PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

End-Semester Examination – Backlog May /June - 2024

Program : MCA | Batch : | Semester: II

Maximum Marks: 60 marks | Time: 2.5 Hrs.

Course Name: Object Oriented Programming using Java **Course Code : PMC109**

Course Outcomes (CO):

1. Demonstrate a strong understanding of different concepts related to Java, Java language constructs
2. Apply object-oriented principles to design and implement robust and maintainable Java programs
3. Implement efficient input/output operations in Java, and/or, demonstrate the ability of Java to implement concurrent and multithreaded applications
4. Develop visually appealing and user-friendly Java applications, demonstrating proficiency in layout management, event handling, and GUI components
5. Apply JSP concepts to solve practical challenges involving conditional logic, user interactions.
6. Design and implement database-driven applications, showcasing the ability to perform CRUD (Create, Read, Update, Delete) operations and handle transactions in a Java environment

Instructions:

- Draw neat diagram wherever necessary.
- Figures to the right indicate full marks.
- Make suitable assumptions wherever necessary.

NotesSociety

Question	CO	BL	Marks
Q.1) Attempt ANY TWO of the following a) Discuss common methods available in the String class for string manipulation. Provide examples to illustrate their usage. b) Explain the array in Java with an example. c) Explain type casting with an example.	1	2	**(10 marks)** **5** **5** **5**
Q.2) Attempt ANY TWO of the following a) Create a superclass Shape and subclasses Rectangle and Circle. Implement methods to calculate the area and perimeter for each shape. b) Discuss the use of constructor and destructor with an example. c) Java program to check whether a string is a Palindrome.	2	3	**(10 marks)** **5** **5** **5**
Q.3) Attempt ANY TWO of the following a) Develop a Java program where one thread prints odd numbers, and another prints even numbers. b) Implement a Java program to copy the content of one text file to another. c) Discuss the thread life cycle in Java.	3	3	**(10 marks)** **5** **5** **5**
Q.4) Attempt ANY ONE of the following a) Write a Java Swing program to create a login window that accepts user name and password. When user clicks on Login button, it should compare login name and password with "Admin"	4	3	**(10 marks)** **10** **10**

Enrolment No.

Pimpri Chinchwad University

and "@Admin123" respectively, and display the success or fail message accordingly. b) Discuss different categories of Swing controls, including buttons, text fields, labels, lists, combo boxes.			
Q.5) Attempt ANY ONE of the following a) Create a registration form using HTML and display the form data on a web page using JSP. b) Discuss the use of cookies with an example.	5	3	**(10 marks)** **10** **10**
Q.6) Attempt ANY ONE of the following a) Discuss the role of DriverManager, Connection, Statement, ResultSet, and Driver classes in JDBC. b) Write a console-based menu driven program to perform Insert Data, View Data operations on Employee table in MySQL. Ask for information from the user.	6	3	**(10 marks)** **10** **10**

NotesSociety

Enrollment No: 10043

PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

End-Semester Examination – Regular May /June - 2024

Program : **M.C.A.** Batch : 2023-25 Semester:II

Maximum Marks: 60 marks Time: 2.5 Hrs.

Course Name: Big Data Analytics **Course Code : PMC111**

Course Outcomes (CO):

1. Describe the big data characteristics, challenges, and use cases from selected business domains
2. Describe NoSQL big data management and the characteristics that distinguish them from traditional relational database management systems.
3. Configure and run the Hadoop distributed file system Framework.
4. Analyze the Big Data using Map-reduce programming using the Hadoop framework.
5. Apply Hadoop-related tools such as HBase, Cassandra, and Hive for big data analytics.

Instructions:

1. All questions are compulsory.
2. Illustrate your answers with sketches wherever necessary.
3. Figures to the right indicate full marks.

