

### Object Oriented Software Engineering

Qno	Question	Marks	Section
1	Write short notes on the following a) Characteristics of the software. b) Software applications. c) Software myths.	12	Section-I
2	Write short notes on the following a) Generic process framework b) Layered technology	6 6	Section-I
3	Write short notes on the following a) Process framework activities b) Umbrella Activities	6 6	Section-I
4	Elaborate the CMMI standard for software process	12	Section-I
5	Explain the various software process models in detail.	12	Section-I
6	Explain the following: (i) waterfall model (ii) Spiral model (iii) RAD model (iv) Prototyping model.	12	Section-I
7	List the principles of agile software development process and state the Problems with agile methods?.	12	Section-I
8	Discuss any four software process models with suitable application.		Section-I
9	Explain why incremental development is the most effective approach for developing business software systems. Why is this model less appropriate for real time systems engineering?	12	Section-I
10	a. List the characteristics of software? b. Explain briefly about evolutionary model?	6 6	Section-I
11	Summarize the following with examples a) Functional requirements b) Non functional requirements	6 6	Section-II
12	Summarize, how to write software requirements specification document	12	Section-II
13	What is SRS? Explain in detail about various component of an SRS	12	Section-II
14	Sketch the following system models for MICROWAVE OVEN a) CONTEXT MODEL b) BEHAVIOUR MODEL	12	Section-II
15	Sketch the following system models for ATM machine a) OBJECT MODEL b) DATA MODEL	12	Section-II
16	Draw the System models for library management system	12	Section-II
17	What is the purpose of data flow diagrams? What are the notations used for the same. Explain by constructing a context flow diagram level -0 DFD and level-1 DFD for a library management system?	12	Section-II
18	Elaborate the different ways of representing the system requirements and interface requirements.	12	Section-II
19	a. What is the goal of requirements analysis phase?	12	Section-II



	b. Give reasons why the requirements analysis phase is a difficult one?		
20	a. What is interface specification? b. Explain user requirements & system requirements?	4 8	Section-II
21	Discuss the design model elements in detail	12	Section-III
22	Describe in detail about architectural styles?	12	Section-III
23	Write short notes on following a)Data design b)Architectural patterns c)Architecture design.	4,4,4	Section-III
24	Elaborate the conceptual model of UML and design	12	Section-III
25	Design structural model using UML diagrams for ATM system.?	12	Section-III
26	Explain about the Black box testing in detail	12	Section-III
27	Explain about the white box testing in detail	12	Section-III
28	Discuss the Testing Strategies for Conventional Software	12	Section-III
29	Summarize the Design concepts of software engineering?	12	Section-III
30	Summarize the concept of art of debugging?	12	Section-III
31	Define Risk. Explain the needs and activities or risk management?	12	Section-IV
32	Define software risk and differentiate ,Reactive vs proactive risk strategies	12	Section-IV
33	Explain risk identification ,Risk projection, risk refinement	12	Section-IV
34	Explain the RMMM, RMMM plan in detail	12	Section-IV
35	Explain in detail ISO 9000 quality standards	12	Section-IV
36	Write short notes a) Quality concepts b) Quality assurance and its activities.	6 6	Section-IV
37	Elaborate ,how the form technical reviews and software reviews are conducted are for quality assurance?	12	Section-IV
38	Write short notes on a)Statistical software quality assurance b)Software reliability	6 6	Section-IV
39	List and explain the various software quality factors?	12	Section-IV
40	a. Define software quality and list quality concepts? b. give the overview of software reliability concept?	6 6	Section-IV
41	Explain Software project management, challenges in SPM	12	Section-V
42	Elaborate the .Software project management activities in detail	12	Section-V
43	Write short notes on a)Stake holders b)Objectives and goals c)Project scope	4 4 4	Section-V
44	Explain how breakdown structure is used in software engineering for managing the projects.	12	Section-V
45	Discuss how software project scheduling helps in timely release of a product	12	Section-V
46	Explain the stepwise project planning in detail with a neat diagram	12	Section-V
47	Write Short notes on a)Project and product. b)Project deliverable	6 6	Section-V



