MCA

Model Question Papers I MCA I Semester

(TWO Years Course - AB 2020-21)

SVKP & Dr K S RAJU ARTS & SCIENCE COLLEGE(A), PENUGONDA

I MCA I Semester

20MCAT101 Discrete Mathematical Structures

MODEL QUESTION PAPER

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

SECTION- A (4 X 15 = 60 M)

Answer ALL Questions

1.(a) Show that $p \rightarrow q$ and $\neg q \rightarrow \neg$ pare logically equivalent. (7M)

(b) Show that the relation $\leq$(less than or equal to) defined on the set of positive integers Z^+ is a partial order relation. (8M)

(or)

(c) Explain the properties of relations with an example. (8M)

(d) How to represent relations using matrix. (7M)

2.(a) Solve the recurrence relation $a_n = a_{n-1}+2$, $n \geq 2$ subject to initial condition $a1=3$. (7M)

(b) How many permutations of the letters ABCDEFGH contains the string ABC? (8M)

(or)

(c)What is Pegion hole principle? Find the minimum number of students in a class to be sure that three of them are born in the same month. (8M)

(d) In a class of 25 students, 12 have taken mathematics. 8 have taken mathematics but not biology. Find the number of students who have taken mathematics and biology and those who have taken biology but not mathematics. (7M)

3.(a) Define Chromatic number. What is the chromatic number of K_n? (8M)

(b) What is bipartite graph? Show that C_6 is a bipartite graph. (7M)

(or)

(c)Explain Tree Traversal methods. (15M)

4. (a) Find the sum of products expansion for the function $F(x,y,z) = (x+y)\bar{z}$ (7M)

(b) Construct circuits that produce the following outputs (i)$(x+y)\bar{x}$ (ii)$\bar{x}(y+\bar{z})$ (8M)

(or)

(c) Show that distributive law $x(y+z) = xy + xz$ is valid. (7M)

(d) Construct the state table for the finite state machine with the state diagram shown in the following figure. (8M)

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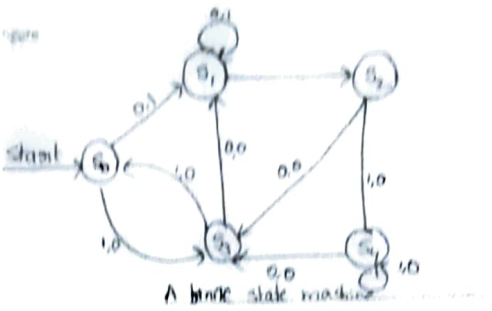

A finite state machine

SECTION-B (3 X 5 = 15 M)

Answer any Three Questions of the following.

5. Construct the truth table for $p \wedge (\sim q \vee q)$.

6. Prove $A \cup (B \cap C) = (A \cup B) \cap (A \cup C)$.

7. State and prove Hand shaking theorm.

8. Define Hamilton circuit, Hamiltonian graph give examples to each.

9. Find the duals of $(y+0)$ and $x\bar{.}1+(\bar{y}+z)$.

10 .Write the following in symbolic form.

Every person is precious.

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I MCA I Semester

20MCAT102 MANAGEMENT ACCOUNTANCY

MODEL QUESTION PAPER

Time: 3 Hrs **Max Marks: 75**

SECTION- A(4 X 15 = 60 M)

Answer ALL Questions

1.a) Define Accounting Process? Explain various Branches of Accounting. [15]

(OR)

b) Give detailed proforma for Trading A/C, P&L A/C and Balance Sheet. [15]

2. a) What do you mean by financial statement analysis? Explain the importance of Ratio analysis in analyzing the financial strength of an organization? [15]

(OR)

b) Distinguish between Funds flow and cash flow analysis [15]

3. a) Explain the nature and importance of budgets and budgetary control in planning and coordinating the functional activities of an organization? [15]

(OR)

b) Calculate P/V ratio ,BEP and Margin of Safety from the following data of a manufacturing Enterprise.