Question	CO	BL	Marks
Q.1) Attempt ANY TWO of the following **a)** What is Big Data? What is Hadoop? How Big Data and Hadoop are linked? **b)** What is Avro, file-based data structures? **c)** Outline aggregate & relation data models.	CO1	BL1	**(10 marks)** 5 5 5
Q.2) Attempt ANY TWO of the following **a)** Explain the Hadoop Ecosystem with core components. **b)** Describe the characteristics of a NoSQL database. **c)** What are the various big data problems?	CO2	BL2	**(10 marks)** 5 5 5
Q.3) Attempt ANY TWO of the following **a)** Discuss any two architectural patterns of NoSQL. **b)** Describe the structure of HDFS in the Hadoop ecosystem using a diagram **c)** Summarize HBase clients with HBase examples.	CO4	BL4	**(10 marks)** 5 5 5
Q.4) Attempt ANY TWO of the following **a)** Explain How Map Reduce Work. **b)** Demonstrate Cassandra's data model with example **c)** How does HDFS ensure data integrity in a Hadoop cluster?	CO5	BL3	**(10 marks)** 5 5 5
Q.5) Attempt ANY TWO of the following **a)** Describe HIVE architecture in detail. **b)** Describe MAP reduce types. **c)** Illustrate data integrity, compression, and serialization.	CO2	BL2	**(10 marks)** 5 5 5
Q.6) Attempt ANY TWO of the following **a)** What is MAP reduce in Hadoop? When to use MapReduce with Big Data. **b)** Distinguish master-slave replication, and peer-peer replication. **c)** Compare graph databases, schema less databases.	CO4	BL4	**(10 marks)** 5 5 5

NotesSociety

Enrolment No.	20043

PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

End-Semester Examination – Regular May /June - 2024

Program : M.C.A. Batch : Regular Semester: II

Maximum Marks: 60 marks Time: 2.5 Hrs.

Course Name: Entrepreneurship Development **Course Code : MC201**

Course Outcomes (CO):

1. Develop awareness about entrepreneurship and successful entrepreneurs
2. Develop an entrepreneurial mind-set by learning key skills such as design, personal selling, and communication
3. Understand the DNA of an entrepreneur and assess their strengths and weaknesses from an entrepreneurial perspective

Instructions: 1) Answer should be specific and to the point.
2) Write relevant examples.

Question	CO	BL	Marks
Q.1) Attempt ANY TWO of the following			**(10 marks)**
a) Explain in brief the role of entrepreneurship in promoting economic development with relevant example?	CLO1	01	5
b) Demonstrate why individuals prefer entrepreneurship over traditional employment?	CLO3	03	5
c) Explain in brief the significance of communication with suitable example?	CLO2	02	5
Q.2) Attempt ANY TWO of the following			**(10 marks)**
a) Describe the key characteristics of successful entrepreneurs?	CLO2	02	5
b) Demonstrate the business strategies adopted by the technopreneurs?	CLO3	03	5
c) Define sole proprietorship forms of business organization with suitable example?	CLO1	01	5
Q.3) Attempt ANY TWO of the following			**(10 marks)**
a) Explain the relationship between entrepreneurship and innovation with suitable example?	CLO1	01	5
b) Demonstrate how active listening skills are used to enhance communication within the team in an organization?	CLO2	03	5
c) Illustrate the effectiveness of company's mission statement in communicating company's purpose to stakeholders?	CLO2	03	5
Q.4) Attempt ANY TWO of the following			**(10 marks)**
a) Explain in brief the different types of entrepreneurs?	CLO1	01	05
b) Demonstrate the support provided by E-cells for aspiring entrepreneurs in turning their ideas into successful businesses?	CLO1	03	05
c) Describe the influence of risk-taking on the decision-making process in starting a business?	CLO2	03	05

NotesSociety

Enrolment No.