48	Explain effort estimation and Infrastructure in software project management	12	Section-V
49	a. What are the goals of software project management? b. Discuss the need of software project management?	6 6	Section-V
50	Explain few problems associated with software projects ?	12	Section-V

## MERN Stack Web Development

Qno	Question	Marks	Section
1	A) What are the datatypes available in Typescript? Explain each datatype with example. B) Explain implementation of classes and modules in typescript with examples.	12	Section-I
2	Write a TypeScript program that declares variables using let, const, and var. Then, describe how each declaration type behaves with respect to scoping and mutability.	12	Section-I
3	Write a TypeScript program that defines an enumeration 'Color' with values 'Red', 'Green', 'White' and Blue. Create a variable 'selectedColor' of type 'Color' and assign it one of the enumeration values.	12	Section-I
4	Differentiate amongst ReactJS, AngularJS, VueJS and React Native	12	Section-I
5	What is React? Write the steps to Create a React-app with a simple hello World program .Write the installation steps.	12	Section-I
6	A) What are the features of React. Write its pros and cons. Briefly explain Data binding, React JSX . B) Explain 1) React Components, 2) React State, 3) React Props, 4) React Forms	12	Section-I
7	Summarize about component life cycle. support with suitable program	12	Section-I
8	A) In typescript explain the following terms i) Arrow functions ii) interfaces B) In react explain about i) React Constructor ii) React Component API	12	Section-I
9	Write a program in ReactJs creating a simple counter using React which increments or decrements count dynamically on-screen as the user clicks on the button.	12	Section-I
10	Write a program in ReactJs to create a simple login form where the user login by entering their username and password. The form inputs are validated to check if correct information is entered and the error messages are the validation fails. The login form is hidden and the “ <b>Welcome, \${name}</b> ” message is shown when the user login is successful.	12	Section-I
11	A) What is Code Splitting in React? B) Explain in Detail about React Flux. Distinguish between React Flux and MVC model.	12	Section-II



12	A) Explain React Events with suitable examples. B) Write about React Redux. Explain with an example program.	12	Section-II
13	A) Write about React Routes in detail with example. Write a sample program to create a NavBar and dependencies required. B) Briefly write about 1) React CSS 2) react Animation 3) React Bootstrap	12	Section-II
14	A) Explain in detail about Conditional Rendering in React B) Briefly write about i) React Lists, ii) React Keys iii) React Refs iv) React fragments	12	Section-II
15	A) Write about i) React Portals and ii) React Error Boundaries B) What is the purpose of hooks in React	12	Section-II
16	Explain 1) React Context 2) React Map 3) React Table 4) Higher-Order Components,	12	Section-II
17	Build a simple drag-and-drop interface that allows users to reorder a list of items through drag-and-drop. Implement a visual cue to indicate the new position of the dragged item. Use React state, components and hooks to manage the list's data and user interactions.	12	Section-II
18	Write a program to create a blog post in ReactJs	12	Section-II
19	Write a program to create a personal profile in ReactJs	12	Section-II
20	Write a program to build a calculator in ReactJs	12	Section-II
21	Write the step by step procedure to install nodejs (NPM installation) in windows system. Write A Program to create a Node JS Application to connect to the server.	12	Section-III
22	What is Modules in NodeJS? Support with suitable programs.	12	Section-III
23	Write in detail about HTTP module/RESTful API. Specify the different HTTP methods.	12	Section-III
24	Explain in detail about node js events.	12	Section-III
25	How do you access database with nodejs. Write the steps to connect to the database using nodejs	12	Section-III
26	What are the various command line operations in node js.	12	Section-III
27	Write a nodejs program to upload file to server.	12	Section-III
28	How to handle get requests using request Nodejs module. Explain with a suitable program.	12	Section-III
29	What is the difference between HTTP GET and POST methods	12	Section-III
30	a) What is the command for importing package in nodejs?	12	Section-III



