QUESTION BANK

B.TECH III YEAR – II SEM (R15)
(2018-19)

DEPARTMENT OF
COMPUTER SCIENCE AND ENGINEERING

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

Recognized under 2(f) and 12 (B) of UGC ACT 1956

(Affiliated to JNTUH, Hyderabad, Approved by AICTE - Accredited by NBA & NAAC – 'A' Grade - ISO 9001:2015 Certified)

Maisammaguda, Dhulapally (Post Via. Hakimpet), Secunderabad – 500100, Telangana State, India

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
B.Tech. III Year II Semester-Model Paper I

Distributed Systems

Time: 3 Hours **Max. Marks: 75**

PART- A (Marks 25)

Answer All the Questions

1. a) What are the characteristics of Distributed systems?
   b) List the problems of distributed systems.
   c) Write short notes on UTC.
   d) What are the uses of UDP?
   e) Define granularity
   f) What are the characteristics of file systems
   g) Discuss about failure model of distributed transaction.
   h) What is OCC?
   i) What is meant by serial equivalence.
   j) briefly write about ubiquitous systems.

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))
All Questions Carry Equal Marks

2. (a) Discuss in brief the main features of HTTP.
   (b) List and explain the techniques used for dealing with failures.

OR

3. Explain briefly about architectural models.
4. (a) Explain external synchronization and internal synchronization.
   (b) Define Consistent-global states, consistent cut and consistent run.

OR

5. (a) describe in detail about failure detectors.
   (b) Explain about maekawa's algorithm.
6. (a) What is meant by external data representation.
   (b) Discuss in detail about CORBA's common data representation

OR

7. (a) write about group communication.
   (b) What is a middleware? Explain the various layers present in it.
8. (a) Discuss various file system operations.
   (b) What are the various operations provided by directory service interface?

OR

9 Explain how local and remote file systems are accessible on NFS client.
10. (a) What are the locking rules for nested transitions.
    (b) Explain about two phase commit protocol.

OR

11. Discuss in brief about the two problems associated with aborting transactions. Also the discuss the way to overcome them.

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

B.Tech. III Year II Semester-Model Paper II

Distributed Systems

Time: 3 Hours **Max. Marks: 75**

PART- A (Marks 25)

Answer All the Questions

1. a) Define Events.
   b) How does AFS ensure that the cached copies of files are upto date when files may be updated by several clients?
   c) When does a transaction abort?
   d) What is a Socket?
   e) What is flat file service interface?
   f) Write a short note on HTML?
   g) Write short notes on Hierarchy file systems.
   h) Discuss about timestamp ordering rule.
   i) Define IP multicast.
   j) Define clock skew, clock drift, and clock drift rate.

PART-B (Marks: 5x10=50) Answer

All the Questions (Either (a) or (b)) All Questions Carry Equal Marks

2. (a) Discuss the reasons why concurrency is considered a challenge while constructing distributed systems
   (b) Discuss in brief about the following challenges
   (i) Heterogeneity (ii) Openness

OR

3. (a) Discuss in brief about,
   i. Mobile agents
   ii. Thin Clients
   iii. Network Computers
   (b) What is significance of failure models? Explain in detail the taxonomy that distinguishes between he failures of processes and communication channels.
4. (a) Explain the distinction between logical clocks and vector clocks
   (b) What are the problems of distributed systems?

OR

5. (a) Explain the bully algorithms
   (b) Explain the algorithm for mutual exclusion using multicast and logical clocks
6. (a) What is meant by interprocess communication? How interprocess communication is used in distributed systems
   (b) With an example, explain remote interface in java RMI. Also write about parameters result passing mechanism

OR

7. What are the Six building blocks of an XML document? Give Examples.
8. (a) Draw and explain the architecture of SUN Networks File System
   (b) What are the various operations provided by NFS Server

OR

9. (a) Explain in detail the concept memory coherence
   (b) Explain about the granularity
10. (a) Discuss in brief about the "ACID" Properties of Transactions
    (b) What are concurrency control protocols also discuss about read and write operations

OR

11. Describe the process of LOCK Implementation

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
B.Tech. III Year II Semester-Model Paper III

Distributed Systems

Time: 3 Hours **Max. Marks: 75**

PART- A (Marks 25)

Answer All the Questions

1.a) Define authentication?
b) Discuss any two techniques to deal with hardware or software failures.
c) Briefly discuss reliable multicasting
d) Define clock skew, clock drift, and clock drift rate.
e) What is an interface?
f) Define IP multicast.
g) Explain about the different types of asynchronous operations.
h) Discuss the problem of write update of the system model.
i) What is meant by starvation?
j) What is phantom deadlock?

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))
All Questions Carry Equal Marks

2. (a) Explain briefly about the following examples of distributed systems.
i.Internet. ii. Intranet.
(b) Define transparency list and explain the different forms of transparency with suitable example.

OR

3. (a) Define interacting processes. Also discuss two significant factors effecting interaction processes in Distributed system.
(b) Explain in detail HTML.
4. (a) What is a need of election algorithm. Explain ring based election algorithm.
(b) What are the essential features of multicast communication?

OR

5. (a) Write about the implementation of FIFO ordering.
(b) Explain the algorithm to solve consensus problem in a synchronous system.
6. (a) Discuss in detail about request reply protocol and RPC.
(b) Write about inter process communication in UNIX.

OR

7. How client and server programs can be built in java RMI? Explain with an example.
8. (a) What are the design characteristics of Andrew file system. How is the distribution of processes done in AFS?
(b) Describe the domain name system.

OR

9. (a) Explain in detail about two models of memory consistency.
(b) What are the differences between message passing and distributed shared memory.

10. (a) What is dead lock detection? Also discuss about the method used for resolution of deadlocks.
(b) Discuss in brief about timestamp ordering rule.

OR

11. Explain in detail about two approaches used for increasing the concurrency in locking schemes.

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
B.Tech. III Year II Semester-Model Paper IV

Distributed Systems

Time: 3 Hours **Max. Marks: 75**

PART- A (Marks 25)

Answer All the Questions

1. a) Write a short note on HTML?
   b) Define Distributed systems with an example.
   c) Define reliable communication. Also, discuss the independent sources from which threads to integrity are derived?
   d) Define Events.
   e) What is a failure detector?
   f) What is a Socket?
   g) What is XML?
   h) Write short notes on Hierarchy file systems.
   i) What is flat file service interface?
   j) How can a deadlock be prevented?

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))
All Questions Carry Equal Marks

2 (a) Define Distributed Systems. Explain the significant consequences of defining distributed systems.
(b) Discuss in detail the URL component with example.

OR

3 (a) Explain in detail about the following architectural models
1.Client server model
2.Multiple servers model
(b) Discuss in brief about World Wide Web.

4. (a) What is the importance of time in distributed systems
(b) Describe the algorithm for external synchronization

OR

5. (a) What is Consensus Problem
(b) Discuss the two implementation of reliable multi cast
6. (a) List and discuss the characteristics of network that are hidden by the stream obstruction
(b) Discuss in detail about HTTP Protocol

OR

7. What is XML? Explain XML Schemas?
8. (a) Give an Over View of Types of Storage Systems and their properties
(b) Explain the file service architecture with a neat diagram

OR

9 (a) What are the requirements for the design of distributed file system
(b) Write about
(i) Hierarchic File Systems
(ii) File Groups

10. (a) Explain in detail the two-phase commit protocol
(b) What is a distributed deadlock? Explain briefly with an example?

