GUJARAT UNIVERSITY
MASTER OF COMPUTER APPLICATOINS (MCA)
Semester - 3
Subject Name: Mobile Application Development

Time : 1Hour **Total Marks : 20**

Q-1 Attempt Following. **[5 Marks]**

a. _____ resource is used to design UI in android

b. android.permission.--------- permission is used to display URL contents in a WebView. – True / False
Internet

c. For passing a custom object of Student class from one activity to another _____ should be performed in the Student class.

d. ..... attribute is used to set dimensions as per the contents

e. Avd stands for .....

Q-2 Attempt any one from the following (ANY FOUR) **[12 Marks]**

1. Draw and Explain Android Activity Lifecycle.
2. List down the information in manifest file
3. What is Intent? Explain with its types.
4. Explain four states of an acitivity
5. Define service . What are different types of services ?

Q-3 List down the different resources available and their use **[3 Marks]**

Department of Computer Science
Gujarat University
MCA Sem - III
Full Stack Web Development Course
Theory Exam - 25 Marks
07-11-2023, From 10:30 AM to 12:00 PM

Que-1 Write down a short note on ANY TWO from the following [5]

1. What is REPL in Node.js, and why is it useful for developers?
2. What is Console in Nodejs?
3. What is NPM, and how does it simplify the management of Node.js packages?
4. What is non-blocking I/O, and how does it relate to Node.js's event-driven architecture?

Que-2 Answer the following questions [ANY TWO] [10]

1. Difference between Core module, Local module and Third-Party module.
2. What is the event-driven architecture in Node.js?
3. What is Node.js? Explain Features of Node.js.

Que-3 Answer the following questions [ANY TWO] [10]

1. Explain Node.js Callbacks and Events with examples.
2. Explain File System with examples.
3. Difference between HTTP and HTTPS. Explain with examples.

Department of Computer Science
Gujarat University

Subject: Enterprise Java technology **Total Marks: 20**
Time: 1hr **Date: 06 / 09 / 2023**

Q-1. Attempt any eight **(4)**

1. In which of the following packages contains JDBC classes?
   A. *java.jdbc and javax.jdbc*
   B. java.rdb and javax.rdb
   C. java.sql and javax.sql
   D. *java.sql and java.jdbc*

2. What are the major components of the JDBC API?
   A. DriverManager, Driver, Connection, and Statement
   B. DriverManager, Statement, and ResultSet
   C. DriverManager, Driver, Connection, Statement, and ResultSet
   D. DriverManager, Connection, Statement, and ResultSet

3. What is the correct sequence to create a database connection?
   I. *Import JDBC packages.*
   II. Open a connection to the database.
   III. Load and register the JDBC driver.
   IV. Execute the statement object and return a query resultset.
   V. *Create a statement object to perform a query.*
   VI. Close the resultset and statement objects.
   VII. *Process the resultset.*
   VIII. Close the connection.
   A. I, II, III, V, IV, VII, VIII, VI
   B. II, I, III, IV, VIII, VII, V, VI
   C. I, III, II, IV, V, VI, VII, VIII
   D. I, III, II, V, IV, VII, VI, VIII

4. *Which of the following methods is used to perform DML statements in JDBC?*
   A. execute()
   B. executeResult()
   C. executeQuery()
   D. *executeUpdate()*

5. Which of the following method is static and synchronized in JDBC API?
   A. getConnection()
   B. prepareCall()
   C. executeUpdate()
   D. executeQuery()

5. Parameterized queries can be executed by?
   A. ParameterizedStatement
   B. *PreparedStatement*
   C. CallableStatement and Parameterized Statement
   D. All kinds of Statements

6. *What does setAutoCommit(false) do?*
   A. It will not commit transactions automatically after each query.
   B. It never commits the transactions.
   C. It explicitly commits the transaction.
   D. It does not commit transaction automatically after each query.

7. What is the return type of Class.forName() method?

8. What happens if we call resultSet.getInt(0).

9. Prepared Statements are faster. Why?

10. Are ResultSets updateable?
    A. Yes, but only if we call the method openCursor() on the ResultSet and if the driver and database support this option.
    B. Yes, but only if we indicate a concurrency strategy when executing the statement, and if the driver and database support this option.
    C. Yes, but only if the ResultSet is an object of class UpdateableResultSet and if the driver and database support this option.
    D. No, ResultSets are never updateable. We must explicitly execute a DML statement to change the data in the underlying database.

Q-2. Attempt any four ***(8)***

1. State the difference between statement and prepared statement.
2. Give the use of Statement, PreparedStatement and CallableStatement
3. What is JDBC? List out different types of JDBC driver
4. Compare the various driver types for their advantages and disadvantages.
5. Explain the use of execute(), executeUpdate() and executeQuery() methods.
6. Explain two-tier and three-tier JDBC architecture.

