Java FullStack percentage Sheet

Topic	Percentage Weightage
Java Full Stack Syllabus	
Core Java Syllabus	**20%**
1. Introduction & History of JAVA	
• Introduction to Java	
• Java History	
• Why Java	0.50%
• Features of Java	
• Environment Setup	
• Hello World Application	
• Java Program Internal	
• JDK, JRE, JVM Introduction	0.50%
• JVM – Java Virtual Machine	
2. JAVA Programming Basics & Naming Conventions	
• Comments	
• Class, Objects, Data Types	0.50%
• Variables & Rule to declare variables	
• Type Casting	
• Expressions (Operators & Operands)	0.50%
• Java Keywords	
• Example Programs	
3. Flow Control Statements & Conditional Loops	
• Control Statement	
o If,	
o If…else,	0.50%
o Nested if…else	

o Else-if ladder statement	
o Switch Case	
• Flow Statement	
o For loop	
o For each loop	
o While loop	0.50%
o do..while loop	
o Nested loops (loops within loops)	
o Jump Statements (Break, continue, return)	

• Object Oriented Programming Concepts	
o Abstraction	
o Encapsulation	0.50%
o Abstract class	
o Interface	
o Abstract Class vs Interface	0.50%
o Marker Interface	
o Inheritance	
i. Single Inheritance	
ii. Multiple Inheritance	2%
iii. Multilevel Inheritance	
iv. Hierarchical Inheritance	
v. Hybrid Inheritance	
o Extend & final keyword	
o Super keyword & super () method	1%
o Static keyword	
o Transient Keyword	
o Polymorphism (Method Overloading, Method Overriding)	
o Object Cloning	1%
o Constructor- Default, Parameterized	

4. Java Methods & main() methods	
• What is method?	

• Method definition & Method calling • Predefined & User defined methods • About main() method	1%

5. Access Modifiers • Public • Private • Protected • Default • Static Concept – Block, Variable, Method, Class • Scanner Class	1%

6. Java Packages • Package – Creating package, naming package • Predefined Packages • User defined Packages • Garbage Collection • Java Instance of	1%

7. Exception Handling in JAVA • Try • Catch • Throw • Thows • Finally • Error in Exception	1%

8. Multithreading • What is Multitasking? • Use of Multitasking • Thread o Concept, Lifecycle	1%

o Extends Thread	
o Implement Runnable interface	
o Thread Priorities	
o Thread Methods	
• Thread Synchronization	
o Synchronization	0.50%
o Object Locking	
o Inter Thread Communication	

9. String Concepts	
• What is String?	
• String Methods	0.50%
• String Buffer & Methods	
• String Builder & Methods	

10. Java – Arrays	
• Single Arrays	0.50%
• Multidimensional Arrays	

11. Collection Framework	
• Collection Framework	
o Collection Basics	0.50%
o Iterator Interface	
o Methods of Collection Interface	
• Collection Framework Advance Concepts	
o Comparable Interface	
o Comparator Interface	0.50%
o Collections class	
o Differentiate Comparable and Comparator	

12. List	

• Array list • Linked list • Vector	0.50%

13. Set • Hash Set • Tree Set	0.50%

14. Map • Hash Map • Tree Map • Hash Table	0.50%

15. Date Concept • Date Class in JAVA • java.util.Date Class • java.util.Date Method	0.50%

16. Java Enum • Introduction to JAVA Enums • Simple Examples for JAVA Enums	0.50%

17. File Handling Concept	
• File Handling Basics • Create Folder • Create File- .txt. .pdf,. xlsx,. docs • Write File	0.50%
• Read File • Delete File • Serialization • Deserialization	0.50%

18. JDK 1.8.0 New Features with Hands-on	
• Lambda Expression	
• Functional Interface	
• Default Method in Interface	0.50%
• Static Method in Interface	
• Method References	
• Date Time API	
• Stream API in details [All Advanced concepts as per Industry Practices]	
• Collectors	
• For each loop	0.50%
• String Joiner Class	
• Parallel Sort	
• Optional Class	