OR

11. Explain in detail about the well-known problems of concurrent transactions

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
B.Tech. III Year II Semester-Model Paper V

Distributed Systems

Time: 3 Hours **Max. Marks: 75**

PART- A (Marks 25)

Answer All the Questions

1. a) What is the role of firewall in distributed system ? **3**
   b) What is an intranet? **2**
   c) Differentiate between RPC and LRPC. **3**
   d) What is XML name space ? Give example. **2**
   e) Give the difference between stub and skeleton. **3**
   f) Define distributed debugging. Give example. **3**
   g) A reliable multicast is one that satisfies the following properties **2**
      i) Integrity, validity
      ii) Integrity, validity, agreement
      iii) Integrity, validity, agreement and delivery
      iv) Integrity, recoverability and durability.
   h) What is dirty read? **2**
   i) List any three rules for committing nested transactions. **3**
   j) Define distributed shared memory. **2**

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))

All Questions Carry Equal Marks

2. What is distributed system ? Discuss about the challenges for constructing distributed system.

OR

3. What is interprocess communication ? Discuss general characteristics of IP communication with example.
4. List out the pitfalls of Christian's algorithm and explain how Berkley's algorithm tries to resolve the issue.

OR

5. Explain how the time stamp approach helps in overcoming the lost update problem,with an example.
6. What is sequential consistency ? Describe various methods for implementing sequential consistency.

OR

7. a) What is arbitrary failure ? Write its classification affects and description.
   b) Compare monolithic and micro kernel design.
8. a) Discuss briefly about gossip architecture.
   b) Discuss the architecture of NFS.

OR

9. a) Draw and explain the architecture of SUN Networks File System
   b) Explain the file service architecture with a neat diagram.
10. (a) What is dead lock detection? Also discuss about the method used for resolution of deadlocks.
    (b) Discuss in brief about timestamp ordering rule.

OR

11. Describe the process of LOCK Implementation

R15

Code No: R15A0524

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B. Tech II Semester Regular Examinations, April/May 2018

Distributed Systems

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

PART – A (25 Marks)

1. (a)List the examples of the distributed systems. [2M]
   (b) Define effective resource sharing [3M]
   (c) Define Internet-scale distributed systems [2M]
   (d) Define Distributed garbage collection: [3M]
   (e) Write about Collecting the state [2M]
   (f) Discuss about Marshalling? [3M]
   (g) Define Remote Procedure Call? [2M]
   (h) Write the types of transparency [3M]
   (i) List out the File attribute record structure distributed file systems [2M]
   (j) Define Transaction recovery in Distributed Transactions [3M]

PART – B (50 Marks)

SECTION – I

2. a) List out the Trends in distributed systems? Explain it? [5M]
   b) Explain in detail about Architectural models? [5M]

(OR)

3. a) List out the Challenges in distributed systems? Explain it? [5M]
   b) Explain in detail about Failure model? [5M]

SECTION – II

4. a) Explain Skew between computer clocks in a distributed system ? [5M]
   b) Discuss about the Synchronizing physical clocks [5M]

(OR)

5. What is the need of election algorithm? Explain ring based election algorithm. [10M]

SECTION – III

6. Explain in detail about client server communication [10M]

(OR)

7. a)write a Java API program for UDP client sends a message to the server and gets a reply [5M]
   b) Explain Types of overlay in Interprocess Communication? [5M]

SECTION – IV

8. a)Explain File Service Architecture in distributed system [5M]
   b) Explain Name Services and the Domain Name System in distributed system [5M]

(OR)

9. a) Discuss about the Design and Implementation issues in Distributed Shared Memory**?** [5M]
   b) Explain Sequential consistency in Distributed Shared Memory? [5M]

SECTION – V

10. a) Discuss Flat and Nested Distributed Transactions in Distributed Transactions? [5M]
    b) Explain Comparison of methods for concurrency control in Transactions and Concurrency control [5M]

(OR)

11. a) Discuss about the Communication in two-phase commit protocol in Distributed Transactions? [5M]
    b) Explain Optimistic concurrency control in Transactions and Concurrency control? [5M]

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Code No: 126AQ **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, May - 2016
INFORMATION SECURITY
(Computer Science and Engineering)

Time: 3hours **Max.Marks:75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a)	What are the types of security attacks?	[2]
b)	Compare substitution ciphers with transposition ciphers.	[3]
c)	Compare block ciphers with stream ciphers.	[2]
d)	Write about strength of DES algorithm.	[3]
e)	What is a digital signature?	[2]
f)	What properties must a hash function have to be useful for message authentication?	[3]
g)	What are the various PGP services?	[2]
h)	What parameters identify an SA and what parameters characterize the nature of a particular SA?	[3]
i)	What is cross site scripting vulnerability?	[2]
j)	What are the limitations of firewalls?	[3]

PART-B

(50 Marks)

2.a) Consider the following:
Plaintext: "PROTOCOL"
Secret key: "NETWORK"
What is the corresponding cipher text using play fair cipher method?
b) What is the need for security? [5+5]

OR

3.a) Explain the model of network security.
b) Write about steganography. [5+5]

4. Explain the AES algorithm. [10]

OR

5. Consider a Diffie-Hellman scheme with a common prime q=11, and a primitive root

α=2.

a) If user „A" has public key Y_A=9, what is A"s private key X_A.

b) If user „B" has public key Y_B=3, what is shared secret key K. [5+5]

6. Explain HMAC algorithm. [10]

OR

7.a) Explain the DSA Algorithm

b) What is biometric authentication [5+5]

8.a) Explain PGP trust model.

b) What are the key components of internet mail architecture? [5+5]

OR

9.a) Explain MIME context types.

b) What are the five principal services provided by PGP? [5+5]

10. Explain secure electronic transaction. [10]

OR

11.a) Explain password management.

b) What are the types of firewalls? [5+5]

Code No: 126AQ **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, October/November - 2016
INFORMATION SECURITY
(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	Explain the network security model.	[2]
b)	What are the two basic functions used in encryption algorithms?	[3]
c)	What are the advantages of Key Distribution?	[2]
d)	What are the principles of public key cryptosystems?	[3]
e)	List three approaches to Message Authentication.	[2]
f)	Explain the importance of knapsack algorithm.	[3]
g)	What are different approaches to Public-key Management?	[2]
h)	How does PGP provides public key management?	[3]
i)	What is Secure Socket Layer?	[2]
j)	What are different alert codes of TLS protocol?	[3]

PART - B

(50 Marks)

2.a)	Explain the terminologies used in Encryption.	
b)	Describe in detail about Conventional Encryption Model.	[5+5]
	OR	
3.a)	Compare symmetric and asymmetric key cryptography.	
b)	What is Steganography? Explain its features.	[5+5]
4.a)	Differentiate linear and differential crypto-analysis.	
b)	Explain Block Cipher design principles.	[5+5]
	OR	
5.	Briefly explain the characteristics and operations of RC4 Encryption algorithm.	[10]
6.a)	What are the requirements of Authentication?	
b)	Discuss about Secure Hash algorithm.	[5+5]
	OR	
7.a)	Explain the approaches for Digital Signatures based on Public Key Encryption.	
b)	Discuss about Biometric Authentication.	[5+5]

8. Briefly discuss about different services provided by Pretty Good Privacy (PGP). [10]

OR

9. What are different cryptographic algorithms used in S/MIME? Explain how S/MIME is better than MIME.

10.a) List and briefly define the parameters that define an SSL session state.

b) What are different services provided by the SSL Record Protocol? [5+5]

OR

11.a) What is a Firewall? Explain its design principles and types with example.

b) Discuss about Password Management. [5+5]

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R13

Code No: 126AQ

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, May - 2017
INFORMATION SECURITY
(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	Give various security services.	[2]
b)	What are the principles of security?	[3]
c)	Define Stream ciphers?	[2]
d)	Discuss about Blowfish.	[3]
e)	What is Biometric authentication?	[2]
f)	Discuss various Digital signatures.	[3]
g)	Give features of Authentication Header.	[2]
h)	Explain IP Security.	[3]
i)	How to manage the password?	[2]
j)	Discuss cross site scripting vulnerability.	[3]

