

**RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES
ONGOLE CAMPUS**

E3 (2018 Batch) SEMESTER 2 END SEMESTER EXAMINATIONS, JUNE 2023

Subject: Cryptography and Network Security

Time: 3hrs

Branch: Computer Science and Engineering

Max. Marks: 60

- Note: 1. Question Paper consists of two parts (Part-A and Part-B)
 2. In Part-A, each question carries one mark.
 3. Answer ALL questions in Part-A and Part-B

PART-B

42 Marks

UNIT-I

- 1 How does Shannon's theory of confusion and diffusion contribute to the design and implementation of secure cryptographic algorithms in the field of network security? Explain with an example? 7 M

OR

- 2 What do you mean by AES? Diagrammatically illustrate the structure of AES and describe the steps in AES encryption process with example. 7 M

UNIT-II

- 3 Define Euler's function and Write Euclid's algorithm to calculate GCD of two numbers? 7 M
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- 4 Explain the role of encryption algorithms in maintaining confidentiality? What are some common algorithms used in conventional encryption? 7 M

UNIT-III

- 5 Write short notes on public key cryptography principles? Calculate Prime factors for 5767? 7 M

OR

- 6 Explain the working of RSA and choose an application of your choice for RSA and show how encryption and decryption is carried out. 7 M

UNIT-IV

- 7 Using the pretty good privacy cryptographic functions, explain the security features offered for e-mail in detail. 7 M

OR

- 8 What is MAC (Message authentication codes) in cryptography? How can we achieve authentication using MAC? 7 M

UNIT-V

- 9 Discuss in detail about IP security architecture and the services offered by IPSec. 7 M

OR

- 10 Explain IP security functions in ensuring security over IP networks, particularly emphasizing the role of key management and different security modes. 7 M

UNIT-VI

- 11 How can we achieve transport layer security Discuss appropriate protocols used in transport layer? 7 M

OR

- 12 Explain the types of Host based intrusion detection. List any two IDS software available. 7 M



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E3 (2018 Batch) SEMESTER 2 END SEMESTER EXAMINATIONS, JUNE 2023

Subject: OBJECT ORIENTED ANALYSIS & DESIGN(OOAD)

Time: 3 hrs

Branch: CSE

Max. Marks: 60

- Note: 1. Question Paper consists of two parts (Part-A and Part-B)
 2. In Part-A, each question carries one mark.
 3. Answer ALL questions in Part-A and Part-B

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PART-B

42 Marks

UNIT-I

- 1 a What is the importance of modeling in object-oriented and Explain modeling principles. 4M
 b Explain why object-oriented approach is preferable when compared to other approaches? 3M

OR

- 2 a Write about structural things of UML vocabulary. Give UML notation 4M
 b What is a suitable notation for expressing the design of an object-oriented system? 3M

UNIT-II

- 3 a What are the steps to model simple collaborations of class diagram? 4M
 b Distinguish between interface and class. 3M

OR

- 4 a Discuss how classes can be used for modeling the non-software things and modeling primitive type 4M
 b Explain with an example how to depict an asynchronous message. 3M

UNIT-III

- 5 a With reference to class diagrams, enumerate the steps to forward engineer. 4M
 b Discuss various uses of object diagram 3M

OR

- 6 a Draw a class diagram for online railway reservation system with analysis. 4M
 b Explain about links and associations in detail. 3M

UNIT-IV

- 7 a Draw swimlane flowchart for financial accounting template and customize it to show your processes and procedures. 5M
 b What are the interaction diagrams? Explain. 2M

OR

- 8 a Explain the following:
 i) Links ii) Messages 2M
 b Draw an usecase diagram and sequence diagram for hospital information system aimed at collecting and sorting complete information pertaining to the patients. 5M

UNIT-V

- 9 a What is an event? What are different types of events? 4M
 b Compose the state chart diagram for unified library application. 3M

OR

- 10 a Define the following terms.
 i) Events, Signals and Process
 ii) Thread, Time and Space.
 b Prepare an activity diagram the elaborates the details of logging into an email system. Explain the steps with a neat diagram. 4M

UNIT-VI



**RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES
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E3 (2018 Batch) SEMESTER2 ENDSEMESTER EXAMINATIONS, JUNE 2023

Subject: Artificial Intelligence

Time: 3hrs

Branch:CSE

Max. Marks: 60

Note: 1. Question Paper consists of two parts (Part-A and Part-B)

2. In Part-A, each question carries one mark.

3. Answer ALL questions in Part-B and each question carries 7 Marks

PART-B

42 Marks

UNIT-I

- 1 How problem characteristics helps in the selection of AI techniques? Explain these characteristics with possible examples? 7M

OR

- 2 What do you mean by Production system? Explain the Production characteristics? 7M

UNIT-II

- 3 Explain the following types of Hill climbing search techniques 7M
 i) Simple Hill climbing
 ii) Steepest Hill climbing
 iii) Simulated Annealing

OR

- 4 Explain the nature of heuristic with an example? Write notes on A* and AO* algorithms? 7M

UNIT-III

- 5 Consider the following facts: 7M
 • Team India
 • Team Australia
 • Final Match between India & Australia
 • India scored 350 runs, Australia scored 350 runs. India lost 5 wickets, Australia lost 7 wickets.
 • The team which scored maximum runs wins.
 • If the scores are same the team which lost minimum wickets wins the match.