Selling price	10 Rs
Variable Cost	6 Rs
Fixed Cost	40,000 Rs
Actual Sales	16,500 Units

[15]

4. a) What are the various types of documents used for data collection in computerized accounting system? [15]

(OR)

b) Explain the importance of coding logics in computerized accounting system? [15]

SECTION – B (3 × 5 = 15 Marks)

Answer any THREE Questions

5.Double entry system
6.Closing entities
7.Liquidity ratios
8.Working Capital Cycle
9.Master Budget
10.Flexibility budget

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I MCA I Semester

20MCAT103 C PROGRAMMING & DATA STRUCTURES

MODEL QUESTION PAPER

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

SECTION –A(4×15 =60 M)

Answer ALL Questions

1. a) Explain input and output statements without formatting and with formatting. Give examples.(15M)

(Or)

b) What is an array? Explain the declaration and initialization of one and two dimensional
2. arrays with example.(15M)

2. a) Write a C program to (i) find the smallest in an array of n elements using pointer arithmetic (ii) multiplication of two matrices.

(Or)

b) Write a C program to process sequential and random access files.

3. a) Define data structure and explain Stack applications with an example (7M)
   b) Write ADT operations for array implementation of a queue (8M)

(OR)

   c) Define Binary Tree and explain traversals binary tree with examples (7M)
   d) Explain Threaded Binary Trees and their applications with examples (8M)

4. a) Define Searching explain with an example (8M)
   b) Write a C Program to implement binary search with an example (7M)

(OR)

   c) Define Hashing and explain open addressing with an example (8M)
   d) What is Collision? What are the different Collision resolving techniques with example (7M)

SECTION –B (3×5 =15 M)

Answer any THREE Questions of the following.

5.Explain Operator Precedence and Associativity.
6.Explain Call by value and Call by Reference.
7.Difference between Structure and Union.
8.Explain about doubly linked list
9.Explain the procedure for selection sort
10.Explain about the Dynamic Hashing

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I MCA I Semester

20MCAT104 COMPUTER ORGANIZATION

MODEL QUESTION PAPER

Time: 3 Hrs **Max Marks: 75**

SECTION- A(4 X 15 = 60 M)

Answer ALL Questions

1. a) What is Flip-Flop? Explain various types of Flip-Flop.

   (Or)

   b) Write about Decoder and Multiplixers and also Construct 8 to 1 Line multiplexers

2. a) Explain Data types, Complements and fixed –point representation.

   (Or)

   b) Draw and Explain 8085 microprocessor Architecture.

3. a) Describe the mechanism of an instruction cycle and memory reference instructions. (Or)

   b) Explain instruction formats and addressing modes

4. a) Write about Asynchronous data transfer methods and Explain DMA transfer with block diagram.

   (Or)

   b) What is the difference between main memory and Auxiliary memory and Explain the mapping process of Cache memory.

SECTION – B (3 X 5M = 15 M)

Answer any THREE of the following

5. Logic Gates
6. Floating point representation
7. Timing and Control
8. Stack Organization
9. I/O Interface
10. Virtual memory

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I MCA I Semester

20MCAT105 OPERATING SYSTEMS

MODEL QUESTION PAPER

Time: 3 Hrs **Max Marks: 75**

SECTION- A(4 X 15 = 60 M)

Answer ALL Questions

1. Write short note on (5*3=15)
   a) i) Mainframe Systems ii) Multiprocessor Systems iii) Distributed Systems
   iv) Real Time Systems v) Functions of OS

   (OR)

   b) i) Write short notes on System calls.
   ii) Explain System Structure. [8+7]

2. a) i) Explain Interprocess Communications.
   ii) Write short notes on communication in Client-Server Systems. [9+6]

   (OR)

   b) Compare and Construct preemptive and non-preemtive scheduling algorithms.

3. a) Write a short notes on Demand Paging and Segmentation.

   (OR)

   b) i) Explain various Page Replacement Algorithms.
   ii) Write a short notes on Disk Management and Disk Scheduling. [8+7]

4. a) Describe protections concepts and mechanisms provided by an operating system.