Q.5) Attempt ANY TWO of the following **a)** *"Shivani Dubey"* always wanted to start her own business. Even though she had some failures before, she didn't give up. With a lot of determination, she started a small catering business from her home kitchen. It was hard at first to find customers and manage money, but Shivani kept going. She worked hard to make sure her food was good, her customers were happy, and she kept getting better. Eventually, her hard work paid off, and her catering business became successful. Now, Shivani is well-known in her community as a successful entrepreneur who never gave up, inspiring others with her story. **You are required to propose strategies that aspiring entrepreneur can learn from Shivani Dubey's story of resilience and determination.**	CLO3	**03**	**(10 marks)** **05**
b) Green Agro, a startup in the agricultural sector, aims to improve productivity and sustainability in farming practices. *"Suhas"*, the founder, faces various challenges in achieving his goals. These challenges comprise Limited Technology Access, Regulatory Challenges, and Market Access etc. **You are required to propose technology solutions to improve productivity and market access for rural farmers despite limited access.**	CLO2	**03**	**05**
c) *"TechSavvy Creations"* is dedicated to transforming how people engage with technology through user-friendly and innovative products. **"Its vision is to empower users with seamless and enjoyable interactions with technology".** TechSavvy Creations wants to make shopping more fun and easy for everyone. Recently TechSavvy Creations introduced a new feature in its app named **"Virtual Shop,"** enabling users to seamlessly integrate augmented reality into their shopping experience. **Demonstrate specific aspects of the "Virtual Shop" feature that align with "TechSavvy Creations" vision of empowering users with seamless and enjoyable interactions with technology.**	CLO2	**03**	**05**
Q.6) Attempt ANY ONE of the following **a) Case Study: "Flipkart - Revolutionizing E-Commerce in India"** **Introduction: -** In 2007, two former Amazon employees, Sachin Bansal and Binny Bansal (not related), founded Flipkart in Bengaluru, India, with the vision of bringing e-commerce to the Indian market. Initially starting as an online bookstore, Flipkart quickly expanded its product offerings to include a wide range of categories such as electronics, fashion, and household goods. Flipkart's success story is characterized by several key factors: **Key Factors:-** 1.) **Supply Chain Innovation:** Flipkart spent a lot of money on building a strong system for delivering goods, including warehouses, delivery networks, and technology. This allowed them to deliver products quickly and reliably, even in far-away places. 2.) **Technology and Innovation:** Flipkart used technology to make online shopping better for its customers. They created features such as one-click shopping, personalized	CLO3	03	(10 marks)

Notes Society

marks)

recommendations, and a user-friendly mobile app, which contributed to customer satisfaction and loyalty.

3.) **Localized Approach:** Recognizing the different challenges in the Indian market, Flipkart changed its services to fit what Indian customers like. They offered options like cash on delivery, different ways to pay, and customer support in many local languages.

4.) **Marketplace Model:** In 2013, Flipkart shifted from its initial inventory-led e-commerce model to a marketplace approach, enabling third-party sellers to list their products on the platform. This transition considerably broadened the product range on Flipkart, leading to increased sales and revenue growth.

5.) **Strategic Partnerships and Acquisitions:** Flipkart strategically partnered with leading brands and acquired complementary businesses to strengthen its market position. Notable acquisitions include Myntra (an online fashion retailer) and PhonePe (a digital payments platform), which expanded Flipkart's offerings and customer base.

6.) **Scalability and Expansion:** Flipkart kept growing and improving its services, which helped it stay ahead in India's online shopping market, even as more competitors joined in from India and around the world.

Conclusion: Flipkart's success story not only changed how people shop online in India but also encouraged many new entrepreneurs and startups in the country. Today, Flipkart is seen as one of India's most successful and important company, showing how starting your own business can help the economy grow and bring new ideas.

Questions:

i) Demonstrate Flipkart's entrepreneurial journey.

ii) Describe Flipkart's shift from an inventory-led model to a marketplace model.

OR

b) **Case Study: "PhonePe: Revolutionizing Digital Payments in India"**

Introduction: - PhonePe, founded in 2015 by Sameer Nigam, Rahul Chari, and Burzin Engineer, quickly became a leader in India's digital payment industry. It started as a mobile payments app using UPI (Unified Payments Interface) and later added many other financial services.

CLO3 | **03**

Key Factors of Success:

1. **Easy-to-Use Interface:** PhonePe's mobile app has an easy-to-understand interface, making it simple for users to make transactions. Its one-click payment option and fast response time have made it popular among users.
2. **Linking with UPI:** PhonePe was among the first companies to use UPI technology, allowing users to make quick and secure transactions directly from their bank accounts. This made PhonePe popular in a market where cash

transactions were common.

3. **Strategic Partnerships:** PhonePe partnered with many merchants, utility providers, and online platforms to allow digital payments for various transactions. This partnership network helped PhonePe become popular among consumers quickly.
4. **Unique Features:** PhonePe added many new features like paying bills, recharging, investing in mutual funds, and buying insurance through its app. These extra services turned PhonePe into more than just a payment app; it became a complete financial platform.
5. **Cash back Offers and Discounts:** PhonePe used cash back offers, discounts, and rewards to encourage users to use its platform for transactions. This helped bring in new users and keep existing ones.