J2EE	**10%**
• MySQL	
o CRUD Operations	0.50%
o Truncate	
• JDBC	
o JDBC Introduction/ JDBC Basics	
o JDBC Architecture	0.50%
o Database Overview	
• Aggregate Function	
o MIN	
o MAX	
o AVG	1%
o SUM	
o COUNT	
• SQL Having Clause	
• GROUP BY	0.50%
• ORDER BY	

• SQL LIKE Operator • SQL IN • SQL NOT IN • SQL Between	0.50%
• SQL Null Values • SQL TOP • SQL LIMIT • SQL Stored Procedures	0.50%
• Java Application Using JDBC Connectivity • Handling SQL Exceptions • Driver Manager	0.50%
• Result Set • Connection	0.50%
• Statement • Prepared Statement • Callable Statement • DB Connectivity Steps	1.50%
• Store Image in SQL • Read Image in SQL	1%
• JDBC CRUD Application	2%
• Transaction Management • Types of ResultSet	1%

Servlet	**10%**
• Servlet Basics • Need of server-side programming • Servlet Life Cycle	2%
• Config, Context, Session, Filters, Listeners Object	2%
• Servlet Hello World Application • Web.xml Structure	2%
• Servlet Directives- include(), forword(), sendRedirictive()	2%

• HttpServletRequest, HttpServletResponse in Servlet	2%
• Servlet and JDBC Integration	2%

JSP	**8%**
• JSP Basics	2%
• Creating dynamic Web content with JSP	2%
• Scriplet	2%
• Declaration	2%

Framework	**30%**
1. **Hibernate**	
• Hibernate Introduction	
• Hibernate Basics	
• Hibernate Architecture	
• Objective Relational Mapping	1%
• Hibernate Configuration	
• Creating Persistence Classes	
• Schema & Map Generation	
• Using Persistence Objects	
• transactions, Validation & Lifecycle Events	
• Compositions & Associations	1%
• Collections	
• Objects Identity	
• Inheritance	
• Hibernate with Web Applications	
• Hibernate Query Language - HQL	
• Hibernate Session	
• Hibernate SessionFactory	1%
• Hibernate Configuration Offline	
• Hibernate with Annotation	
• Hibernate Association Mapping	
o One to One Mapping	

o One to Many Mapping	1%
o Many to One Mapping	
o Many to Many Mapping	
• Hibernate Aggregation	
• Hibernate with J2EE & Spring	1%
• Advanced features	

2. **Spring Framework**	
• Spring Framework Introduction	
• Spring Basics	1%
• Spring Framework Features	
• Inversion of Control	1%
• Dependency Injection	
• Beans Scope	
o Singleton	1%
o Prototype	
o Request	
o Session	1%
o Global-session	
• Auto Writing	1%
• Spring Annotations	

3. **Spring MVC**	
• Spring MVC Basics	1%
• Spring MVC Architecture	
• Spring MVC Configurations	1%
• Spring MVC Annotations	
• Spring MVC Hello World Application	1%
• Spring MVC Restful Web Services Basics	1%
• Spring MVC with Maven & without Maven	1%

4. **Spring Boot**	

• Spring Boot Introduction • Spring Boot Basics • Why Spring Boot • Spring Boot Features	1%
• Creating Project- Spring Initializer • Spring Boot Hello World Application	1%
• Spring Boot Annotations	1%
• Spring Boot Code Structure	1%
• Spring Boot with RESTFUL Service	1%

5. **Spring Data- JPA**	
• Spring Data JPA Basics • Spring Data JPA Introduction • Spring Data JPA Architecture	1%
• Spring Data JPA application properties file • JPA Repository • CRUD Repository	1%
• Spring Boot, Spring Data JPA CRUD using Postman API	1%
• Spring Boot, Spring Data JPA HRM Application using Swagger UI	1%
• Spring Boot, Spring Data JPA CRUD using Postman API | Swagger UI	1%