   (OR)

   b) Explain OS Concepts with respect to LINUX.

SECTION – B (3X5=15 Marks)

Answer any Three Questions

5. Threads
6. Dining Philosophers Problem
7. Paging
8. File Operations
9. Process
10. Methods for Handling Deadlocks.

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I MCA I Semester

20MCAT106 Design and Analysis of Algorithms
Model Question Paper

Time : 3 Hours | Max. Marks : 75

SECTION – A (4X15=60 Marks)
Answer ALL Questions

1. a) Define Algorithm. Explain fundamentals of Algorithmic problem solving.

   (OR)

   b) Define space and time complexity. Explain different types of Asymptotic notations.

2. a) Explain divide and conquer solution for quick sort. Illustrate with examples.

   (OR)

   b) Explain DFS and BFS search using decrease and conquer technique with examples .

3. a) Explain Floyd's algorithm for all-pairs shortest path problem with an

   example. (OR)

   b) Explain Greedy method .Discuss Krushkal's algorithm for minimum spanning tree.

4. a) Explain NP-Complete and NP-Hard problems.

   (OR)

   b)Explain n-queen problem using backtracking technique.

SECTION – B (3X5=15 Marks)
Answer any FIVE Questions

5. Analysis of recursive algorithm.
6. Strassen's matrix multiplication.
7. Binary search algorithm.
8. Horner's rule.
9. Horspool's algorithm.
10. Dijkstra's algorithm.

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SVKP & Dr K S RAJU A & S COLLEGE (A) :: PENUGONDA
I MCA I SEMESTER
SUBJECT : **FUNDAMENTALS OF COMPUTERS**

BRIDGE COURSE (20MCAT110)
(For General B.Sc/B.A./B.Com Students - w.e.f : 2020-21 Admitted Batch)

Time:3 Hours | Max.Marks:75

SECTION – A
Answer any FOUR Questions (4 X 15=60 Marks)

1. a) Explain about Block diagram of computer ?
   (or)
   b)Define Software ? Explain about types of Softwares ?

2. a) Explain about functions of Operating system ?
   (or)
   b) Explain about Mail Merge ?

3. a) Explain different types of Network topologies ?
   (or)
   b) Explain creating an E-mail account, sending and receiving E-mails ?

4. a) Explain about Structured programming concepts ?
   (or)
   (b)Explain about Assemblers, Compilers and Interpreters?

SECTION – B

Answer any THREE Questions | 3 X 5 = 15 Marks

5. Explain types of computers?
6. Explain Binary Number System?
7. Explain types of Operating Systems?
8. Features of Word Processor?
9. Explain WAN?
10. Explain Web Browsers?

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MCA

Model Question Papers I MCA II Semester

(TWO Years Course - AB 2020-21)

SVKP & Dr K S RAJU ARTS & SCIENCE COLLEGE(A), PENUGONDA

I MCA II Semester

20MCAT201 Computer Networks
Model Question Paper

Time : 3 Hours Max. Marks :75

SECTION – A (4X15=60 Marks)
Answer ALL Questions

1. (a) With a neat block diagram explain the TCP/IP reference model. List out the limitations of the model.(15M)

(OR)

(b) i) What are the functions of the physical layer?(5M)
ii) Give the physical description, characteristics, and uses of all the guide transmission media.(10M)

2. (a) i) Explain Sliding Window Protocol (8M)
ii) Differentiate Error detection and Correction Codes(7M)

(OR)

(b) Explain Link State Routing Protocol(10M)

3. (a) i) what is TCP protocol? How is connection management done by TCP?(8M)
ii) Explain how TCP controls congestion(7M)

(OR)

(b) Explain SMTP and MIME (15 M)

4.(a) Compare the different network devices(15M)

(OR)

(b) Write brief notes on Mobile Adhoc Networks and Sensor networks(15M)

SECTION – B (3X5=15 Marks)
Answer any THREE Questions

5. ATM Reference Model
6. Explain Frequency Division Multiplexing
7. Give the format of IPv4 header
8. IPv4 Address Classes
9. What are the various timers used by TCP and what are their purposes?
10. Difference between TCP and UDP