PART - B

(50 Marks)

2.a) Discuss in detail about various types of Security attacks with neat diagrams.
b) Give a model for Network Security with neat diagram. [5+5]

OR

3.a) What is symmetric key cryptography? Discuss its advantages and limitations.
b) Explain various substitution techniques with suitable examples. [5+5]

4.a) Explain DES algorithm with suitable examples. Discuss its advantages and limitations.
b) What is Elliptic Curve Cryptography (ECC)? Discuss ECC algorithm with neat diagram. [5+5]

OR

5.a) Explain RSA algorithm with suitable examples.
b) Write a short note on RC4. [5+5]

6.a) Write a short note on knapsack algorithm.
b) Give various Hash Functions. Discuss secure hash algorithm with suitable examples. [5+5]

OR

7.a) Discuss HMAC and CMAC.
b) Write short notes on Kerberos. [5+5]

8.a) Write a short note on Pretty Good Privacy.
b) Give IP Security architecture with neat diagram. [5+5]

OR

9.a) Write a short note on S/MIME.
b) Discuss in detail encapsulating security payload. [5+5]

10.a) What is Intrusion? Discuss Intrusion detection system with neat diagram.
b) Discuss the need of Secure Socket Layer. [5+5]

OR

11.a) Write a short note on firewall design principles and types of firewalls.
b) Discuss in detail about secure electronic transaction. [5+5]

---ooOoo---

Code No: 126AQ **R13**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, December - 2017
INFORMATION SECURITY
(Computer Science and Engineering)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	Define Non Repudiation.	[2]
b)	Write a short notes on steganography.	[3]
c)	Define linear cryptanalysis.	[2]
d)	Discuss about Electronic code book mode?	[3]
e)	Define Message Authentication Code.	[2]
f)	Illustrate about biometric authentication.	[3]
g)	What is IP Security?	[2]
h)	Discuss about the concept of combining security associations.	[3]
i)	What is Firewall?	[2]
j)	Write short notes on virtual elections.	[3]

PART - B

(50 Marks)

2. Compare and Contrast between Symmetric and Asymmetric key cryptography. [10]

OR

3. Give an example to explain the concept of transposition ciphers in detail. [10]

4. With a neat diagram explain how encryption and decryption are done using Blowfish algorithm? [10]

OR

5. Given two prime numbers p=5 and q=11, and encryption key e=7 derive the decryption key d. Let the message be x=24. Perform the encryption and decryption using R.S.A algorithm. [10]

6. Give a neat sketch to explain the concept of Secured Hash Algorithm (SHA). [10]

OR

7. Client machine C wants to communicate with server S. Explain how it can be achieved through Kerberos protocol? [10]

8. How the messages are generated and transmitted in pretty good privacy (PGP) protocol? Explain with clear diagrams. [10]

OR

9. Draw the IP security authentication header and explain the functions of each field. [10]

10. Explain the steps involved in performing Secure Inter-branch Payment Transactions. [10]

OR

11. List the characteristics of a good firewall implementation? How is circuit gateway different from application gateway? [10]

---ooOoo---

R15

Code No: R15A0519

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B. Tech II Semester Regular Examinations, April/May 2018

Information Security

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART – A (25 Marks)

1.

a) Enumerate the mechanisms implemented for confidentiality? (2M)
b) Use Caesar cipher with key =15 to encrypt the message “college”? (3M)
c) Define stream cipher? (2M)
d) Discuss the design principles of block cipher technique? (3M)
e) What are the advantages of Key Distribution center? (2M)
f) Write any two advantages of hashing functions? (3M)
g) Why does PGP generate a signature before applying compression? (2M)
h) What is secure socket layer? (3M)
i) How to manage pass word? (2M)
j) What is the firewall? (3M)

PART – B (50 Marks)

SECTION – I

2. (a) What are the different types of attacks and services? Explain? (4M)
(b) Explain any three substitution techniques. (6M)

[OR]

3. (a) Write about any two classical crypto systems with suitable examples? (4M)
(b) Explain about Hill Cipher. Consider the plaintext "paymoremoney" and use the encryption key: (6M)

$$K=\begin{matrix}17 & 17 & 5\\ 21 & 18 & 21\\ 2 & 2 & 19\end{matrix}$$

Find the cipher text?.

SECTION – II

4. (a) Discuss in detail about AES algorithm. (6M)
(b) Explain about the RSA algorithm with example as (4M)
P=11, q=5 , e=3 M=5,d=?

[OR]

5. (a) Describe the key discarding process of DES? (6M)
(b) What is public key cryptography and when is it preferred? (4M)

SECTION – III

6.	(a)	Write about HMAC algorithm. What need to be done to speed up HMAC algorithm?	(4M)
	(b)	With a neat flowchart, Explain MD5 processing of a single 512 bit block?	(6M)
		[OR]	
7.	(a)	Explain the message sequence of Kerberos V4.	(5M)
	(b)	Explain SHA-512 with neat diagram?	(5M)

SECTION – IV

8.	(a)	What is R64 conversion? Why is R64 conversion useful for an e-mail application?	(5M)
	(b)	What are the content types provided by S/MIME? Explain?	(5M)
		[OR]	
9.		Explain transport and tunnel mode for AH & ESP	(10M)
		[OR]	

SECTION –V

10.	(a)	Generalize the role of intrusion detection system? Point out the three benefits that can be provided by the intrusion detection system ?	(6M)
	(b)	List out the participants of SET system, and explain in detail?	(4M)
		[OR]	
11.	(a)	Illustrate the three common types of firewalls with diagrams ?	(6M)
	(b)	Is it technically possible to have elections on the Internet? How? What sort of infrastructure would be needed for this?	(4M)

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MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

Permanently Affiliated to JNTUH, Approved by AICTE-Accredited by NBA & NAAC- A-Grade; ISO 9001:2008 Certified

MODEL PAPER - I

INFORMATION SECURITY (A60522)

Time : 3.00 Hours Max.Marks: 75

Note:- This question paper contains TWO parts Part-A and Part-B.
Part – A is contains TEN questions and carries 25 marks. Answer all questions from it
Part–B contains FIVE questions either or type from each of the FIVE units. Answer any One full question from each unit and each question carries 10 marks and may have a, b,c as sub questions.

PART-A (25 Marks)

1. A) Define active and passive attacks? [2 M]
   B) Write short notes on replay attack? [3 M]
   C) What are the characteristics of secure hash algorithm? [2 M]
   D) What are the design weaknesses of DES algorithm? [3 M]
   E) List the three design considerations of stream cipher? [2 M]
   F) Write a brief note on link encryption? [3 M]
   G) List the design objectives for HMAC. [2 M]
   H) What is a header field? [3 M]
   I) What are the five services provided by PGP [2 M]
   J) Define IP Hijacking? [3 M]

PART-B (5x10 = 50 Marks)

2. A) What are the goals of Network Security and explain each with an example? [4M + 6M]
   B) Discuss the man in-middle attack in network communications?

OR

3. A) Convert the following plain text message P="Hide the gold in the tree stump" into cipher text with key k="play fair example" by using play fair cipher technique? [6M + 4M]
   B) Explain the Transposition Techniques?

4. What are the elements of a Conventional Block Cipher? Explain the DES algorithm? [10M]

OR

5. A) Explain RSA Algorithm with an example? [4M + 6M]
   B) Discuss any three cipher block modes of operation.

6. What is a Secure Hash function? Explain the properties of them. [10 M]

OR

7. A) What is Kerberos realm? Explain the working of Kerberos [5M + 5M]
   B) Explain DSS algorithm

8. A) Discuss the features of S/MIME? [4M + 6M]
   B) What is Radix 64 conversion? Why is Radix 64 conversion useful for an e-mail application?