	b)What is a callback function in nodejs? c)What is a promise in nodejs? d)How is the local and global installation of dependencies done and how can we uninstall the dependency in nodejs?		
31	What is database? Differentiate between sql and nosql database.Explain MongoDB.	12	Section-IV
32	Explain various data types in MongoDB.	12	Section-IV
33	How can you create and delete collections in MongoDB?	12	Section-IV
34	Explain in detail about finding, adding,updating and deleting a document in a collection with suitable examples	12	Section-IV
35	What are the steps to install mongodb(build MongoDB environment).Explain in detail about the two types of datamodel in MongoDB.	12	Section-IV
36	Write about 1) projections 2) sharding 3) limit 4)sorting	12	Section-IV
37	Write a query to create a Library db with books consisting of multiple engineering subjects.Also update the books based on the editions.Write a query to find the prices of each book	12	Section-IV
38	Create a database for a travel agency and all the operations required to update,find,read and delete any documents from the database.	12	Section-IV
39	Write a program to connect a react app to mongodb using nodejs.Also explain in detail the procedure	12	Section-IV
40	Below is the sample Restaurant dataset. <pre> {   "address": {     "building": "1007",     "coord": [ -73.856077, 40.848447 ],     "street": "Morris Park Ave",     "zipcode": "10462"   },   "borough": "Bronx",   "cuisine": "Bakery",   "grades": [     { "date": { "\$date": 1393804800000 }, "grade": "A",     "score": 2 },     { "date": { "\$date": 1378857600000 }, "grade": "A",     "score": 6 },     { "date": { "\$date": 1358985600000 }, "grade": "A",     "score": 10 },     { "date": { "\$date": 1322006400000 }, "grade": "A",     "score": 9 },     { "date": { "\$date": 1299715200000 }, "grade": "B",     "score": 14 }   ] } </pre>	12	Section-IV

	<pre> ], "name": "Morris Park Bake Shop", "restaurant_id": "30075445" } </pre> <p>a) Write a MongoDB query to display all the documents in the collection restaurants.</p> <p>b) Write a MongoDB query to display the first 5 restaurant which is in the borough Bronx.</p> <p>c) Write a MongoDB query to find the restaurants that achieved a score, more than 80 but less than 100.</p>		
41	Explain about express template engine supported by Express JS. Give example about pug or handlebar template used in express	12	Section-V
42	Why do we use express framework? What are the distinctive features of express JS. Write a program to start a server using express app.	12	Section-V
43	With the help of a program explain about Routing in ExpressJS	12	Section-V
44	What is Middleware in Express.js? What are the different types of Middleware?	12	Section-V
45	Write about a) GET b) POST c) file upload d) request d) response with programs.	12	Section-V
46	Briefly write about a) scaffolding b) body-parser c) multer d) cookie-parser	12	Section-V
47	Write a program to build a simple API with ExpressJS and NodeJS	12	Section-V
48	Explain the steps to install express JS in various OS	12	Section-V
49	What are the production best practices to be followed to deploy express projects.	12	Section-V
50	Write a program to build a To-do list application by implementing reactjs, nodejs, express js and connect to database	12	Section-V