Represent the above facts in predicate, convert to clause form and prove by resolution "India wins the match"

OR

- 6 a What is data driven search(forward chaining)? 3M
 b Write a short notes on unification? 4M

UNIT-IV

- 7 Discuss different techniques of knowledge representation? 7M

OR

- 8 What is conceptual dependency? 7M
 Write canonical meaning representation for the following statements?
 • John gave Mary a book.
 • John gave a book to Mary.
 • Mary was given a book by John.
 • Mary took a book from John.
 • Mary received a book from John

UNIT-V

- 9 a List out any three applications of NLP ? 3M
b What are the phases that are present in NLP ? 4M

OR

- 10 a Discuss various Parsing techniques in NLP? 4M
b Write notes on discourse and pragmatic processing? 3M

UNIT-VI

- 11 Explain the different types of learning along with performance measures in knowledge acquisition? 7M

OR

- 12 What are the characteristic features of expert system? List out any three expert system applications? 7M


Subject: SOFTWARE TESTING
Time: 3 hrs
Branch: CSE
Max.Marks: 60

Note: 1. Question Paper consists of two parts (Part-A and Part-B)

2. In Part-A, each question carries one mark.
3. Answer ALL questions in Part-A and Part-B

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PART-B
42 Marks
UNIT-I

- 1 a What is the difference between Testing Techniques and Testing Tools? 4M
 b List out the static dynamic techniques. 3M

OR

- 2 Define the terms 7M
 i. Error
 ii. Fault
 iii. Test Case
 iv. Incident
 v. Failure
 vi. Problem Statement
 vii. Test

UNIT-II

- 3 a Write short notes on defect reporting? 4M
 b How do you manage software defects. 3M

OR

- 4 a What is the defect repository, how developer support is needed for defect repository development.? 7M

UNIT-III

- 5 a Explain any four design strategies for testing. 4M
 b When do we prepare RTM (Requirement traceability matrix), is it before the test case designing or after test case designing? Explain how 3M

OR

- 6 a Explain how the input domain problem is naturally partitioned. 3M
 b Compare and contrast the single/ multiple fault assumption with boundary value and equivalence class testing. 4M

UNIT-IV

- 7 a Give the most effective ad hoc testing techniques. 3M
 b List the phases of unit test planning and work of test planner. 4M

OR

- 8 a What are the two major requirements in the Performance testing. 4M
 b State the need for integration testing in procedural code 3M

UNIT-V

- 9 a What are the responsibilities of a test specialist? 2M
 b What are the three critical groups in testing planning and test plan policy? 3M
 c List the Test plan components. 2M

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OR

- 10** a Write short notes on Cost driver. 2M
b What is the information present in the Test Item, Transmittal Report or Locating Test Items 3M
c Write the reason to create work break down structure 2M
- UNIT-VI**
- 11** a Draw the framework for test automation. 3M
b Discuss the types of review. Explain various components of review plans. 4M
- OR**
- 12** Briefly explain the test tool selection procedure. 7M



**RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES
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E3 (2018 Batch) SEMESTER2 ENDSEMESTER EXAMINATIONS, JUNE 2023

Subject: Human Computer Interaction

Time: 3hrs

Branch: CSE

Max. Marks: 60

Note: 1. Question Paper consists of two parts (Part-A and Part-B)

2. In Part-A, each question carries one mark.

3. Answer ALL questions in Part-A and Part-B

PART-B 42 Marks

UNIT-I

1 Explain about GUI interface designs for developing a good design ?

OR

2 a Explain the concept of Direct manipulation?

7M

b What is the characteristics of GUI?

4M

3M

UNIT-II

3 Explain about Importance of Human characteristics in design?

7M

OR

4 What are the various difficulties with poor design?

7M

7M

UNIT-III

5 Explain about Interface design goals? and write a short note on information retrieval on web.

7M

OR

6 Write a short notes on Screen designing? and Explain about Organizing screen elements?

7M

UNIT-IV

7 What are the various functions of menu? Discuss different types of menus.

7M

OR

8 Explain about navigation schemes and selection window process?

7M

UNIT-V

9 Discuss about different types of text and messages?

7M

OR

10 What is Multimedia. and Explain about colors ?

7M

UNIT-VI

11 Explain about speech recognition and write a short notes on software tools.

7M

OR

12 What are the function keys ? Explain the advantages of function keys?

7M
