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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]

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 flowgraph? 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]

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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 flowgraphs 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 flowgraphs and data flowgraphs. [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]

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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**

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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 flowgraph and data flowgraph.   [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 flowgraphs.
    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 flowgraphs.
    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]

Jawaharlal Nehru Technological University, Hyderabad

B.Tech. III Year II Semester Examinations
June – 2017

Distributed Systems

(Common to CSE)

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.

Jawaharlal Nehru Technological University, Hyderabad
B.Tech. III Year II Semester Examinations
June – 2017
Distributed Systems
(Common to CSE)

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

Jawaharlal Nehru Technological University, Hyderabad

B.Tech. III Year II Semester Examinations
June – 2017
Distributed Systems
(Common to CSE)

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.

Jawaharlal Nehru Technological University, Hyderabad

B.Tech. III Year II Semester Examinations
June – 2017
Distributed Systems
(Common to CSE)

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

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B.Tech. III Year II Semester Examinations
June – 2017

Distributed Systems

(Common to CSE)

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

PART- A (Marks 25)

Answer All the Questions

1. Define distributed system. Give any two examples.	2
2. What is the use of Reflection in Implementation of RMI ?	3
3. What is distributed Garbage collection ?	2
4. Differentiate between RPC and LRPC.	3
5. Explain the Berkeley Algorithm.	3
6. What is Global state ?	2
7. What are dirty reads ?	2
8. What is the distributed shared memory ?	3
9. Define nested transaction.	2
10. What are the uses of Group Communication ?	3

PART-B (Marks: 5x10=50)

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

11.	a) What is transparency ? List out the different levels of transparency and explain.	5
	b) Explain the architectural models of Distributed system.	5
12.	a) What are the different ways of Invocations in Distributed system. Explain.	5
	b) What is meant by object serialization ? Explain.	5
13.	a) Write the design issues of RMI.	5
	b) Write short notes on DNS.	5
14.	a) Explain about distributed debugging.	5
	b) Write the central server and ring based algorithms for distributed mutual exclusion.	5
15.	a) What is the time stamp ordering ? Explain.	5
	b) What is distributed Deadlock ? Explain about Edge chasing.	5
16.	Describe the architecture of SUN NET WORK file system.	10
17.	Write short notes on :	
	a) Active replication.	5
	b) Elections.	5

Jawaharlal Nehru Technological University, Hyderabad
B.Tech. III Year II Semester Examinations
June – 2017
Distributed Systems
(Common to CSE)

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

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B.Tech III Year II Semester Examinations, April / May 2017

INFORMATION SECURITY (A60522)

Time : 3.00 Hours   Max.Marks: 75

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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]

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B.Tech III Year II Semester Examinations, April / May 2017

INFORMATION SECURITY (A60522)

Time : 3.00 Hours   Max.Marks: 75

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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.

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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B.Tech III Year II Semester Examinations, April / May 2017

INFORMATION SECURITY (A60522)

Time : 3.00 Hours   Max.Marks: 75

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Note:- This question paper contains TWO parts Part-A and Part-B.

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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

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

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.

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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 genericity?

   b) Write a 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.

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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

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

R 13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I 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 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.

MODEL PAPER - 1

PART-A(Answer all the Questions)

1. a) How can we declare a variable in PHP? Explain with a simple example.(2M)
   b) Write a short notes about the list of operators in PHP.(3M)
   c) Write the differences between XML and HTML.(2M)
   d) Define DTD and Schema.Write the differences between them.(3M)
   e) Define the life cycle methods of servlet.(2M)
   f) Define session and cookie.Write the differences between sessions and cookies.(3M)
   g) Write the differences between JSP and Servlets.(2M)
   h) Define bean and explain how to use beans in JSP?(3M)
   i) Write a short notes about different scopes of variables in JavaScript.(2M)
   j) Write a short notes about different event handlers in JavaScript.(3M)