Q-3. Attempt any two **(8)**

1. Write code to insert records into student table using PreparedStatement (assume student table with Name, RollNo, and Branch field).
   OR
   Consider Employee table with attributes EmployeeNo, EmployeeName, Salary, Phone and Address. Write a program to view all the records of Employee table
2. What is database connection URL? How do you make a database connection? Explain various ways to make the database connection with JDBC code snippet.
3. *Explain different types of ResultSet in JDBC.*
4. Write a step to access database from Java Application using JDBC.

DEPARTMENT OF COMPUTER SCIENCE

GUJARAT UNIVERSITY

M.C.A – SEM – III

SUBJECT: CLOUD COMPUTING (THEORY)

TIME:90 MINS | MAX MARKS:40

Q1 Briefly explain the use of following Protocols: (Any 5) **[10 marks]**

1. AWS EC2
2. AWS Lambda Services
3. AWS S3
4. AWS Glacier
5. AWS SNS
6. AWS ELB
7. AWS RDS

Q2 Answer any 4 in detail: **[20 marks]**

1. Discuss any NIST Cloud Reference Architecutre in detail.
2. Discuss various actors in cloud computing
3. What is Load Balancing? Discuss various load balancing algorithms as per the classification.
4. What is portability and inter-operability? Discuss various scenarios for the same.
5. Write a short note on Service Delivery Models

Q3 State whether True / False: **[5 marks]**

1. Resource scheduling in cluster computing is Centralized.
2. MTTR should be higher in Cloud Computing
3. Private cloud platform is eco-friendly
4. Virtualization is the key technology behind cloud computing.
5. In push mechanism of CDN, content is transferred to the edge servers.

Q4 Answer in Brief: **[5 marks]**

1. What is QoS in cloud computing?
2. How do you get high resiliency in cloud computing?
3. What do you understand by "On Demand Service"
4. Give the significance of "Resource Pooling" in cloud.
5. Why is BASE good for cloud environment?

Department of Computer Science
Gujarat University
MCA – III
Sessional – I
Object Oriented Software Engineering

Time:- 1.5 hours | Marks 40

Date:- 11/09/2023

Q-1 Discuss the following concepts in detail **10**

a) Encapsulation

b) Inheritance

Q-2 Discuss the following object oriented methodologies in detail(Any two) **10**

a) Booch Methodology

b) Rambaugh Methodology

c) Jacobson Methodology

Q-3 Explain following terminologies(Any five) **10**

a) States and Events

b) Class and Responsibility

c) Product and Process

d) System and Subsystems

e) Fault and Failure

f) Functional and Non-functional requirement

Q-4 *Do as directed*

a) Differentiate between Traditional v/s object-oriented approach **04**

b) Explain waterfall model in detail **06**

SCHOOL OF ADVANCED COMPUTING AND INFORMATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE
GUJARAT UNIVERSITY
MCA Sem – III
Sessional Examination - I
September 2023

Subject: Web Security
Date: 06/09/2023

Time: 1 hr 30 min
Max. Marks: 30

All questions are compulsory. Make your best attempt to answer each question. Good luck!

Q1. Select the correct option (10 marks)

1) Which HTTP method is generally used for reading data?
   a) POST
   b) GET
   c) DELETE
   d) PUT

2) Which of the following is not an HTTP status code category?
   a) Informational
   b) Redirection
   c) Client Errors
   d) Fatal Errors

3) In the Chrome DevTools, where can you view the HTTP headers of a request?
   a) Console Tab
   b) Elements Tab
   c) Network Tab
   d) Sources Tab

4) HTTP headers can be easily forged by an attacker.
   a) True
   b) False

5) GET requests should not be used to make changes to the server's data.
   a) True
   b) False

6) Using HTTPS ensures the prevention of SQL injection attacks.
   a) True
   b) False

7) HTTP operates directly on top of TCP.
   a) True
   b) False

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DEPARTMENT OF COMPUTER SCIENCE
GUJARAT UNIVERSITY
MCA Sem – III
Sessional Examination - I
September 2023

Subject: Web Security
Date: 06/09/2023

Time: 1 hr 30 min
Max. Marks: 30

All questions are compulsory. Make your best attempt to answer each question. Good luck!

8) What is Classic SQL injection?
   a) An attack that injects code into an application's client-side scripts.
   b) An attack that targets the application's server-side code using malicious SQL statements.
   c) An attack that targets application passwords to gain unauthorized access.
   d) An attack that focuses on exploiting insecure API endpoints.

9) In Classic SQL injection, what is the primary vulnerability?
   a) Insecure API keys
   b) Insufficient data encryption
   c) Poorly validated user inputs
   d) Weak server-side authentication

10) Which of the following techniques is a recommended mitigation strategy to prevent SQL injection attacks?
   a) Storing passwords in plain text for quick database retrieval.
   b) Embedding user inputs directly into SQL queries.
   c) Using parameterized queries and prepared statements.
   d) Running a Web Application Firewall (WAF) in detection-only mode.

Q2. Answer in brief (20 marks)

1. What is the purpose of the HTTP 'User-Agent' header?
2. How can you prevent SQL injection attacks in web applications?
3. How does HTTPS differ from HTTP, and why is it more secure?
4. How can you use browser developer tools to diagnose website security issues?
5. What is a POST request? Explain with an example.