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I MCA II Semester

20MCAT202 Object Oriented Programming through JAVA

MODEL QUESTION PAPER

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

SECTION-A (4 X 15 =60 Marks)

Answer All Questions

1. a) Explain about Principles of Object Oriented Languages. [15M]

(Or)

b) What is the purpose of constructor in Java programming? Explain the Constructor Overloading with an example program. [15M]

2. a) What is an interface? Write a program to demonstrate multiple inheritance using interfaces.[15M]

(Or)

b) i) What is a package? How do we design a package? [8M]

ii) Describe exception handling in Java with examples.[7M]

3. a) Explain in details about Thread. [15M]

(Or)

b) Discuss about Applet Life Cycle. [15M]

4. a) Explain in detail about Event Handling. [15M]

(Or)

b) What is AWT? Explain any six components of AWT. [15M]

SECTION - B

Answer any THREE questions (3 x 5 = 15 Marks)

5. Command line arguments
6. Abstract class
7. Access protection
8. Thread Priority
9. java.io package
10. Differences between AWT and Swing

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I MCA II Semester (Second Semester)
20MCAT203- DATABASE MANAGEMENT SYSTEMS
Model Question Paper

Time : 3 Hours | Max. Marks: 75

SECTION – A (4X15=60 Marks)
Answer ALL Questions

1. a) i) Write a brief note on advantages and applications of DBMS. **[8M]**

ii) Briefly explain about Three-Schema Architecture with neat diagram. **[7M]**

Or

b.) Briefly discuss about Database System Environment with neat diagram. **[15M]**

2. a) i) Explain in detail about various key constraints used in database system with examples. **[10M]**

ii) Explain about Relational Algebra Set Operations with examples. **[5M]**

Or

b) Explain in detail about Tuple and Domain Relational Calculus with examples. **[15M]**

3. a) What is Normalization? Briefly explain the types of normal forms with an example. **[15M]**

Or

b) Explain how a dynamic multi level indexes can be created using B Trees and B+ Trees with example. **[15M]**

4. a) What is Serializability? Briefly explain the different types of Serializability. **[15M]**

Or

b) Briefly explain the following Concurrency Control Techniques.

i) Two Phase Locking Protocol. **[8M]**

ii) Validation Concurrency Control. **[7M]**

SECTION – B (3X5=15 Marks)
Answer any THREE Questions

5) Define DBMS, Schema, Instance. What is weak entity? Explain with example.

6) What is Data Independence? Specify the classification.

7) Give a brief note on Insert, Delete, and Update Queries in SQL with examples.

8) What is View in SQL? Create a view and perform DML operations on it.

9) What is Functional Dependency? Classify.

10) Give a brief note on Buffering Blocks.

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I MCA II Semester

20MCAT204 Formal Languages and Automata Theory

MODEL QUESTION PAPER

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

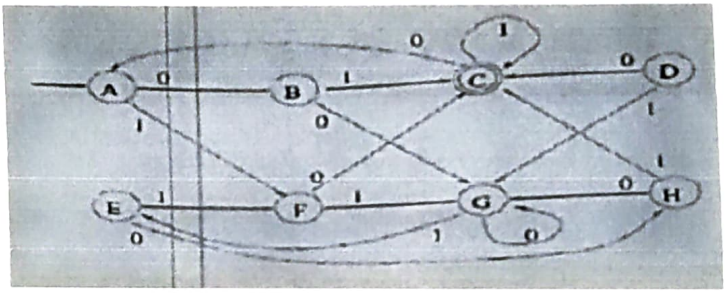
SECTION - A

Answer ALL Questions (4 x 15 =60)

1. a) Let r be a regular expression. Then there exists some NFA with e-transitions that accepts L(r)? 15 M

(or)

b) What is the use of Membership algorithms and construct the minimum state automaton equivalent to the transition diagram given below 15 M



