book will be given to any candidate. Hence the candidates should write the answers precisely in the main answer book only.

Maximum Marks : 35

PART-I

1. Answer any 5 questions. Each question carries 1 mark.
(Words limit up to 20 words each) **5x1= 5**
 - a) How will you define a System?
 - b) What is Information?
 - c) Define MIS.
 - d) Differentiate between Recurring and Non – Recurring Information.
 - e) Write one advantage of MIS.
 - f) What is Expert System?
 - g) What is Formal Information System?
 - h) Define Decision Support System.
 - i) What do you mean by Value of Information?
 - j) What is Feasibility Study?
 - k) What is Open System?

2. Attempt any two questions. Each question carries 5 marks.
(Word limit upto 50 words each) **2x5=10**
 - a) What are the objectives of MIS?
 - b) What are the applications of MIS in production?
 - c) Explain different types of Information.
 - d) What are the pitfalls in MIS?

Attempt any 2 questions in all .

PART-II

2X10=20

3. Explain role of MIS and discuss different advantages and disadvantages of MIS.
4. What is the role of Information in Decision Making? Explain different types of Information System.

P.T.O.

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By Gyan

5. What is DSS? Explain characteristics and roles of DSS.
6. Explain components of MIS. Describe Simon's Model of Decision Making.
7. Explain different phases & system design of Information System.
8. How would you identify information needs and sources in System design?
9. Explain MIS in marketing and personal department of any organization.
10. Do you think Management Information System helps in working of any organisations financial department? Justify.