OR

9. Discuss about Oakley key determination protocol with your own example [10 M]

10. Demonstrate how SSL provide security services between TCP applications? [10 M]

OR

11. What is a firewall? State the design goals of firewalls. Also discuss in detail different types of firewalls? [10 M]

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

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MODEL PAPER II

INFORMATION SECURITY (A60522)

Time : 3.00 Hours Max.Marks: 75

Note:- This question paper contains TWO parts Part-A and Part-B.
Part – A is contains TEN questions and carries 25 marks. Answer all questions from it
Part–B contains FIVE questions either or type from each of the FIVE units. Answer any One full question from each unit and each question carries 10 marks and may have a, b,c as sub questions.

PART-A (25 Marks)

1. A) What is a fabrication attack? Give an example. [2 M]
   B) Explain Non repudiation service? [3 M]
   C) List out the differences between Public Key and Secret Key algorithms [2 M]
   D) What is Message Authentication Code? [3 M]
   E) Define cryptanalysis? [2 M]
   F) What is a digital signature? Explain how it is used. [3 M]
   G) What is PGP? [2 M]
   H) List MIME content types? [3 M]
   I) Discuss different classes of intruders? [2 M]
   J) What is a bastion host in Firewalls? [3 M]

PART-B (5x10 = 50 Marks)

2. What are Security Attacks, Services, and Mechanisms? Discuss them with examples. [10M]

OR

3. A) Discuss a model for network security with the help of a neat diagram? [6M + 4M]
   B) What is RFC? Explain how an internet standard have been developed and approved Using RFCs.

4. Define Block cipher and Stream Cipher and Explain in detail about the AES algorithm. [10M]

OR

5. What are the principal elements of a public key cryptosystems? Explain the Diffie - Hellman key Exchange algorithm? [10M]

6. What is are Secure Hash functions? Explain the working of SHA-1 algorithm. [10 M]

OR

7. What do you mean by the Kerberos Realm? Explain the working of Kerberos. [5M + 5M]

8. A) What is S/MIME? Explain [4M + 6M]
   B) Write about the S/MIME content types.

OR

9. Explain in detail about the mechanism of security associations and IP Security in IPSec. [10 M]

10. Demonstrate how SSL provide security services between TCP applications? [10 M]

OR

11. Discuss any TWO of the following
    i).Viruses and Worms ii). Password management techniques iii). Intruders and Intrusion Detection System (IDS) [5M+5M]

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MODEL PAPER III

INFORMATION SECURITY (A60522)

Time : 3.00 Hours Max.Marks: 75

Note:- This question paper contains TWO parts Part-A and Part-B.
Part – A is contains TEN questions and carries 25 marks. Answer all questions from it
Part–B contains FIVE questions either or type from each of the FIVE units. Answer any One full question from each unit and each question carries 10 marks and may have a, b,c as sub questions.

PART-A (25 Marks)

1. A) What is a passive attack? Give example. [2 M]
   B) Define security service. Which service is affected in interruption attack [3 M]
   C) Describe the role of key and block size defines the strength of a block cipher [2 M]
   D) What is Message Digest? What is its role in security applications [3 M]
   E) Define Steganography? [2 M]
   F) Who is a masquerader? [3 M]
   G) Differentiate link and end-to-end encryption? [2 M]
   H) What is IP Spoofing? [3 M]
   I) What is an Intrusion detection system? [2 M]
   J) What are dual homed host firewalls? explain. [3 M]

PART-B (5x10 = 50 Marks)

2. What are Security Mechanisms? Explain different mechanisms used in information security? Discuss a model for network security. [10M]

OR

3. A) Compare and contrast DES, 3-DES and AES? [6M + 4M]
   B) Illustrate the procedure of key distribution in conventional encryption?

4. What are “Substitution” and “Transposition” techniques? What kind of cipher is the Caesar cipher? Calculate the encryption and decryption for the following plain text P=”COME TO MY HOME” by using caser cipher with Key k=3? [10M]

OR

5. What are the ingredients of a public key cryptosystems? Explain the RSA algorithm with your own example? [10M]

6. A) What is MAC? Discuss in detailed about the HMAC algorithm [10 M]

OR

7. A) Explain X.509 authentication service [5M + 5M]
   B) Discuss Biometric Authentication.

8. A) What is S/MIME? Explain [4M + 6M]
   B) Explain the general format of a PGP message with a pictorial representation.

OR

9. A) Discuss the purpose of SA selectors?
   B) Define payload? And discuss about encapsulating security payload? [4M+6M]

10. What do you mean by a secured electronic transaction? Discuss briefly about the various components of SET system? [10 M]

OR

11. Define an intruder. Explain different types of intruders. Discuss the Intrusion Detection System (IDS). [10 M]

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution- UGC. Govt. of India)

B.Tech. III Year II Semester Examination

Object Oriented Analysis and Design (CSE)

Time: 3 Hours | Max. Marks: 75

PART- A (Marks 25)

Answer All the Questions

1. a) Define
   i) Software architecture
   ii) Artifact.

b) Enumerate any six artifacts.

c) Briefly explain any four standard constraints that apply to generalization relationships.

d) What are the properties of a well structured object diagram?

e) Draw a collaboration diagram that specifies the flow of control involved in registering a new student at a school.

f) Explain the following standards stereotypes that adorn the ends of links.
   i) Association.
   ii) Self.
   iii)Parameter.

g) What are the characteristics of deployment diagrams?

h) What are the characteristics of a well- structured model with time and space properties?

i) Draw a class diagram showing architectural overview of the library system.

j) For coding the specifications are fetched from which diagrams in the design model.

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))

All Questions Carry Equal Marks

2. Explain the Association, Generalization and Realization relationships. Give suitable examples on which context these relationships are specified.

OR

3. a) What are the rules of UML.

b) What is meant by dependency and Realization relationships. For what purpose they are used. Give suitable examples to describe their usage.

4. a) Give a detailed note on stereotypes and tagged vales.

b) Enumerate the steps to model different views of a system.

OR

5. a)Draw an Object diagram for a company information system.
b) Describe forward and Reverse Engineering of an Object diagram.

6. a)What are the contents, common properties and uses of interaction diagrams.
b) Define Synchronous and Asynchronous messages.

OR

7. Usecase diagrams are essential for managing system requirements. Substantiate this statement.

b) What is Object flow? Explain.

8. a) Explain the following advanced features of states and transitions.

i) Internal Transitions

ii) Concurrent substates

iii) Sequential Substates.

iv) History states.

b) Explain the common properties , common contents and common uses of deployment diagram

OR

9. a) What is the UML approach to process synchronization.

b) What is the UML notation for the following?

Explain briefly i) Timing marks ii) Time expressions iii) Timing Constraints.

10. a) List the steps involved while developing a unified library application.

b) List and explain the different usecases in the library system.

OR

11. Explain indetail about the following models

i) Analysis model.

ii) Design model.

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution- UGC. Govt. of India)

B.Tech. III Year II Semester Examination

Object Oriented Analysis and Design (CSE)

Time: 3 Hours | Max. Marks: 75

PART- A (Marks 25)

Answer All the Questions

1. a) What is generalization?
   b) Write short notes on modularity.
   c) Enumerate the steps to model new properties.
   d) Why is it necessary to have a variety of diagrams in a model of a system?
   e) Explain the following standard stereotypes that adorn the ends of links.
   i) Local
   ii) Global.
   f) Discuss the significance of activity diagram in object oriented modeling.
   g) Contrast active object vs reactive object.
   h) Discuss the characteristics of a well- structured component diagram.
   i) What are the steps followed while searching and reserving an item?
   j) Define pattern.

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))
All Questions Carry Equal Marks

2. Explain briefly the classification of things with UML notation.

OR

3. What is the need of architecture? Explain UML architecture.
4. Briefly discuss about boundary classes, control classes and entity classes. Give suitable examples for them.