Challenges:

1. **Strong Competition:** PhonePe competes with other digital payment platforms like Google Pay, Paytm, Bharat Pay and Amazon Pay etc. With so many options available, it's hard for PhonePe to stand out and keep its customers.
2. **Changes in Regulations:** The digital payments industry in India is subject to regulatory changes. PhonePe needs to adapt quickly to these changes to follow the rules and keep its service running smoothly.
3. **Customer Support:** As more people use PhonePe, it becomes harder to provide good customer support on time. Complaints regarding failed transactions, account-related issues, and refund delays can impact user experience.
4. **Security Concerns:** As more people use digital transactions, security becomes very important. PhonePe needs to keep investing in strong security measures to protect user information and prevent fraud.

NotesSociety

Conclusion: Despite having difficulties, PhonePe has become an important player in India's digital payments. Its focus on new ideas, making users happy, and working with other companies has helped it grow quickly. As more people in India use digital payments, PhonePe is in a good position to keep growing and become even more popular.

Questions:

i) Describe the factors that distinguish PhonePe in India's digital payment world?

ii) Illustrate the challenges encountered by PhonePe during its service expansion and analyze how the company addressed these challenges to sustain its market position?

Enrolment No.	20043

PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

End-Semester Examination – May /June - 2024

Program: MBA/MCA | Batch: 2023-25 | Semester: II
Maximum Marks: 60 marks | Time: 2.5 hrs.

Course Name: Professional Writing for managers **Course Code: PEG102E**

Course Outcomes (CO):

CLO1: Recognize and rectify common grammatical mistakes, both in one's own writing and in the writing of others, fostering improved proofreading and editing capabilities.
CLO2: Apply the different writing styles like descriptive, argumentative etc for developing good technical documents for presentations or disseminating technical documents.
CLO3: Tailor writing to suit specific audiences, considering tone, language, and generic formats/templates of technical writing.
CLO4: Apply critical thinking skills to analyze data and draw meaningful conclusions.
CLO5: Deliver oral and written presentations with confidence and clarity

Instructions:

-Attempt questions as per instructions:

Question	CO	BL	Marks
Q.1) **(2 Marks X 5) Solve all 5** a. Define unity in terms of written communication? b. What is the purpose of memo? c. What is the purpose of solicited proposal? d. Define territoriality. e. What do you mean by locale analysis?	1	1	**(10 marks)**
Q.2) **(5 Marks X 2) Solve any 2** a. Explain the steps to be followed while writing a précis. b. Discuss the way to achieve economy in sentence. c. Discuss the spatial method of paragraph development with example.	2	2	**(10 marks)**
Q.3) **(10 Marks X 1) Solve any 1** a. Determine the steps to be followed for planning a letter. b. Determine the steps for writing an agenda for meeting.	3	3	**(10 marks)**
Q.4) **(10 Marks X 1) Solve any 1** a. Analyze the purpose of various types of proposal. b. Analyze the style of report writing.	4	4	**(10 marks)**
Q.5) **(10 Marks X 2) Solve any 2** a. Evaluate ways for overcoming the stage fright. b. Evaluate the methodology applied for making effective presentation. c. "Chronemics refers to the study of how time affects communication." Justify the statement.	5	5	**(20 marks)**

NotesSociety

Enrolment No. 10043

PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

End-Semester Examination – Backlog May /June - 2024

Program: MCA Batch: 2023 Semester: II (Regular)

Maximum Marks: 60 marks Time: 2.5 Hrs.

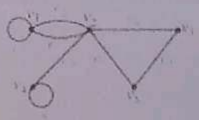
Course Name: Probability and Combinatorics **Course Code** : PMC106

Course Outcomes (CO):

1. Express the problems in graph theory and find the solution of different algorithms and real life problems.
2. Employ computational technique to solve computer application related issues.
3. Use permutation and combination methods to solve different mathematical calculation.
4. Use probability concepts for solving the real life problems.
5. Use probability density functions and several types of distributions techniques at different real life situations.