## Cloud Computing and Services

1	Define Cloud Computing? Explain the differences between Traditional Computing and Cloud Computing?	12	Section-I
	a) Explain about 4 roots of Cloud Computing?	6	Section-I
	b) Explain about any 2 Internet technologies, how they are useful in cloud computing?	6	
3	Explain and define the characteristics of different types of cloud services with neat diagram?	12	Section-I
4	Briefly Explain about Cloud service models with example.	12	Section-I
5	a) Analyse Cloud Computing Challenges?	6	Section-I
	b) What are the features of Cloud Computing?	6	
6	a) Explain about Cloud infrastructure management.	6	Section-I
	b) Briefly Explain about the cloud deployment models	6	
7	a) Explain about Infrastructure of a service provider	6	Section-I
	b) Explain about Platform as a service provider	6	
8	Illustrate the different types cloud with an Example?	12	Section-I
9	a) What are the Cloud Challenges and risks of Cloud Computing, Explain in detail.	6	Section-I
	b) Illustrate the difference between Traditional Computing vs Cloud Computing?	6	
10	Explain about seven step model for cloud migration in detail with neat diagram?	12	Section-I
11	What is AWS? Explain about AWS Cloud Adaptation Framework in detail?	12	Section-II
12	a) Explain importance of AWS? How to interact with AWS.	6	Section-II
	b) Explain Service categories of AWS	6	
13	Explain in detail about how the Global Infrastructure of AWS is maintained?	12	Section-II
14	a) Explain the service categories of AWS in detail?	6	Section-II
	b) Explain about AWS Cloud Adaptation Framework in detail?	6	
15	Briefly Explain about Importance of Services and Service categories.	12	Section-II
16	Explain about AWS Architect Framework Design Principles?	12	Section-II
17	a) Explain about Operational Excellence pillar with design principles in AWS	6	Section-II
	b) Explain about Performance Efficiency pillar with design principles in AWS	6	
18	Explain about Reliability and High availability.	12	Section-II
19	Briefly explain about any 4 pillars of AWS with design principles.	12	Section-II
20	a) Explain About Security pillar in AWS.	6	Section-II
	b) Explain about High Availability	6	





21	Explain about AWS Security- shared responsibility model with a neat diagram?	12	Section-III
22	What is AWS IAM? What are the components essential components in IAM and what is the purpose of IAM in AWS	12	Section-III
23	a) Explain the Importance of AWS IAM. b) How to provide the security to multiple accounts and data.	6 6	Section-III
24	Briefly Explain about Elastic Load Balancing and How elastic load balancing works.	12	Section-III
25	a) Explain about Elastic Load Balancing. b) Importance of Cloud-watch in AWS	6 6	Section-III
26	a) What is VPC? How VPC is implemented in Cloud? b) Explain about VPC Security?	6 6	Section-III
27	a) What is VPC? Explain the architecture of VPC with a neat diagram? b) Briefly Explain about ROUTE53 in AWS	6 6	Section-III
28	a) Briefly Explain about VPC networking Internet gateway. b) Briefly Explain about NAT gateway with diagram.	6 6	Section-III
29	Explain about VPC peering and VPC Direct connection with a diagram	12	Section-III
30	a) What is Cloud front explain in detail about it? b) explain about Security groups and Network ACLs	6 6	Section-III
31	Briefly Explain about AWS compute services.	12	Section-IV
32	a) Explain about Amazon EC2 instance. b) Briefly explain about Instance types.	6 6	Section-IV
33	What is AMI? What is the purpose of AMI while creating Instance?	12	Section-IV
34	a) Illustrate about EC2 vs Virtual Machine? b) Explain about volumes and Snapshots in AWS.	6 6	Section-IV
35	Demonstrate about ec2 Cost Optimization?	12	Section-IV
36	a) Explain the importance of Amazon EC2. b) How to launch a Amazon Instance in AWS.	6 6	Section-IV
37	How to create a Lambda function for displaying Hello World	12	Section-IV
38	Briefly Explain about Serverless computing platform with key characteristics.	12	
39	How does Elastic Beanstalk works in AWS?	12	Section-IV
40	a) Explain about AWS Elastic Beanstalk deployment. b) Explain the benefits of elastic beanstalk.	6 6	Section-IV
41	Briefly Explain about Amazon Block Store	12	Section-V
42	a) What are the features of EBS? b) Explain about the types of EBS volumes.	6 6	Section-V
43	Briefly Explain about Amazon Simple Storage Service	12	Section-V
44	Explain about Amazon S3 storage classes.	12	Section-V
45	a) Explain the importance of Amazon EBS. b) Define S3 Life Cycle policies	6 6	Section-V
46	Explain about Amazon RDS instance and How to Create an RDS Instance in AWS?	12	Section-V