OR

5. Enumerate the steps involved in forward engineering and reverse engineering of use case diagrams.
6. Briefly write about messages and sequencing with an illustrating diagram.

OR

7. a) Differentiate between sequence and collaboration diagrams.
   b) Explain forward engineering and reverse engineering in respect of interaction diagrams.
8. a) What is a signal? Explain with suitable examples.
   b) Define the following.
   i) State
   ii) State machine
   iii) Event

OR

9. a) What is an event? What are different types of events?
   b) Enumerate the steps to model an API.
10. a) How to model design pattern.
    b) Describe the modeling of architectural pattern.

OR

11. Explain the concept of forward and reverse engineering artifacts.

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution- UGC. Govt. of India)

B.Tech. III Year II Semester Examination

Object Oriented Analysis and Design (CSE)

Time: 3 Hours | Max. Marks: 75

PART- A (Marks 25)

Answer All the Questions

1. a) List some of the advantages of object oriented approach over conventional approach.
   b) What are the application areas of UML? Give any Five.
   c) Enumerate the steps to model non-software things.
   d) What is Class diagram.
   e) What is the significance of Usecases and Collaborations.
   f) Enumerate the properties of a well structural usecase.
   g) Compare substates, nested states, composite states.
   h) Explain forward engineering of a deployment diagram.
   i) What is Framework.
   j) Draw a sequence diagram for the Add title usecase.

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))
All Questions Carry Equal Marks

2. a) Explain the Antisymmetric and Transitive properties of Aggregation.
   b) Explain the UML approach to SDLC.

OR

3. a) Explain the importance of modeling.
   b) In what way object oriented approach claims to improve the system development process? Explain.
4. a) What are the five constraints applied to association relationships. Explain briefly.
   b) Enumerate the steps to model groups of elements.

OR

5. a) Enumerate the steps to model complex views.
   b) Define idiom. Enumerate the steps to model new semantics.
6. Explain about the following.
   i) Polymorphism.
   ii) Iterated messages
   iii) Use of Self in messages.

OR

7. a) How branching is represented in activity diagram. Elaborate on it.
   b) Can a transition have multiple sources? Discuss suitable examples to support your argument.
8. a) Explain History states.
   b) Give the sketch of a state machine for the controller in a Home Security system which is responsible for monitoring various sensors around the perimeter of the house. Briefly explain.

OR

9. Enumerate the steps to model the distributions of objects.

10. a) Discuss object oriented analysis of Unified Library Application in detail.
    b) Who are the users involved in library system. Explain the functions performed by each of the users.

OR

11. Explain in detail about the following activities.
    i) Designing user interfaces.
    ii) Implementation
    iii) Test and Deployment.

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution- UGC. Govt. of India)

B.Tech. III Year II Semester Examination

Object Oriented Analysis and Design (CSE)

Time: 3 Hours | Max. Marks: 75

PART- A (Marks 25)

Answer All the Questions

1. a) What is an artifact?
   b) What are the adornments in the UML?
   c) What is navigation?
   d) Explain the levels of visibility.
   e) What is usecase diagram?
   f) What are interaction diagrams?
   g) What is a component?
   h) What is deployment diagram?
   i) What are the common uses of deployment diagram?
   j) What are the three kinds of components?

PART-B (Marks: 5x10=50)

Answer All the Questions (Either (a) or (b))
All Questions Carry Equal Marks

2. a) What are behavioral things? Explain.
   b) What is UML? Where can the UML to be used?

OR

3. a) What are the principles of modeling? Explain.
   b) Draw the architecture of a software intensive system and explain.
4. a) What are the various kinds of Classifiers? Explain.
   b) How to model the seams in a system?

OR

5. a) Explain about generalization with an example.
   b) Describe interfaces, types and roles with examples.
6. a) Explain about usecases and actions and usecases and flow of events.
   b) How to model a flow of control?

OR

7. a) Explain sequence diagram with suitable example.
   b) How to model the requirements of a system?
8. a) Explain the following:
   i)History states
   ii)Time and Space
   b) How to model an API?

OR

9. a) How to model an embedded system?
   b) Differentiate the following:
   i)Components and classes
   ii) Nodes and components
10. Explain the following:
    a) Patterns and architecture
    b) Modeling an executable release.

OR

11. Draw the following diagrams for the unified library application
    a) Class diagrams
    b) Interaction diagrams

Code No: R15A0518

R15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B. Tech II Semester Regular Examinations, April/May 2018

Object Oriented Analysis and Design

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B

Part A is compulsory which carriers 25 marks and Answer all questions.

Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART – A (25 Marks)

1. (a) What is meant by incremental process in conceptual model of the UML? (2M)
   (b) Define relationship supported in UML along with notations. (3M)
   (c) Contrast class diagram with object diagram. (2M)
   (d) Explain sequence diagram with one unique feature. (3M)
   (e) Explain about one stereotype that is used in usecase diagram. (2M)
   (f) Explain various parts of a state. (3M)
   (g) How are nodes organized in the deployment diagram? (2M)
   (h) List out the steps to model a family of signals. (3M)
   (i) Contrast is-a relationship with has-a relationship. (2M)
   (j) Define aggregation. (3M)

PART – B (50 Marks)

SECTION – I

2. **a)** Explain in detail about Things in UML. (5M)
   b) Describe the importance of Modeling in Object Oriented Environment. (5M)

(OR)

3. What is a model? What are the aims of modeling? What are the principles of modeling? (10M)

SECTION – II

4. a) Illustrate the advanced Classes in UML with examples.(5M)
   b) Explain Roles, Types and Interfaces with examples. (5M)

(OR)

5. What are the contents of a class diagram? Draw a class diagram to illustrate online examination model.(10M)

SECTION – III

6. a) What are the different kinds of Events? Explain any one common modelling Technique. (5M)
   b) Write the steps to reverse engineer a use case diagram. (5M)

(OR)

7. **a)** Explain about Interaction Diagrams with a suitable example. (5M)
   b) What are Fork and Join, why do we need for Modelling, demonstrate with an Activity Diagram. (5M)

SECTION – IV

8. a) What are the Characteristics of a well-structured model with time and space properties? (5M)
   b) Explain about State Chart Diagram for ATM with a suitable example. (5M)

(OR)

9. a) Describe the Deployment Diagram for any case study. (5M)
   b) Illustrate the Modeling Techniques for Components. (5M)

SECTION – V

10. a) Draw the UML Diagrams for Unified Library Application. (5M)
    b) Write short notes on Processes and Threads. (5M)

(OR)

11. a) What are the Modeling Techniques for Use Case Diagram, Explain? (5M)
    b) What are the Modeling Techniques for Object Diagram, Explain? (5M)

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R 15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B. Tech III Year II Semester Examinations

SOFTWARE TESTING METHODOLOGIES

(MODEL PAPER - I)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART – A **(25 Marks)**

1. a) Write any two differences for black box and white box testing. [2]
   b) Categorize different kinds of loops and explain briefly. [3]
   c) Define a transaction. Give an example. [2]
   d) What are dataflow machines? [2]
   e) What is the difference between Linear and Nonlinear Boundaries? [3]
   f) Write short notes on
   (a) Path Products (b) Path Expressions. [2]
   g) Reduce the following functions using Karnaugh Map method:
   F(A,B,C,D)= p(4,5,6,7,8,12,13)+d(1,15) [3]
   h) Differentiate between good state graphs and bad state graphs. [2]
   i) Illustrate the applications of Node Reduction algorithm. [3]
   j) What are graph matrices? Explain with an example. [2]

PART – B **(50 Marks)**

2. List out various dichotomies and explain. [10]

(OR)