Instructions:

- All questions are compulsory.
- Assume missing data suitably, if any

Question	CO	BL	Marks
Q.1) Solve any two			
a) Explain the terms rooted tree, binary tree and complete binary tree with an appropriate examples	CO1	BL2	5
b) Apply the rule of incidence and find matrix of incidence for the given graph 		BL4	5
c) Construct the maximum possible simple graphs out of three vertices		BL3	5
Q.2) Solve any two			
a) State Inclusion and Exclusion principle for three sets A, B and C.	CO2	BL2	5
b) Janet goes on vacation and takes two books. The probability that she will like first book is $\frac{2}{3}$. The probability that she will like second book is $\frac{1}{2}$. The probability that she will take both books is $\frac{1}{3}$. Determine the probability that she likes neither books		BL4	5
c) There are 150 students in a party and there are three different brands P, Q and R of cold drinks out of which 58			

NotesSociety

students drink P, 49 drink Q, 57 drink R, 14 drink P and R, 13 drink P and Q, 17 drink Q and R, 4 drink P,Q and R. How many students drink none?		BL1	5
Q.3) Solve any two			
a) How many permutations can be had out of 10 different objects by taking 4 at a time? i. if one object is to be taken every time ii. One object is not to be taken every time		BL1	5
b) Solve: i. ${}^{8}C_4$ 5! ii. ${}^{10}C_7$ 0!	CO3	BL4	5
c) A student has to answer 5 questions out of 8 in an examination. i. How many choices have he ii. How many choices have he, if he must answer the first three questions		BL1	5
Q.4) Solve any two			
a) A box contains 12 bulbs of which 4 are defective. All bulbs look alike. Three bulbs are drawn randomly. What is the probability that i. all the '3' bulbs are defective ii. at least '2' of the bulbs chosen are defective iii. at most '2' of the bulbs chosen are defective		BL1	5
b) Find the probability distribution of number of doublets in three throws of a pair of dice	CO4/CO5	BL1	5
c) Let a pair of dice be thrown and the random variable X be the sum of the numbers that appear on the two dice. Determine the mean or expectation of X.		BL4	5
Q.5) Solve any two			
a) Two dice are thrown simultaneously. Find the probability of getting: i. The same number on both dice, ii. An even number as the sum, iii. A prime number as the sum, iv. A multiple of 3' as the sum,		BL1	5
b) A person plays a game of tossing a coin thrice. For each head, he is given Rs 2 by the organizer of the game and for each tail, he has to give Rs 1.50 to the organizer. Let X denotes the amount gained or lost by the person. Show that X is a random variable and exhibit it as a function on the sample space of the experiment.	CO4/CO5	BL2	5
c) From a pack of 52 cards, 4 are accidentally dropped. Find the chance that		BL1	5

NotesSociety

Enrolment No.

i. They will consist of a knave, a queen, a king and an ace ii. They are the 4 honors of the same suit iii. They may be one from each suit iv. Two of them are red and two are black			
Q.6) Solve any two			
a) Two cards are drawn successively with replacement from a well-shuffled deck of 52 cards. Find the probability distribution of the number of aces.	CO4/CO5	BL1	5
b) There are '4' envelopes corresponding to '4' letters. If the letters are placed in the envelopes at random, what is the probability that all the letters are not placed in the right envelopes?		BL1	5
c) A bag contains 6 red, 4 white and 8 blue balls. If three balls are drawn at random, find the probability, that i. One is red and two are white ii. Two are blue and one is red iii. None is red		BL1	5

NotesSociety

Enrolment No.	10043

PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

Special Summer Examination - Sem I/ II – July 2024

Program : MCA Batch :23-24 Semester:II

Maximum Marks: 60 marks Time: 2.5 Hrs.

Course Name: - Data Communication and Network **Course Code : PMC113E**

Course Outcomes (CO):

1. Learn about the physical architecture of computer networks.
2. Understanding of Modulation and its types.
3. Analyze the various Data Link layer protocols and its comparison.
4. Analyze the network-layer, transport layer protocols, compression and security mechanism.
5. Analyze and compare different signal and conversion kinds.