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

(OR)

   b) Write a short notes about the types of arrays in PHP with an example program for each. How to i) create a database,
                      ii) A database table student(Name,RollNo),
                      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.(5M+5M)

3. a) Give the syntax of an XML document and explain how a basic XML document is created with an example. Explain the following terms related to Document Type Definition:
   i. elements
   ii. attributes
   iii. internal & external entities. (5M+5M)

(OR)

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

4. a) 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)

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

5. a) Write about the JSP processing. Develop a JSP with a Bean in the application scope. (10M)

(OR)

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

6. a) Define Javascript HTML DOM. List out and explain about a few methods of Javascript DOM with Create a javascript which has event handlers for the buttons "red", "blue", "green", "yellow" and "orange" which must produce messages stating the chosen favorite color. The event handler must be implemented as a function, whose name must be assigned to the onclick attribute of the radio button elements. The chosen color must be sent to the event handler as a parameter.(10M)

(OR)

(b) Write a short notes about AJAX with a simple example. Write a javascript to validate a form consisting of a username and password. Also navigate to another web page after validation.(10M)

R 13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I 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 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.

MODEL PAPER - 2

PART-A(Answer all the Questions)

1. a) What are the differences between variable and constant in PHP? (2M)

   b) Explain Dynamic Function call in PHP with an example. (3M)

   c) What is XHTML? Describe Well-formedness of XML document. (2M)

   d) Define PCDATA and CDATA. Write the differences between them. (3M)

   e) What are the advantages of servlets over CGI?.(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) Write about XMLHttpRequest Object? (2M)

   j) Write a Java Script program to create Popup box, alert and confirm box. (3M)

2. a) What is an array? Explain types of arrays in PHP with examples. (10M)

                                   (OR)

   b) Write short notes on File Handling in PHP and explain the file handling functions with example programs.(fopen(), fread(), feof(), fclose()) (10M)

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

                                   (OR)

   b) i. What is DOM? What are the advantages of XML DOM Document? Explain with an example.
      ii. What are the differences between SAX and DOM. (5M+5M)

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

                                   (OR)

   b) Describe cookies and sessions in servlets. Illustrate this with example programs.
                                                                                              (10M)

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

                                   (OR)

b) 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)

6.   a) i. What is a function? Write neatly about the categories of functions with examples in JavaScript.
       ii. Write a script to print Fibonacci series using JavaScript. (5M+5M)
<div align="center">(OR)</div>
(b) i. Write the differences between Event and Event Handling.
     ii. Explain different types of Event Handlers in JavaScript. (3M+7M)

R 13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I Semester Examinations
Web Technologies
(Computer Science & 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. 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) Define a function and explain Parameter passing techniques with examples in PHP.(2M)

   b) Define the GET() and POST() methods in PHP. Write the differences between them. (3M)

   c) Define XML and explain about the creating and using XML tags.(2M)

   d) What is DTD? Explain types of DTD's with examples? (3M)

   e) Define Servlet and explain how a servlet works. (2M)

   f) Define JDBC and write a short notes about it. (3M)

   g) Write about the anatomy of a JSP Page. (2M)

   h) What is a Directive? Explain about the directives in JSP. (3M)

   i) How a variable is declared in Java Script? What are the rules to be followed for declaring a variable? (2M)

   j) What is JavaScript? Are Java and JavaScript the Same? If not write the differences between them.(3M)

2.   a) Define Cookie and Session. Write the differences between Cookie and Session with example programs in PHP. (10M)

(OR)

   b) i. What is a data type? Briefly explain about different data types in PHP with examples.

      ii. What is a string? Explain about the string handling functions in PHP with examples. (5M+5M)

3.   a) i) What is XML? Write the differences between XML and HTML.

      ii) Create an XML file for a student (ROLLNO, STUNAME, AGE, GENDER,BRANCH,YEAR). Create a DTD and Schema for this xml file. (5M+5M)