2. a) i) State and prove pumping lemma for CFL's 8 M

ii) Explain any five closure properties of Regular Sets? 7 M

(or)

b) Construct a PDA to accept L= $\{WW^R / W \text{ in } (0+1)^*\}$? 15 M

3. a) Construct a TM to accept L=$\{a^n b^n c^n / n >= 1\}$? 15 M

(or)

b) i) Briefly discuss combining Turing Machines ? 8 M

ii) Discuss the halting problem of Turing Machine? 7 M

4. a) i) Syntax of Predicate Calculus ? 7 M

ii) Explain Truth Assignment ? 8 M

(or)

b) Explain Validity and Satisfiability? 15 M

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SECTION - B

Answer any THREE questions (3 x 5 = 15)

5. What is transition system ?
6. What are the differences between DFA and Non-DFA?
7. Briefly discuss simplification of CFL's ?
8. Define Turing Machine ?
9. Explain Normal Forms ?
10. Discuss about PDA.

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I MCA II Semester

20MCAT205 Data Mining Concepts and Techniques

MODEL QUESTION PAPER

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

SECTION-A (4 X 15 =60 Marks)

Answer All Questions

1. a) i) Explain with a neat diagram the three-tier architecture of a Data Warehouse. [7M]

   ii) Explain the OLAP operations in a Multidimensional data. [8M]

   (Or)

   b) Why do we pre-process data? Explain different techniques in data cleaning, integration and transformation. [15M]

2. a) i) Data Mining should be applicable to any kind of data repositories, including data streams. What are the different kinds of data on which mining can be applied? [10M]

   ii) Mention different issues in Data Mining. [5M]

   (Or)

   b) i)Explain in detail how the data is measured differently in statistical descriptions. [8M]

   ii) Where can data mining be applied? Explain different domains of applications. [7M]

3. a) i) Explain FP-Growth Algorithm with an example. [8M]

   ii) Explain AOI Algorithm. [7M]

   (Or)

   b) i) Explain Apriori property and explain the algorithm associated with it. [10M]

   ii) How to generate Closed and Max patterns. [5M]

4. a) i) What is the difference between Classification and Prediction? How a decision tree is constructed? [10M]

   ii) Explain Support Vector Machines concept. [5M]

   (Or)

   b) i) Explain Bayesian Classification Methods. How Classification by back propagation is obtained. [7M]

   ii) Explain k-means Clustering and compare that with k-medoids algorithm. [8M]

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SECTION – B (3 x 5 = 15 Marks)
Answer any THREE Questions

5. Similarity and Dissimilarity of data

6. Concept Description

7. Multilevel Association Rules

8. Frequent Item sets using vertical data format

9. Tree Pruning

10. DBSCAN Algorithm

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I MCA II Semester

20MCAT206 (Elective I) – Internet Of things
Model Question Paper

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

SECTION-A (4 X 15 = 60 M)
Answer ALL Questions

1. **a)** What is the IoT? Explain Design guidelines for IoT **(15M)**

Or

b) Explain in detail application of Internet of Things in Smart Cities **(15M)**

2. **a) i)** Explain M2M. Distinguish between IoT and M2M **(8M)**

ii) Explain SDN and NFV for IoT **(7M)**

Or

b) i) Explain IoT System Management with NETCONF-YANG **(8M)**

ii) Explain limitations of SNMP **(7M)**

3. **a)** Explain Design Methodology for IoT **(15M)**

Or

b) Explain Logical Design of IoT suing Python. Explain various python packages used for IoT **(15M)**

4. **a)** What is Raspberry Pi. Explain Raspberry Pi Board and various interfaces in Raspberry pi. **(15M)**

Or

b) What is Cloud? Explain various Cloud Storage Models using in IoT **(15M)**

Section-B
Answer any THREE questions (3 x 5 = 15)

5. Explain Wireless Sensor Networks
6. Explain IoT in Environment
7. Explain Need for IoT Systems Management
8. Explain NETOPEER
9. Explain various data types used in Python
10. Explain basic building blocks of IoT Device