Instructions:

1. All the questions will carry equal marks.
2. Neat diagrams must be drawn wherever necessary.
3. Figures to the right side indicate full marks.
4. Assume suitable data if necessary-

Question	CO	BL	Marks
Q.1) Attempt ANY TWO of the following **a)** Define Computer Network and state its types. **b)** Elaborate different characteristics of data communication system. **c)** explain different types of Network topologies with suitable diagrams	CO1	3	**(10 marks)** 5 5 5
Q.2) Attempt ANY TWO of the following **a)** Compare Analog and Digital signal **b)** Describe the process of data communication in various modes **c)** Differentiate between synchronous and asynchronous	CO1	3	**(10 marks)** 5 5 5
Q.3) Attempt ANY TWO of the following **a)** explain Hypertext Transfer Protocol (HTTP) in detailed **b)** State the functions of any two layers of OSI Model **c)** State the names of the layers that perform the following functions – i) Data Encryption ii) File transfer iii) Error Correction iv) Data Encoding	CO2	4	**(10 marks)** 5 5 5
Q.4) Attempt ANY TWO of the following **a)** Explain what is signal and different types of signals **b)** State the difference Periodic and Aperiodic Signal **c)** Explain AM , FM and PM	CO3	4	**(10 marks)** 5 5 5
Q.5) Attempt ANY TWO of the following **a)** Compare LRC and CRC **b)** Describe the principles of packet switching **c)** Example of Detection and correction of a single bit error with Hamming Code (If received 7-bit Hamming code word is 10 1 1 0 1 1. Assuming even parity.)	CO4	5	**(10 marks)** 5 5 5
Q.6) Attempt ANY TWO of the following **a)** Explain the term CRC along with suitable example **b)** Explain the working of following topologies: 1) Bus 2) Ring 3) Tree **c)** Explain the concept of FTP with neat diagram.	CO5	5	**(10 marks)** 5 5 5

NotesSociety

PCET's Pimpri Chinchwad University
Learn | Grow | Achieve

Pimpri Chinchwad University

Established under Govt. of Maharashtra Act No. V of 2023
Sate, Maval (PMRDA) Dist - Pune, Maharashtra - 412 106.

End-Semester Examination – Regular May /June - 2024

Program : MCA | Batch : 2023-24 | Semester: II

Maximum Marks: 60 marks | Time: 2.5 Hrs.

Course Name: Data Communication and Networking | Course Code : PMC113E

Course Outcomes (CO):

1. Learn about the physical architecture of computer networks.
2. Understanding of Modulation and its types.
3. Analyze the various Data Link layer protocols and its comparison.
4. Analyze the network layer, transport layer protocols, compression, and security mechanism.
5. Analyze and compare different signal and conversion kinds.

Instructions:

1. All questions carry equal marks
2. Draw neat diagrams wherever necessary

Question	CO	BL	Marks
Q.1) Attempt ANY TWO of the following			**(10 marks)**
a) Explain the basic criteria for forming the data communication network	CO1	1	5
b) Define transmission modes and illustrate any two	CO2	2	5
c) Define digital transmission. Explain Digital-to-Digital Conversion, Analog-to-Digital Conversion	CO5	4	5
Q.2) Attempt ANY TWO of the following			**(10 marks)**
a) Compare OSI and TCP model based on layers	CO4	4	5
b) Explain any two digital modulation techniques with a diagram	CO5	4	5
c) Describe network topology with a diagram.	CO1	1	5
Q.3) Attempt ANY TWO of the following			**(10 marks)**
a) Summarize the layered architecture of TCP/IP with protocols in each layer	CO4	4	5
b) Describe periodic and aperiodic signals	CO3	4	5
c) Construct the World Wide Web architecture	CO4	4	5
Q.4) Attempt ANY TWO of the following			**(10 marks)**
a) Describe HTTP transaction messages. Also, explain HTTP methods with their actions	CO3	4	5
b) Elaborate Composite Signal	CO2	2	5
c) Define digital signal. Explain the bit rate and baud rate	CO2	2	5

NotesSociety

Q.5) Attempt ANY TWO of the following			**(10 marks)**
a) Describe circuit-switched network and data-gram network.	CO3	4	5
b) Explain any two error detection techniques.	CO1	1	5
c) A bit stream 10011101 is transmitted using the standard CRC method. The generator polynomial is x3+1. What is the actual bit string transmitted?	CO5	4	5
Q.6) Attempt ANY TWO of the following			**(10 marks)**
a) The original message sent is 1010000. The generator polynomial is x3+1. Find out whether the message contains an error or not. If it contains an error then remove it.	CO5	4	5
b) Implement Dijkstra's algorithm to compute the shortest path.	CO5	4	5
c) Define the meaning of Internet security. What Are the 5 Common Internet Security Problems?	CO2	1	5

NotesSociety