(OR)

   b) i. Write the differences between Attributes and Entities.
      ii. Give a brief description about any two XML Parsers (5M+5M)

   4.   a) i. Write a simple application in which the HTML form can invoke the servlet.

ii. What are HTTP GET&PUT requests? Wrie an example program by using them. (5M+5M)

(OR)

b) i. What is JDBC? Explain the JDBC architecture.

ii. Write about the types of JDBC drivers? (5M+5M)

5. a) i. What are Directives? Explain about JSP directives.

ii. What is Action? Explain about JSP action elements with examples. (5M+5M)

(OR)

b) i. Write about the implicit objects in JSP?

ii. Compare JSP with servlets. (5M+5M)

6. a) i. What do you mean by an object? Explain various functions defined under the date object.

ii. Explain Onclick ,Onload and Onsubmit event handlers in using JavaScript with examples. (5M+5M)

(OR)

(b) What is HTML DOM? Draw the detailed DOM objects structure. Explain with its usage. (10M)

R 13

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B. Tech III Year I 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 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.

MODEL PAPER - 4

PART-A(Answer all the Questions)

1. a) Differences between GET and POST methods in PHP? (2M)

    b)What is the importance of "method" attribute in a html form?(3M)

    c) What is the purpose of XML namespaces? (2M)

    d) Describe different techniques that are used to process XML files. (3M)

    e) What is the difference between the servlet and applet? (2M)

    f) Describe the life cycle of a servlet. (3M)

    g) What is the difference between Type2 and Type 3 drivers? (2M)

    h)What are the three statements in JDBC and differences between them. (3M)

    i) How to create arrays in JavaScript? (2M)

    j)How do you convert the numbers to strings using JavaScript. (3M)

2. a) How to create a Cookie in PHP explain with an examples. (10M)

    (OR)

    b) How to create a database connection (MySQL) in PHP(10M)

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

    (OR)

    b) i. What is DOM? What are the advantages of XML DOM Document? Explain with an example.

    ii. What are the differences between XML schema and DTD. (5M+5M)

4. a) Write are the advantages of a servlet over CGI.Explain how to read and initialize the paramers. (10M)

    (OR)

    b) Describe cookies and sessions in servlets. Illustrate this with example programs.

    (10M)

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

    (OR)

b) 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)

6.   a) i. What is a HTML DOM? Explain its methods and properties with an example. (10M)

(OR)

(b) i. Explain in detail about onclick and onsubmit Event Handlers with an example. (10M)

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Managerial Economics and Financial Analysis
Model Paper – 1 (R13)
III CSE II Semester

Duration: 3hrs   **Max Marks: 75**

Answer all the following

1.
   a) What is the scope of managerial economics?
   b) Define the basic law of consumption
   c) What is the angle of incidence
   d) ISOCOST &MRTS
   e) Explicit and implicit cost
   f) Optimum size of firm –explain
   g) Types of the competition markets
   h) What is the significance ratios
   i) Define the different types of companies
   j) Short term sources of finance.

Answer all the questions

2. What is the managerial economic role in decision making?

   Or

3. Demand function and its determents

4. What is the production function explain the cobbdougls function

   Or

5. Explain how cost output relationship helps the enterprenurer in expansion of the decision

6. Different types of the pricing strategies while fixing the price of the product

   Or

7. What is the joint stock company discuss the features, advantages & disadvantages?

8. Describe the high lets of 1991 industrial policy

   Or

9. What are the various types of the ratios?

10. What is the capital discuss the different sources of capital

   Or

11. Write the proframa of final accounts.

MALLA REDDY COLLEGE OF ENGINEERING & TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
Managerial Economics and Financial Analysis
Model Paper – 2 (R13)
III CSE II Semester

Duration: 3hrs   **Max Marks: 75**

Answer all the following

1.
   a) Describe the normative statement?

   b) Explain changes in Demand

   c) What is the law of returns to scale?

   d) Difference Between the perfect and Monopoly market?

   e) What are the different kinds of partners?

   f) List out the accounting concepts?

   g) Features of working capital?

   h) Limitations of ratio analysis

   i) Types of capital budgeting discuss?

   j) Explain the concept of privatization?

