

FACULTY OF SCIENCE
MCA III – SEMESTER REGULAR EXAMINATIONS, MAY- 2022
SOFTWARE ENGINEERING
PAPER – I

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Write about Cost and Schedule.
2. What is Effort estimation?
3. What is Functional oriented Design.
4. Explain testing procedural Units.
5. What is Reengineering?

Section – B

Answer the following questions in not more than **FOUR** page each: (5x10=50)

6. a) What is water fall model explain in detail? Explain the limitations of water fall model?

(OR)

- b) Explain about spiral model in detail?

7. a) Explain characteristics and components of SRS?

(OR)

- b) Explain components and connector view of software architecture?

8. a) Explain in detail about quality plan for software project?

(OR)

- b) What is Risk? Explain in detail about risk management planning?

9. a) What is testing? Write about Black box testing in detail?

(OR)

- b) Explain in detail about testing concept and process of testing?

10. a) What is forward engineering? Explain in detail?

(OR)

- b) What is business process reengineering?

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FACULTY OF SCIENCES
MCA III – SEMESTER REGULAR EXAMINATIONS, MAY- 2022
COMPUTER NETWORKS
PAPER – II

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Explain various components used in computer networks.
2. Explain the role of CRC in Error Control.
3. Explain the frame structure if IPv4.
4. Explain, How Congestion Control helps in improving the transmission of data?
5. What is Socket? Explain.

Section – B

Answer the following questions in not more than **FOUR** page each: (5x10=50)

6. a) Explain the importance of layered architecture with TCP/IP model.
(OR)
b) Explain various transmission mediums used in computer networks.
7. a) Explain different methods of Flow Control.
(OR)
b) Explain IEEE 802.3 Ethernet LAN Architecture.
8. a) Explain the role of Network layer in finding the route using Distance Vector Routing Algorithm.
(OR)
b) Explain Boarder Gateway Protocol.
9. a) Explain Frame structure of TCP.
(OR)
b) Explain, How the TCP and UDP provide QOS?
10. a) Explain primitive socket system calls of client server architecture.
(OR)
b) Discuss in detail about DNS.

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FACULTY OF SCIENCES
MCA III – SEMESTER REGULAR EXAMINATIONS, MAY- 2022
DATA SCIENCE
PAPER – III

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each:

(5x4=20)

1. Explain about R packages.
2. Write the commands to identify missing values, invalid values and outliers.
3. What is Regression? Write its applications in Data Science.
4. What are the issues faced while constructing Decision Tree? Explain.
5. Explain CURE algorithm.

Section – B

Answer the following questions in not more than **FOUR** page each:

(5x10=50)

6. a) Explain various data types used in R with exploring commands.
(OR)
b) Explain variables and functions of R.
7. a) What is Data Frame? Explain Loading of Data Frames from different file formats.
(OR)
b) Explain Data Visualization using R.
8. a) Discuss in detail about Implementation of Linear Regression.
(OR)
b) Explain Binary and Multinomial Logistic Regression Models.
9. a) How do you implementation Decision Tree in R? Write Decision Tree learning Algorithm.
(OR)
b) Explain reading and decomposing of Time Series Data. How to use Time series data with ARIMA models?
10. a) Explain Clustering with K-means algorithm.
(OR)
b) Explain Mining algorithm for generating association rules.

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FACULTY OF SCIENCES
MCA III – SEMESTER REGULAR EXAMINATIONS, MAY- 2022
WEB TECHNOLOGIES
PAPER – IV

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each:

(5x4=20)

1. Specify the Common Tags in HTML?
2. What is Navigator Object? Explain.
3. What is Scripting? Write a short note on Java Script.
4. Write the Operations of VB Script.
5. Write a short note on Cookies.

Section – B

Answer the following questions in not more than **FOUR** page each:

(5x10=50)

6. a) Write the Structure of a HTML program. And explain different kind of Lists in HTML.

(OR)

- b) How to create Cascading Style Sheets? Explain in detail.

7. a) Create an Event model that demonstrate ONMOUSEMOVE, ONMOUSEOVER, ONMOUSEOUT.

(OR)

- b) Describe the Filters and Transitions in Dynamic HTML.

8. a) Describe the Control Structures in Java Script.

(OR)

- b) How to use Arrays in Java Script? Explain the process of passing arrays to Functions.

9. a) What are Strings? Write a VB Script to illustrate String manipulations.

(OR)

- b) Describe Apache Web Server in detail.

10. a) Differentiate between Client Side Scripting Vs Server Side Scripting.

(OR)

- b) What is XML? Explain XML Document Type Definition.

FACULTY OF SCIENCES
MCA III – SEMESTER REGULAR EXAMINATIONS, MAY- 2022
NATURAL LANGUAGE PROCESSING
PAPER – VI

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – AAnswer the following questions in not more than **ONE** page each:

(5x4=20)

1. Write about Random variables.
2. What is a Collocation? Give some examples.
3. Write about Disambiguation.
4. Write about Verb Sub categorization.
5. Write about common design features of IR systems.

Section – BAnswer the following questions in not more than **FOUR** page each:

(5x10=50)

6. a) Explain Conditional Probability and Bayes' Theorem.
(OR)
b) Explain the Linguistic essentials with respect to Natural Language Processing.
7. a) Explain the process of finding collocations based on Mean and Variance.
(OR)
b) Explain various aspects of n-gram models.
8. a) Write about Supervised and Unsupervised learning. Also write about Pseudowords.
(OR)
b) Explain Bayesian Classification for word senses.
9. a) Explain the role of Lexical Acquisition in Statistical NLP
(OR)
b) Explain Markov Models with a supporting State Diagram.
10. a) Explain the representation and features of Probabilistic Context Free Grammars.
(OR)
b) Explain types of Hierarchical Clustering.

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FACULTY OF SCIENCES
MCA III – SEMESTER REGULAR EXAMINATIONS, MAY- 2022
NETWORK SECURITY
PAPER – V

Time: 3 hours]

[Max. Marks: 70

Note: Answer all questions from Section – A and Section – B

Section – A

Answer the following questions in not more than **ONE** page each: (5x4=20)

1. Compare Worms and Viruses.
2. Explain java cryptography extensions.
3. Discuss about Biometric Authentication.
4. Write about Digital Certificates.
5. Write about electronic payments.

Section – B

Answer the following questions in not more than **FOUR** page each: (5x10=50)

6. a) Explain attributes of Network Security.
(OR)
b) What is Attack? Explain various types of attacks with example.
7. a) Explain variants of DES.
(OR)
b) Explain RSA Algorithm.
8. a) Explain Hash functions.
(OR)
b) Explain Digital Signatures.
9. a) Discuss about various methods of providing system security.
(OR)
b) Explain the role of Zero Knowledge Protocols in Smart Cards.
10. a) Explain web security protocols.
(OR)
b) Explain, How to provide enterprise security using J2EE?

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