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MCA

Model Question Papers II MCA I Semester

(TWO Years Course - AB 2020-21)

SVKP & Dr K S RAJU ARTS & SCIENCE COLLEGE(A), PENUGONDA

II MCA I Semester
20MCAT301 Information Security and Cryptography
Model Question Paper

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

SECTION – A (4X15=60 Marks)
Answer ALL Questions

1.	a) Explain Principles of Security	7M
	b) Discuss Substitution and Transportation techniques?	8M
	Or	
	c) What is Modulo Arithmetic and discuss its properties?	8M
	d) What is Totient Function and explain how to calculate Totient Function with an example	7M
2.	a) Show that DES decryption is the inverse of DES encryption?	8M
	b) Discuss different block cipher modes of operation?	7M
	Or	
	c) Explain RSA algorithm with an example?	8M
	d) Explain how to generate digital signatures?	7M
3.	a) What is authentication and discuss different authentication mechanisms?	7M
	b) Explain SHA1?	8M
	Or	
	c) What is Virus? And discuss different types of Viruses?	5M
	d) Write short notes on Intruders and Trusted Systems?	10M
4.	a) Briefly explain SSL protocol?	7M
	b) Explain SET in detail?	8M
	Or	
	c) Explain about IP Security architecture?	8M
	d) What is Firewall and discuss different types of Firewalls?	7M

SECTION – B (3X5=15 Marks)
Answer any THREE Questions

5. Explain any five Security attacks?
6. What is Key and what are different types of keys?
7. Briefly discuss Differential cryptanalysis?
8. Define Prime number and explain relatively prime numbers with an example?
9. Differentiate between Symmetric and Asymmetric key cryptography?
10. What are the requirements of Hash Functions?

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II MCA I Semester

20MCAT302 Big Data Analytics

Model Question Paper

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

SECTION – A (4X15=60 Marks)

Answer ALL Questions

1. a) Explain the Characteristics of Big Data. How the data is different in Warehouse and in Hadoop

OR

b) Explain the building blocks of Hadoop with a neat Architecture.

2. a) What is Apache Spark and explain the Eco System of it. What are the main data structures usedin Spark

OR

b) What is key-value pair. Write a Mapreduce program to count the number of words in a given text

3. a) Discuss any three machine learning algorithms which will use the features of MLlib in Spark.

OR

b) How do you join data from different sources in Mapreduce programming? Show with MatrixMultiplication example.

4. a) What are Resilient Distributed Dataset. Explain how to create pairs in RDDs and transformations that are carried in them.

OR

b) Explain Page Rank and Bloom Filter Algorithms.

SECTION B (3 X 5 = 15M)

ANSWER ANY THREE

5. What is Big Data and explain is importance and applications
6. Explain Spark components
7. Explain streaming in Spark
8. Explain Friends-of-Friends Algorithm
9. How to add schemas on RDD
10. Explain Hadoop components/

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II MCA I Semester

20MCAT303 Object Oriented Software Engineering

Model Question Paper

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

SECTION – A (4X15=60 Marks)
Answer ALL Questions

1. **a)** What is software engineering? Explain software engineering activities **15M**

Or

b) What is requirement engineering? Explain requirements engineering activities **15M**

2. **a)** Discuss how usability principles play a significant role in user interface design **15M**

Or

b) Explain static and dynamic elements of UML. **15M**

3. **a)** What is software architecture? Explain architectural patterns with examples. **15M**

Or

b) What is the role of patterns in software engineering? Explain any four patterns **15M**

4. **a)** Explain the types of defects that occur in the cases of ordinary algorithms, numerical algorithms and timing and co-ordination **15M**

Or

b) Explain RUP **15M**

SECTION – B (3X5=15 Marks)
Answer any THREE Questions

5. Software quality
6. Reusability in software engineering.
7. Purpose of use case diagram.
8. Specialization and generalization.
9. Design principles.
10. Information about a pattern.