3. a) Briefly explain various consequences of bugs.
   b) Define Path Sensitization. Explain heuristic procedure for sensitizing paths with the help of an example. [5+5]

4. a) Describe the complications of transaction flows.
   b) What are data-flow anomalies? Explain. [5+5]

(OR)

5. a) What is meant by Transaction flow testing? Discuss its significance.
   b) List 9 possible two letter combinations of the object states of data flow anomalies. Classify them as buggy, suspicious and ok? [5+5]

6. a) What are the restrictions of domain testing? Explain
   b) How to test two-dimensional domains? Explain [5+5]

(OR)

7. a) What is the strategy of domain testing? Explain in brief.
   b) Discuss about domains and testability. [5+5]

8. Write the steps involved in node reduction procedure. Illustrate all the steps with the help of neat labeled diagrams. [10]

(OR)

9. a) Explain about the mean processing time of a routine with example.
   b) Justify the following statement:
   "Decision tables can also be used to examine a program structure" [5+5]

10. a) What are the principles of state testing? Explain its advantages and disadvantages.
    b) Write about equivalence relation and partial ordering relation. [5+5]

(OR)

11. Write short notes on,
    a) Transition bugs
    b) Dead states
    c) State bugs
    d) Encoding bugs [10]

R 15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B. Tech III Year II Semester Examinations

SOFTWARE TESTING METHODOLOGIES

(MODEL PAPER - II)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART – A **(25 Marks)**

1. a) What are the goals for testing? [2]
   b) List out various consequences of bugs. [3]
   c) Define Path Sensitization. [2]
   d) What is a data flow graph? Explain [3]
   e) What is Domain Dimensionality? [2]
   f) Explain about Ambiguities and Contradictions? [3]
   g) Write short notes on:
   (a) Path Sums (b) Loops [2]
   h) Explain the Merged Equivalent states? [3]
   i) What is a finite state machine? [2]
   j) What are the merits and demerits of graph matrix representations? [3]

PART – B **(50 Marks)**

2. Briefly explain about Taxonomy of Bugs. [10]

(OR)

3. a) What are the phases in a Tester's mental life?
   b) Explain Link Marker Method of Path Instrumentation. [5+5]

4. a) Define a Transaction. Give an example.
   b) How an anomaly can be detected? Explain different types of data flow anomalies and data flow anomaly state graphs. [5+5]

(OR)

5. a) Discuss briefly about Transaction flow testing techniques.
   b) Write about the data flow model with example. [5+5]

6. Discuss in detail the nice domains and ugly domains with suitable examples. [10]

(OR)

7. Explain the domain boundary bugs for two dimensional domains. [10]

8. What is decision table and how is a decision table useful in testing? Also explain with the help of an example. [10]

(OR)

9. a) Explain Push/Pop arithmetic with example.
   b) What are the rules of Boolean algebra? Explain. [5+5]

10. Explain the following:
    a) Software implementation of state graphs.
    b) Applications of graph matrices. [5+5]

(OR)

11. a) Write the design guide lines for building the finite state machine into code.
    b) Write about loops in matrix representation. [5+5]

R 15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B. Tech III Year II Semester Examinations

SOFTWARE TESTING METHODOLOGIES

(MODEL PAPER - III)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART – A **(25 Marks)**

1. a) Specify on which factors the importance of bug depends. Give metric for it. [2]
   b) What is meant by coincidental correctness? [3]
   c) Differentiate control flow graphs and flowcharts. [2]
   d) Write short notes on static and dynamic slicing. [3]
   e) Differentiate equality predicate and inequality predicate. [2]
   f) Write any two applications of regular expressions. [3]
   g) What is a decision table? What are the parts of decision table? Explain. [2]
   h) Explain briefly about Unreachable states [3]
   i) What is a finite state machine? [2]
   j) What is degree of a node and density of graphs? [3]

PART – B **(50 Marks)**

2. a) Is complete testing possible? Explain.
   b) What are the three kinds of loops? Explain with example. [5+5]

(OR)

3. a) Discuss about different kinds of predicate blindness.
   b) Explain the process of achieving (C1+C2) coverage. [5+5]

4. Name and explain data flow testing strategies. [10]

(OR)

5. a) Define transaction flow testing? Explain transaction flow structure.
   b) Differentiate between transaction flow graphs and data flow graphs. [5+5]

6. Discuss the following terms:
   a) Linear domain boundaries
   b) Non-linear domain boundaries
   c) Complete domain boundaries
   d) Incomplete domain boundaries [10]

(OR)

7. a) Discuss with suitable examples the equal-span range/Domain compatibility bugs.
   b) What are domain bugs? Discuss how to test them. [5+5]

8. Write short notes on,
   a) Distributive laws
   b) Absorption rule
   c) Loops
   d) Identity elements [10]

(OR)

9. Write about Haung's theorem. Explain its implementation with example. Explain its generalizations and limitations. [10]

10. Explain the following:
    a) Impact of bugs in state testing
    b) Number of states in a state graph
    c) Properties of relations. [10]

(OR)

11. a) Discuss briefly about good state graphs and bad state graphs.
    b) Write about matrix powers and products. [5+5]

R 15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B. Tech III Year II Semester Examinations

SOFTWARE TESTING METHODOLOGIES

(MODEL PAPER - IV)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART – A **(25 Marks)**

1. a) What are the remedies for test bugs? [2]
   b) What is meant by statement testing and branch testing? [3]
   c) Define Path Instrumentation. [2]
   d) Differentiate transaction flow graph and data flow graph. [3]
   e) Write about interior point, boundary point and extreme point. [2]
   f) Write about identity elements. [3]
   g) What are decision table processors? [2]
   h) Explain briefly about impossible states. [3]
   i) What is a state table? [2]
   j) What is a relation matrix and connection matrix? [3]

PART – B **(50 Marks)**

2. a) Distinguish the following:
      i) Function vs Structure
      ii) The Builder vs Buyer
   b) How should you go about quantifying the nightmare? Explain. [5+5]

(OR)

3. a) Explain about control flow graphs.
   b) What are link counters? Discuss their use in path testing. [5+5]

4. a) How an anomaly can be detected? Explain different types of data flow anomalies and data flow anomaly state graphs. [10]

(OR)

5. a) Explain about data flow graphs.
   b) Define the following terms:
      1) Definition-clear path segment
      2) Loop-free path segment
      3) Simple path segment
      4) du path [5+5]

6. What is meant by domain testing? Discuss various applications of domain testing. [10]

(OR)

7. a) Discuss testability of domains and interfaces.
   b) Explain the domain boundary bugs for one dimensional domains. [5+5]

8. a) Explain about lower path count arithmetic.
   b) Explain with an example the four variable KV Charts. [5+5]

(OR)

9. Explain about Regular Expressions and Flow-Anomaly Detection. [10]

10. a) What is finite state machine and a state?
    b) Write about building tools of graph matrices. [5+5]

(OR)

11. a) Write all the rules in conversion of specification into a state graph.
    b) Write about partitioning algorithm. [5+5]

R13

Code No: 126ER

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 2017

SOFTWARE TESTING METHODOLOGIES

(Common to CSE, IT)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a) What is meant by a software bug? Explain. [2]
b) What is the intent of path based testing? [3]
c) What are the complications with transaction flows? [2]
d) What are the applications of data flow testing? Explain. [3]
e) What is Interface testing? Give example. [2]
f) What is the purpose of Domain Testing? Give its schematic representation. [3]
g) What is decision table and how is a decision table useful in testing? [2]
h) How can we check the consistency and completeness in the decision tables? [3]
i) What are the applications of node reduction algorithm? [2]
j) Differentiate between good state graphs and bad state graphs. [3]

PART - B

(50 Marks)

2. What are the consequences of bugs? To what extent can testing be used to validate that the program is fit for its purpose? Explain. [10]