47	a) Explain about AWS RDS Database Engine b) Differentiate the Relational and non-relational data bases	6 6	Section-V
48	What is Amazon Dynamo DB and its core components?	12	Section-V
49	How does Amazon Redshift simplify data warehouse and analytics management?	12	Section-V
50	a) What is the difference between SQL DB and NOSQL DB in AWS? b) What is the importance of RDS in Amazon	6 6	Section-V

### Information Retrieval System

Qno	Question	Marks	Section
1	What is Information Retrieval System? Explain the functional over view of IRS?	12	Section-I
2	Discuss about Item Normalisation?	12	Section-I
3	Write short notes on browse capabilities?	12	Section-I
4	a) Explain about selective dissemination of information? b) Write short notes document data base search?	6+6	Section-I
5	a) Discuss about Index Database search? b) Discuss about system Multimedia Database search?	6+6	Section-I
6	Discuss about search capabilities?	12	Section-I
7	Explain about relationship to Database management systems?	12	Section-I
8	Discuss Explain about Miscellaneous capabilities?	12	Section-I
9	Explain about digital libraries and Data Warehouses?	12	Section-I
10	a) Write notes on Ranking? b) Discuss about Zoning?	6+6	Section-I
11	What is Indexing? Discuss about Indexing?	12	Section-II
12	Discuss about Indexing process?	12	Section-II
13	Explain about Automatic Indexing?	12	Section-II
14	Explain about Information Extraction?	12	Section-II
15	What is Data Structure? Explain about importance Data Structures?	12	Section-II
16	What is Stemming? Explain the Stemming algorithms?	12	Section-II
17	Discuss about porter stemming algorithm?	12	Section-II
18	a) Discuss about Dictionary Look-up Stemmers? b) Discuss about successors stemmers?	6+6	Section-II
19	Explain about Inverted File Structure?	12	Section-II
20	a) Discuss about N-Gram structures? b) Explain about PAT Data structure?	6+6	Section-II
21	Define Automatic Indexing? Explain in detail about Automatic Indexing?	12	Section-III
22	Discuss about Statistical Indexing?	12	Section-III



23	Discuss about Natural Languages?	12	Section-III
24	a) Discuss about simple term frequency algorithms? b) Explain about inverse document frequency?	6+6	Section-III
25	a) Discuss about Signal Weighting? b) Explain the Discrimination value?	6+6	Section-III
26	What is clustering? Discuss about thesaurus Generation?	12	Section-III
27	Discuss about Manual clustering?	12	Section-III
28	Explain about the Hypertext linkages?	12	Section-III
29	Explain the automatic term clustering?	12	Section-III
30	Discuss about Item clustering?	12	Section-III
31	Define search? Explain about user search techniques?	12	Section-IV
32	Discuss about search statements and binding?	12	Section-IV
33	Write short notes on similarity majors and ranking?	12	Section-IV
34	Explain about relevance feed back?	12	Section-IV
35	a) Discuss about similarity majors? b) Discuss about the Hidden Markov model techniques?	6+6	Section-IV
36	a) Explain about searching the INTERNET? b) Discuss the Hypertext?	6+6	Section-IV
37	What is Visualisation? Explain about Visualisation?	12	Section-IV
38	Discuss about Cognition and Perception?	12	Section-IV
39	Explain about Information Visualisation Technologies?	12	Section-IV
40	a) Explain about the Aspects of Visualisation Process?  b) Discuss about Text search?	6+6	Section-IV
41	What is Text Search? Explain about Text search algorithms?	12	Section-V
42	a) Discuss about Software text search algorithms? b) Discuss about Hardware Text search systems?	6+6	Section-V
43	List out the differences between Software text search algorithms and Hardware Text search systems?	12	Section-V
44	What is multimedia information retrieval? Explain?	12	Section-V
45	Discuss about spoken language audio retrieval?	12	Section-V
46	Discuss about Non-speech audio retrieval?	12	Section-V
47	Explain about the Graph retrieval?	12	Section-V
48	Discuss about Image retrieval?	12	Section-V
49	Explain about the Video retrieval?	12	Section-V
50	List out the difference between Audio retrieval and video retrieval?	12	Section-V