Answer all the questions

2.   Explain how managerial economics linked with other disciplinarian?
      Or
3.   Describe the different methods of demand forecasting?
4.   Explain the law of returns with appropriate examples?
      Or
5.   Define the BEP how do you use this for decision making?
6.   What is the price output relation in monopoly competition?
      Or
7.   Why is pricing significant in the contest of business explain?
8.   Explain the need for public enterprise in India?
      Or
9.   What are the new economic reforms of India after new economic policy?
10.   Write about accounting concepts and conventions?
      Or
11.   Explain the IRR concept with example?

Managerial Economics and Financial Analysis
Model Paper – 3 (R13)
III CSE II Semester

Duration: 3hrs   Max Marks: 75

Answer all the following

1.
- a) What is the importance of investment decision in managerial Economics?
- b) Explain the point of elasticity?
- c) Describe the features of an ISoquant?
- d) What is the impact of short run cost on production?
- e) What is the Memorandum of association?
- f) Influence of globalization on business environment?
- g) List out the different branches of accounting?
- h) Write the significance of capital?
- i) Explain the profitability index?
- j) Significance of liquidity ratios in the firm?

Answer all the questions

2. Explain the nature and scope of Managerial Economics?

    Or

3. Define the price elasticity and its measurements?

4. Explain the different type's costs?

    Or

5. Calculate BEP in both volume and units where fixed cost is 20000`, variable cost is 50 per unit selling price 80?

6. Price determination of perfect market in short runs?

    Or

7. Discuss the competition oriented pricing?

8. Explain the features and characteristics of sole traders?

    Or

9. What are the measures to solve problems arising from business cycles?

10. Write the format of Trail balance and Trading A/c

    Or

11. Calculate the liquidity and Turnover ratios?

Liabilities	Amount (000)	Assets	Amount(000)
Preference share capital	100	Land and buioldings	225
Equity share capital	150	Plant and machinery	250
General reserve	250	Furniture and fixture	100
Debentures	400	stock	250
creditors	200	debtors	125
Bills payable	50	Cash at bank	250
Outstanding expenses	50	Cash in hand	125
P&l a/c	100	Prepaid expenses	50
Long-term bank loan	200	Marketable securities	125
	1500		1500

Managerial Economics and Financial Analysis
Model Paper – 4 (R13)
III CSE II Semester

Duration: 3hrs   **Max Marks: 75**

Answer all the following

1.
   a) what are the determinants of demand?

   b) Explain the exceptions of law of Demand?

   c) what is the production function with two variable inputs?

   d) Define the terms MRTS and Least cost combination of inputs?

   e) what are the objectives of pricing?

   f) what are the elements of partnership deed?

   g) Mention different types of capitals?

   h) what is cash budget?

   i) Define the accounting and importance?

   j) Define the words (a) Payback Period, (b) Average rate of return?

Answer all the questions

2. What is the Micro and Macro economics significance on managerial economics on decision making?
   Or
3. What are the factors governing demand forecasting?
4. How the law of returns to scale play a vital role in decision making of production?
   Or
5. What is BEP? What are its assumptions and limitations?
6. How the monopolies form in the market?
   Or
7. Discuss the role of cooperative societies in economic growth?
8. How does the firm estimate its fixed and working capital requirements?
   Or
9. Show the format for preparation of Profit and Loss A/c?
10. Calculate PB, ARR, NPV for following Initial investment is 15000 and discounting factor 10% p.a

Year	Amount
1	5000
2	7000
3	5000
4	-
5	6000

Or
11. What is capital structure and write different types of leverage ratios' with formulas?