OR

3. What is the purpose of testing? Discuss about various testing dichotomies with examples. [10]

4. Explain the Transaction Flow testing with an example. [10]

OR

5. Discuss the following strategies of data flow testing with suitable examples:
a) All-predicate-uses (APU) strategy
b) All-computational (ACU) strategy. [5+5]

6. What is meant by a nice domain? Give an example for nice two-dimensional domains. [10]

OR

7. Define the following concepts with respect to domain testing:
a) Domains b) Domain dimensionality
c) Domain closure d) Bug Assumptions for domain Testing [10]

8. What is the looping probability of a path expression? Write arithmetic rules and explain with an example. [10]

OR

9. Describe the procedure for specification validation using KV charts. [10]

10. What are the principles of state testing? Explain its advantages and disadvantages. Mention design guidelines for building finite state machines into your code. [10]

OR

11. Write a detailed note on graph matrices and their applications. Write about the usage of Winrunner tools. [10]

---ooOoo---

R 15

Code No: R15A0521

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution –UGC, Govt. of India)

III B. Tech II Semester Regular Examinations, April/May 2018

SOFTWARE TESTING METHODOLOGIES

(CSE)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART – A **(25 Marks)**

1. a) Discuss how software testing will ensure the quality of a developed software [2]
   b) Give difference between functional testing and structural testing [3]
   c) Categorize different kinds of loops and explain? [2]
   d) Explain the construction of control flow graph? [3]
   e) What is meant by data flow testing? [2]
   f) Explain the procedure to construct a data flow graph. [3]
   g) Discuss path sum with example [2]
   h) Explain different ugly domains [3]
   i) What are principles of state testing? [2]
   j) Explain about matrix of graph in detail [3]

PART – B **(50 Marks)**

2. a) Explain different phases of tester mental life? [5]
   b) Give difference between functional testing and structural testing [5]

(OR)

3. a) Briefly explain various consequences of bugs. [5]
   b) What are the different kinds of bugs?. [5]

4. a) Explain different types of methods we use for path instrumentation. [10]

(OR)

5. a) What are the advantages and disadvantages of control flow graphs? [5]
   b) What is meant by path sensitization and explain in detail [5]

6. a) Explain how the transaction flow graph is used in functional testing [5]

   b) Compare the path flow and data flow testing strategies [5]

(OR)

7. What is domain testing? Discuss nice and ugly domains with neat diagram [10]

8. a) Discuss about bode reduction procedure. [5]
   b) Discuss the role of decision table in a test case design. [5]

(OR)

9. a) Explain Karnaugh map method to minimize the given function. [5]
   b) Explain about the ambiguities and contradictions in the specifications [5]

10. a)Differentiate between good state graphs and bad state graphs
    b) Write about building tools of graph matrices. [5+5]

(OR)

11. a) Write a partitioning algorithm in software testing.
    b) What are relations and give their properties. [5+5]

Code No: R15A0520

R15

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY

(Autonomous Institution – UGC, Govt. of India)

III B. Tech II Semester Regular Examinations, April/May 2018

Web Technologies

(CSE)

Roll No										

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B
Part A is compulsory which carriers 25 marks and Answer all questions.
Part B Consists of 5 SECTIONS (One SECTION for each UNIT). Answer FIVE Questions, Choosing ONE Question from each SECTION and each Question carries 10 marks.

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PART – A (25 Marks)

1. (a) Explain features of XML? (2M)
   (b) Differentiate web browser and web server? (3M)
   (c) What is the difference between DOM parser and SAX parser? (2M)
   (d) Explain XML schema? (3M)
   (e) What is web server and explain with example? (2M)
   (f) Discuss about table tag in HTML with an example? (3M)
   (g) Analyze about Javax.sql.* package ? (2M)
   (h) Illustrate JSP processing with example? (3M)
   (i) Discuss the features of Java script? (2M)
   (j) Explain about life cycle of Servlet? (3M)

PART – B (50 Marks)

SECTION – I

2. What is list and explain different types of list by using example programs. (10M

(OR)

3. What is CSS? Explain different types of CSS with an example. (10 M)

SECTION – II

4. What is DTD? Explain types of DTD with an example.(10M)

(OR)

5. Discuss about document object model in XML and explain DOM with an example.(10M)

SECTION – III

6. Discuss about Tomcat server, testing Tomcat and write a servlet program to read parameters from HTML file.(10M)

(OR)

7. Define Servlet? Explain Servlet program with an example (10M)

SECTION – IV

8. Explain anatomy of JSP page ? (10M)

(OR)

9. Give a detail note on JSP elements and also write one sample program. (10 M)

SECTION – V

10. What are the steps to connect to the database in java and write a JDBC program to insert the values from the database?. (10M)

(OR)

11. Analyze deploying JAVA beans in JSP Page and write a sample program to illustrate it. (10 M)

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R13

Code No: 126EP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, May - 2017

WEB TECHNOLOGIES

(Common to CSE, IT)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)	What is PHP? What are the common uses of PHP?	[2]
b)	How to declare a string in PHP? List various string functions in PHP.	[3]
c)	State rules to define tags in XML.	[2]
d)	What is DTD? Distinguish between internal DTD and external DTD.	[3]
e)	How is a Servlet different from an Applet?	[2]
f)	Write about servlet API.	[3]
g)	Provide an example for JSP expression.	[2]
h)	How are cookies used for session tracking in JSP?	[3]
i)	What is the scope of variables in JavaScript?	[2]
j)	What is an 'event'? How are events handled in JavaScript?	[3]

PART - B

(50 Marks)

2.a)	What are various operators supported by PHP.	
b)	Explain about the control structures in PHP with illustrations.	[3+7]
	OR	
3.a)	How to list the directories in PHP?	
b)	Explain about various file operations on text files in PHP.	[3+7]
4.a)	What is DOM?	
b)	Compare and contrast DOM parser with SAX Parser.	[2+8]
	OR	
5.a)	List any *two* XML tags with their attributes and values.	
b)	Collect the student's details such as, register number, name, subject and marks using forms and generate a DTD for this XML document. Display the collected information in the descending order of marks. Write XML source code for the above.	[4+6]
6.a)	What is JDBC? What are various drivers of JDBC?	
b)	Explain about the database connectivity using JDBC.	[4+6]
	OR	
7.a)	Develop a servlet that handles an HTTP POST request.	
b)	Discuss about Session tracking in Servlets with a suitable example.	[5+5]

8.a) *Describe the anatomy of a JSP page.*

b) *Write a in brief about JSP Declarations.* [7+3]

OR

9. Explain in detail of how to use Java Beans in JSP pages with suitable example. [10]

10.a) What is the need of scripting languages in Web Technologies?

b) Write a program in JavaScript to convert temperature from Celsius to Fahrenheit and vice versa or Height from centimeters to inches and vice-versa. [2+8]

OR

11. Write about the following with reference to Java Script with an example:

a) Functions

b) Form Validation [5+5]

---ooOoo---

Code No: R15A0520 **R 15**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year II Semester Examinations
Web Technologies
(Computer Science and Engineering)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B. Part A are compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 1

PART-A (Answer all the Questions)

1. a) Define HTML. Explain Advantages of HTML. **(2M)**
b) Write short notes about different event handlers in JavaScript (**3M)**
c) Write short notes about the list of operators in PHP. **(2M)**
d) Define DTD and Schema. Write the differences between them. **(3M)**
e) Define the life cycle methods of Servlet. **(2M)**
f) What are the differences between sessions and cookies? **(3M)**
g) Write the differences between JSP and Servlets. **(2M)**
h) Explain implicit objects in JSP. **(3M)**
i) What is DBMS? Explain features of DBMS. **(2M)**
j) Define bean and explain how to use beans in JSP? **(3M)**

PART-B (Answer any one full question from each unit)

2. Create a user registration form using HTML with the following fields: First Name, Middle Name, Last Name, Gender (Male / Female), Contact Number, E-Mail ID, Submit button and a Reset Button. **(10M)**

(OR)

3. What is CSS? Explain different types of CSS with examples.

4. a) What is a namespace? Describe how a namespace is created with a relevant example.
b) Define an XML schema. Show how an XML schema can be created. (**5M+5M)**

(OR)

5. a) What is PHP? Explain parameter passing techniques and dynamic function using PHP.
b) What are the differences between Get and Post methods in form submitting?