## Embedded System

Qno	Question	Marks	Section
1	Explain the architecture of the 8086 microprocessor, highlighting its key components and their functions?	12	Section-I
2	Discuss about the program model of 8086 micro processor?	12	Section-I
3	Explain clearly about General Purpose Register organization of 8086?	12	Section-I
4	Discuss the memory organization in Atmega328p micro controller?	12	Section-I
5	Explain the architecture of Atmega328p Microcontroller with neat sketch?	12	Section-I
6	Explain the functioning of I/O Ports?	12	Section-I
7	Discuss about history of micro processor? Differentiate Micro processor and Micro controller?	12	Section-I
8	Explain clearly about Special Purpose Register organization of 8086?	12	Section-I
9	Explain all the features of 8086 Microprocessor with minimum and maximum mode?	12	Section-I
10	Explain about PSW/FLAGS in detailed?	6	Section-I
11	Discuss about von Neumann and Harvard architecture Write about program memory and data memory?	12	Section-II
12	What is an Embedded System sketch with neat diagram and describe it?	12	Section-II
13	List out the Major Application Areas of Embedded Systems with an Example.	12	Section-II
14	Draw the block diagram of embedded system? Differentiate computer system and embedded system?	6 6	Section-II
15	Discuss the Classification of Embedded Systems with neat diagram?	12	Section-II
16	Discuss about embedded system Based on Generation?	12	Section-II
17	Discuss about embedded system Based on Complexity & its Performance?	12	Section-II
18	Briefly explain the Purpose of Embedded Systems with clear explanation?	12	Section-II
19	List out the unique Characteristics of Embedded systems with an examples.	12	Section-II
20	What is the primary purpose of embedded systems? Discuss the main objectives and goals that embedded systems aim to achieve in various industries and sectors?	6 6	Section-II
21	Discuss the evolution of embedded systems over time, highlighting key technological advancements and their impact on the development of embedded systems	6 6	Section-II



22	What is an Embedded System sketch with neat diagram and describe it?	12	Section-II
23	List out the Major Application Areas of Embedded Systems with an Example.	12	Section-II
24	Draw the block diagram of embedded system? Differentiate computer system and embedded system	12	Section-III
25	Discuss the Classification of Embedded Systems with neat diagram?	6 6	Section-III
26	With suitable examples explain the core of embedded systems?		
27	Discuss in detail onboard communications with neat sketch?	12	Section-III
28	Outline the working of RS-232 communication interface?	12	Section-III
29	Discuss the following external communication interface: USB	12	Section-III
30	Discuss the following external communication interface: Bluetooth	12	Section-III
31	Discuss about the importance of different types of actuators?	12	Section-III
32	Explain about Parallel Interface?	12	Section-III
33	Discuss about the importance of different types of sensors ?	12	Section-III
34	With suitable examples explain the core of embedded systems?	12	Section-III
35	Discuss in detail On board communications with neat sketch?	12	Section-III
36	Outline the working of RS-232 communication interface?	12	Section-III
37	Discuss about <b>Embedded firmware approach</b> with Super loop?	12	Section-IV
38	Explain Operating System based approach	12	Section-IV
39	Discuss about Hard Real Time System and Soft Real Time System?	12	Section-IV
40	<b>Discuss about GPOS?</b>	12	Section-IV
41	<b>Discuss about RTOS?</b>	12	Section-IV
42	Discuss about Real Time Operating System?	12	Section-IV
43	<b>Discuss about real time applications with embedded systems</b>	12	Section-IV
44	<b>Discuss about any case study with Arduino uno</b>	12	Section-IV
45	Introduce about Arduino Uno Board ?	12	Section-V
46	Discuss about the installation process of Arduino IDE	12	Section-V
47	Discuss about Digital I/O	12	Section-V
48	Discuss about Analog I/O	12	Section-V
49	Discuss about temperature sensor with Arduino uno board	12	Section-V
50	Discuss about Infrared sensors with Arduino UNO board?	12	Section-V

