



Narasaraopeta Engineering College (Autonomous)
Kotappakonda Road, Yellamanda (P.O), Narasaraopet- 522601, Guntur District, AP.

Subject Code: R16MCA501

MCA - V Semester Regular Examinations, November-2018.

NETWORK SECURITY AND CRYPTOGRAPHY

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B
All questions carry equal marks of 12.

PART-A

1. (a) Differentiate threat and attack. Categorize various types of Passive and Active attacks.
(b) What is the role of Key Distribution Centre?
(c) What are the requirements of Kerberos?
(d) Define Authentication Header.
(e) Define SSL.
(f) What is meant by Intrusion Detection?

[2+2+2+2+2+2]

PART-B

4X 12 = 48

2. (a) Explain Network Security Model with neat diagram
(b) Enumerate security mechanisms defined by X.800. Explain each.
3. (a) Explain cipher block modes of operation in detail
(b) Give structure of HMAC. List out the design objectives of HMAC
4. (a) Explain in detail Digital Signature Standard approach and its algorithm
(b) Explain principles of Public Key Cryptography.
5. (a) Write and explain different fields of top level format and substructure of ESP packet.
(b) Draw the architecture of IP Security.
6. (a) Discuss in detail about S/MIME.
(b) Explain in detail about TLS.
7. (a) Discuss in brief about Firewall Design Principles.
(b) List various approaches of IDS/IPS.



Subject Code: R16MCA502

MCA - V Semester Regular Examinations, November-2018.

DATA SCIENCE WITH R PROGRAMMING

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

PART-A

1. (a) Write the examples of Big Data Analytics.
- (b) List the phases of Data Analytics Life Cycle.
- (c) Explain syntax of function with example.
- (d) Discuss Wilcoxon Rank-Sum Test.
- (e) Write the applications of association rules.
- (f) What is Naïve Bayes Theorem?

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PART-B

4X 12 = 48

2. Discuss in detail about the state of the practice in Analytics.
3. (a) Explain how the discovery phase of Data Analytics Life Cycle works.
(b) Discuss ETLT.
4. (a) Explain R Sessions and Operations of list.
(b) Explain the following terms.
i) Functions ii) Data Types iii) Vectors
5. (a) Discuss Hypothesis Testing.
(b) Explain how ANOVA is designed to address issues of Hypothesis Testing.
6. Explain Apriori algorithm with example. Discuss the candidate rules that help to evaluate the appropriateness.
7. (a) What is Decision Tree? Discuss the Decision Trees algorithms.
(b) Discuss Naïve Bayes in R.



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Subject Code: R16MCA503

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SOFTWARE TESTING METHODOLOGIES (ELECTIVE III)

Time: 3 hours

Max Marks: 60

Question Paper Consists of **Part-A** and **Part-B**.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B

All questions carry equal marks of 12.

PART-A

1. (a) Define Bug.
- (b) What is Path sensitizing?
- (c) What are the Strategies in data flow testing?
- (d) Differentiate Domain and Interface Testing.
- (e) What is the use of Karnaugh-Veitch charts.
- (f) What is stress testing.

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PART-B

4X 12 = 48

2. (a) Explain Model for Testing [7M]
- (b) Explain Consequences of bugs [5M]
3. (a) What are basic concepts of path testing [6M]
- (b) List the Applications of path testing [6M]
4. (a) Transaction flows are indispensable for specifying requirements of complicated systems, especially online systems. Justify [8M]
- (b) Discuss the need of Data flow Testing [4M]
5. (a) What is the difference between Domains and Paths. [4M]
- (b) Discuss on Basis path testing with a neat sketch [8M]
6. Explain Decision tables and path expressions with appropriate examples [12M]
7. (a) Explain good and bad state graphs with neat sketch. [8M]
- (b) Elaborate State testing. [4M]



Subject Code: R16MCA506

MCA - V Semester Regular Examinations, November 2018.

SOFTWARE PROJECT MANAGEMENT (ELECTIVE IV)

Time: 3 hours

Max Marks: 60

Question Paper Consists of Part-A and Part-B.

Answering the question in **Part-A** is Compulsory & Four Questions should be answered from Part-B
All questions carry equal marks of 12.

PART-A

1. (a) What are the five basic parameters of Software Economic Models?
(b) Define earned value system.
(c) Which milestone occurs at the end of the inception phase?
(d) What is the need for process automation?
(e) Why do traceability metrics become difficult to manage when there are many system requirements?
(f) List workflow priorities regarding project?

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PART-B

4X 12 = 48

2. (a) Discuss the pragmatic software cost estimation.
(b) Explain how to improve team effectiveness.
3. (a) Discuss the essential activities in Inception and elaboration phases.
(b) Give an overview of the artifact sets that make the development of complete software system manageable.
4. (a) Write about results of major milestones in a modern process.
(b) How are the checkpoints or synchronization points decided? Explain with an example.
5. (a) What are the main features of the default organization of line-of-business organizations? Explain.
(b) Describe the software project team evolution with a neat sketch.
6. (a) Explain the quality indicators of software project.
(b) Discuss the significance of Software Project Control Panel (SPCP) in metrics automation.
7. (a) Explain process discriminators that results from differences in architectural risk.
(b) Discuss about the next generation project performance.