6. Explain the method of reading the names and values of parameters that are included in a client request in servlets. Illustrate this with an example program. And discuss the methods defined by ServletRequest interface. **(10M)**

(OR)

7. List and describe the classes that are provided in the javax.servlet package. Explain how Http Request and Http Response are handled in servlets with an Example Program. **(10M)**

8. a) Write about the JSP processing. **(5M+5M)**
b) Explain Anatomy of a JSP page.

(OR)

9. Explain in detail about the components of JSP with examples. **(10M)**

10. Define JDBC. Explain JDBC Drivers with a neat diagram. **(10M)**

(OR)

11. a) Write a short notes about the types of arrays in PHP with an example program for each.

b) How to i) create a database, **(5M+5M)**

ii) A database table student (RollNo, Name)

iii) Insert values (501,Raju),(502,Ramu),(503,Ravi) into the database table

iv) Update the table,

v) Delete the table,

vi) Delete the databse in PHP using MYSQL as reference.

Code No: R15A0520 **R 15**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year II Semester Examinations
Web Technologies
(Computer Science and Engineering)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B. Part A are compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 2

PART-A(Answer all the Questions)

1. a) Explain the following HTML tags: - i) Anchor tag ii) img tag iii) hr tag **(2M)**
b) Define CSS. Mention the need for cascading style sheets **(3M)**
c) Differentiate between static HTML and Dynamic HTML **(2M)**
d) Define PCDATA and CDATA. Write the differences between them. **(3M)**
e) What are the advantages of servlets? **(2M)**
f) What are the steps for deploying a servlet? **(3M)**
g) Write the differences between <jsp: include> and <@include..> with example. **(2M)**
h) Explain types of JSP scripting elements with example. **(3M)**
i) List out the statements that are used to connect PHP with MySQL. **(2M)**
j) Define java bean. Explain advantages of java beans. **(3M)**

PART-B (Answer any one full question from each unit)

2. a. Write the differences between Event and Event Handling. **(5M+5M)**
b. Write a script to print Fibonacci series using JavaScript.

(OR)

3. Draw HTML code to draw your class timetable using <table> tag with colspan, rowspan and caption. **(10M)**

4. Create an XML file for an employee (EMPID, EMPNAME, DOJ, SALARY). Create a DTD and a Schema for this xml file. **(10M)**

(OR)

5. a. What is an array? Explain types of arrays in PHP.
b. What are the differences between SAX and DOM. **(5M+5M)**

6. Write a detailed notes about the Servlet API. **(10M)**

(OR)

7. Describe cookies and sessions in Servlets. Illustrate this with example programs. **(10M)**

8. Define Java Server Pages? What are the elements of a JSP page (or) components of JSP? Write short notes about each element with examples. **(10M)**

(OR)

9. Write a short notes about session tracking and explain in detail about different ways of maintaining sessions in JSP(Cookies, Rewriting URLs & form hidden object) **(10M)**

10. Explain Accessing a Database from a Servlet with example. **(10M)**

(OR)

11. What are the properties of Java Bean? Explain Deploying java beans in a JSP page with example.

Code No: R15A0520 **R 15**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year II Semester Examinations
Web Technologies
(Common to Computer Science)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B. Part A are compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 3

PART-A(Answer all the Questions)

1. a) List different types of web pages. (2M)
b) What are the different elements in URL. (3M)
c) Write the differences between XML and HTML. (2M)
d) Write some event handlers in Java Script. (3M)
e) What does Servlet config interface do? (2M)
f) What is Session tracking? Explain. (3M)
g) Write the differences between JSP and Servlets. (2M)
h) Is it possible for one JSP to extend another java class? If yes how? (3M)
i) What is the URL of type-4 driver in Oracle. (2M)
j) Define bean and explain how to use beans in JSP? (3M)

PART-B (Answer any one full question from each unit)

2. Design a HTML form for a railway reservation system. **(10M)**

(OR)

3. Explain features of Java Script? Illustrate popup windows with event handlers in JavaScript. (10M)

4. a) What is PHP? Explain parameter passing techniques and dynamic function using PHP. (10M)
b) What are the differences between Get and Post methods in form submitting?

(OR)

5. (a) List any two XML tags with their attributes and values.
(b) Collect the student's details such as, register number, name, subject and marks using forms and generate a DTD for this XML document. Display the collected information in the descending order of marks. Write XML source code for the above. [4+6]

6. (a)Develop a servlet that handles an HTTP POST request.
(b) Discuss about Session tracking in Servlets with a suitable example. [5+5]

(OR)

7. a) What are the two objects that a servlet receives when it accepts a call from client?
b) How does server side programming differ from client side programming? (10M)

8. What is the key difference between Http servlet Response. send Redriect() and <jsp:forward>? Explain. (10M)

(OR)

9. Describe the anatomy of a JSP page.
b) Write a in brief about JSP Declarations. (10M)

10. a) What is JDBC? What are various drivers of JDBC? (5+5)
b) Explain about the database connectivity using JDBC.

(OR)

11. What is a Java Bean? Explain Deploying java beans in a JSP page with example. (10M)

Code No: R15A0520 **R 15**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year II Semester Examinations
Web Technologies
(Common to Computer Science)

Time: 3 hours **Max Marks: 75**

Note: This question paper contains two parts A and B. Part A are compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

MODEL PAPER – 4

PART-A(Answer all the Questions)

1. a) Write the structure of HTML Program. (2M)
b) What are the various styles in CSS. (3M)
c) Write the structure of PHP script with an example. (2M)
d) Write some event handlers in Java Script. (3M)
e) What are XML schemas? (2M)
f) How to define a constant variable in PHP? Give an example (3M)
g) Differentiate between HttpServlet and GenericServlet. (2M)
h) List different JSP Elements? (3M)
i) Explain about Connection Establishment in JDBC. (2M)
j) Define bean and explain how to use beans in JSP? (3M)

PART-B (Answer any one full question from each unit)

2. Design an application **form** of name, password, age, mobile no, email-id, address, reset and submit button using HTML. (10M)

(OR)

3. Explain the various control statements available with JavaScript. (5M)
What is an event? How can we handle events in JavaScript?. (5M)

4. a) How we can retrieve the data in the result set of MySQL using PHP? Explain. [5M]
b) What is the difference between explode () and split () functions in PHP? (5m)
Explain with an example. (OR)

5. Create a XML document to store voter ID, voter name, address and date of birth details. Create a DTD to validate the document. [5M]
b) What is DOM? Draw the detailed DOM objects structure. Explain its usage. (5m)

6 a) Write a Servlet program to read data from an application form using Request? (5m)
b) Explain how HTTP POST **request** is processed using Servlets (5m)

(OR)

7. What are the two objects that a servlet receives when it accepts a call from client? (5m)
b) How does server side programming differ from client side programming? (5m)

8. What is the key difference between Http servlet Response? send Redriect() and <jsp:forward>? Explain. (10M)

(OR)

9.What is a Java Bean? Explain Deploying java beans in a JSP page with example. (10M)

10. List the statements that are used to connect JSP with JDBC. (5m)
Explain Accessing a Database from a JSP with example. (5m)

(OR)

11. Explain about the JSP Directive Elements? Explain each one of them in detail? (10M)