## Distributed Database

Qno	Question	Marks	Section
1	Explain the advantages & disadvantages of distributed database.	12	Section-I
2	What are the Factors Encouraging DDBMS	12	Section-I
3	What are the distribution design issues? Explain with examples.	12	Section-I
4	Explain about Architectural Models for DDBMS	12	Section-I
5	Write and explain problem areas of distributed data base system	12	Section-I
6	Write about difference between centralization and decentralization database	12	Section-I
7	What is the difference between Homogeneous and Heterogeneous Distributed DBMSs	12	Section-I
8	What are the distribution design issues? Explain with examples.	12	Section-I
9	Explain briefly about Fragmentation with suitable examples.	12	Section-I
10	Explain Top Down Design Process for distributed database design	12	Section-I
11	Explain query processing with examples.	12	Section-II
12	Give objective of query processing in view of distributed database	12	Section-II
13	Briefly describe the characterization of query processors.	12	Section-II
14	Explain Layers of Query Processing	12	Section-II
15	List steps of query decomposition and explain any one from that.	12	Section-II
16	Explain Semi join Based Algorithms	12	Section-II
17	Explain System R Algorithm	12	Section-II
18	Explain System R * Algorithm	12	Section-II
19	Explain Hill-Climbing Algorithm	12	Section-II
20	what are the steps in query optimization	12	Section-II
21	Briefly explain transaction management	12	Section-III
22	Describe ACID properties with example.	12	Section-III
23	What about Types of Distributed Transaction	12	Section-III
24	What is the objective of Distributed Concurrency Control?. Give the Reasons.	12	Section-III
25	Write about Types of Locks in Distributed Transactions. List out different methods of Concurrency Control.	12	Section-III
26	Explain serializability with an example.	12	Section-III



27	Briefly explain about Lock based concurrency algorithms	12	Section-III
28	Briefly explain about 2 PL concurrency algorithms	12	Section-III
29	Briefly explain about timestamp-based concurrency algorithms.	12	Section-III
30	Briefly explain about validation-based concurrency algorithms	12	Section-III
31	Explain the failures in DDBMS.	12	Section-IV
32	Define Reliability and Availability in DDBMS	12	Section-IV
33	Explain Reliability Concepts and Measures	12	Section-IV
34	Write about fault-tolerance in distributed systems	12	Section-IV
35	Briefly explain Advantages & Disadvantages of Parallel BDMS	12	Section-IV
36	Difference between Parallel and Distributed databases	12	Section-IV
37	Draw and explain general architecture of Parallel Database system	12	Section-IV
38	Explain types of parallelism used by parallel DBMS	12	Section-IV
39	Explain Load Balancing Approach in Distributed System	12	Section-IV
40	Explain database clusters with Architectures in Parallel DBMS	12	Section-IV
41	List and explain Object-oriented concepts	12	Section-V
42	<b>Explain about Object Oriented Data Model</b>	12	Section-V
43	Explain Applications for OO databases	12	Section-V
44	Write about object distributed design	12	Section-V
45	Lilts out and explain architectural issues,	12	Section-V
46	Write about Object management, distributed object storage.	12	Section-V
47	Briefly explain Inheritance, object identity	12	Section-V
48	What is persistent programming languages and explain PPL	12	Section-V
49	Write about persistence of objects in DDBMS	12	Section-V
50	What is the comparison OODBMS and ORDBMS	12	Section-V