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II MCA I Semester

20MCAT304 Web Technologies

MODEL QUESTION PAPER

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

SECTION- A(4 X 15 = 60 M)

Answer ALL Questions

1. a) i) Explain the different layers and their roles in protocols of ComputerCommunication.
   ii) What are the types of Bridges? Explain Simple Bridge? [10+5]

   (OR)

   b) Explain the concepts of data fragmentation and reassembly in detail. [15]

2. a) i) How does the three way Handshake technique help in creating a TCPconnection?
   ii) Explain the concept of FTP (File Transfer Protocol)? [7+8]

   (OR)

   b) i) Describe the steps involved when a web browser request for and obtains a web page from a Web server?
   ii) What are the three approaches for e-Commerce application Development and Explain Main features of a product such as IBM's Net.Commerce [7+8]

3. a) i) Describe how static Web pages are made dynamic?
   ii) Create web pages for MOOCs with relevant fields. [8+7]

   (OR)

   b) i) What are the advantages of Client - side scripting?
   ii) Describe ADO and how it can be used to interact with Databases? [7+8]

4. a) i) Describe the typical operation involving a middleware such as CORBA?
   ii) Explain the concept of EDI? [7+8]

   (OR)

   b) i) Describe the anatomy of an XML Document?
   ii) Explain WAP Architecture? [7+8]

SECTION– B (3X5=15Marks)

Answer any THREE Questions

5. What is ICMP?
6. Describe Spooling in brief?
7. What is Resolver?
8. What are JavaBeans?
9. What is the need for XSL? Illustrate this with the help of an example?
10. Explain GPRS and UMTS?

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II MCA I Semester

20MCAT305 Elective II : 2. Cloud Computing

Model Question Paper

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

SECTION-A (4 X 15 = 60 M)

Answer ALL Questions

1. **a)** Explain Cloud computing Services. **(8M)**

   b) Discuss First movers in the Cloud. **(7M)**

   Or

   c) Briefly explain Titans in the Cloud Computing **(15M)**

2. **a)** Explain Different levels of connectivity needed to deliver cloud resourses. **(8M)**

   b) State and Discribe Cloud Storage providers. **(7M)**

   Or

   c) Explain the tools used to connect with the cloud. **(8M)**

   d) Explain Mobile Device integration. **(7M)**

3. **a)** Describe the features of Cast Iron Cloud Bungee connect and web application development. **(15M)**

   Or

   b) List downdifferent thin client providers and also discuss what resourses are provided by each of them. **(15M)**

4. **a)** Explain Cloud services for Individuals and also for Mid-Market **(15M)**

   Or

   b) Explain the best practices when you plan to move to a cloud. **(15M)**

Section-B (3 X 5 =15 Marks)

Write a Short Note on any THREE of the following

5. Challenges for Cloud Computing.
6. Explain SaaS.
7. Explain Google Apps Engine.
8. Web API.
9. Virtualization.
10. Explain the benefits of mobile cloud computing.

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II MCA I Semester
20MCAT306 Elective III : 3.Foundation of Data Science
Model Question Paper

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

SECTION-A (4 X 15 = 60 M)
Answer ALL Questions

SECTION-A (4 X 15 = 60 M)
Answer ALL Questions

1.	a) Explain concepts of relational database in data science with examples.	(15M)
	Or	
	d) Explain the concept of managing data in data science with examples.	(15M)
2.	a) Explain modeling methods in data science with examples?	(15M)
	Or	
	b) Explain linear and logistic regression in data science with examples?	(15M)
3.	a) Explain R language operations with examples?	(15M)
	Or	
	b) Explain probability distribution in R language with examples?	(15M)
4.	a) Explain the concept of documentation and deployment in data science with examples?	(8M)
	Or	
	b) Explain the graphical analysis in data science with examples?	(15M)

Section-B (3*5 =15 Marks)

Write a Short Note on any THREE of the following

5. Explain stages in data science with examples.
6. Explain spotting problems in data science
7. Explain machine learning tasks on modeling.
8. Explain types of data items in R Language
9. Explain Normal distribution in Data Science
10. Explain Graphics parameters in R language.

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