6. **Spring JDBC Template**	
• Spring JDBC Template Introduction • RowMapper • Builder	1%
• Spring Boot, JDBC Template using Postman API Hands on Session • Industrial Practices for Spring Boot JDBC Template	1%
• Spring Boot JDBC Template CRUD Application • Spring Boot JDBC Template Sign Up | Sign In Application	1%
• Real Time Signup and Sign in Application using JDBC Template • Spring Boot with JDBC Template HRM Application Swagger UI	1%

• Advanced Research and Development for JDBC Template using Spring Boot	1%

MICROSERVICES	**10%**
• Microservices Introduction • Microservices Architecture • Microservices Project Structure • Microservices Frameworks	1%
• Spring Boot with Microservices Basics • Spring Boot with Microservices Coding Standards • Spring Boot with Microservices Builder Design Pattern • Spring Boot with Microservices QR Code Generator • Application properties vs application.yml file	1%
• Spring Boot, Hibernate, Maven, MySQL CRUD Application- POSTMAN API • Spring Boot, Spring Data- JPA, Maven, MySQL CRUD Application- POSTMAN API • Spring Boot, Spring Data- JDBC Template, Maven, MySQL CRUD Application • Spring Boot, ORM, Microservices with Project Lombok • Spring Boot, CORS, Spring Data[JDBC Template], Microservices CRUD with Project Lombok using React JS	2%
• Creating Multiple Services using Spring Boot • Logger with Microservices • Rest Template Implementation • VO package creation for Multi Model Application	1%
• Set port number and application name for each service • Service Registry- Eureka Server • API Gateway for traverse centralize request	1%
• Hystrix Dash Board • Zipkin • Sleuth • Trace Application- System Health	1%

• Spring cloud API Gateway	
• Trace Fallback controller	
• Trace Services are up/down using controller service	1%
• Trace Dependent Services	
• Trace Controller | Methods and Services how many times used/hit	
• Advanced Level Research and Development for Microservices	1%
• Microservices HRM/Payroll Application	
• Microservices Customer | Product | Payment Order Application	
• Spring boot project with Microservice architecture Real time integration of spring cloud eureka, Spring cloud API Gateway & Hystrix	1%
• Spring Boot with Microservices all Advanced Interview Questions & Answers	

WEB Design	
HTML	**2%**
• Web Programming Introduction o The Architecture of Website o Different technologies in making the website o Web Development Introduction	0.50%
• HTML – Introduction o History of HTML o Introduction & Syntax of HTML • HTML Headers	0.50%
• HTML – Different types of tags o HTML Basic Tags o HTML Formatting Tags, Grouping Tags o HTML List, Table, Form Tags o Other HTML Tags • Semantic HTML Elements & it's use case	1%

CSS	**2%**
• CSS- Introduction	

o Introduction of CSS	
o Benefits, history of CSS	0.50%
• CSS- Syntax	
• CSS- Selectors & Specificity	
• CSS- Types of CSS properties	
o Background	
o Border	
o Padding	
o Text Fonts	1.50%
o List	
o Display & Positioning	
o Other types of CSS property	
• CSS- Box Model	

JavaScript	**4%**
• What is JavaScript?	
o Prerequisite of JavaScript	
o Introduction & History of JavaScript	
o How to include/ add JavaScript in HTML?	
• Core JavaScript	0.50%
o Syntax	
o Variables Declarations	
o Data Types supported in JavaScript	
o Key differences between Var, Let, and Const	
• Expressions & Operators	
• Control Structures	
o Flow control & Conditionals	0.50%
o Loops & Iterations	
o Jumps	
• Error Handling	
o Throwing an Error	

o Error Handling	0.50%
• Data Types of Method Supported	
o String, numbers, array & functions	
• JSON Introduction & Syntax	
• Creating Regular expressions for matching patterns	
• Objects- Creating objects, properties, methods, Built-in JavaScript Objects	0.50%
• ES6 Features	
• Iterators & Generators	
• Prototype based on OOP	
o Defining Constructor	
o Prototypes	
o Inheritance	
• JavaScript in Browser	1%
o Embedding JavaScript in HTML	
o Execution of JavaScript code	
• Browser Object Model	
• Document Object Model	
o Document structure/ DOM Tree	
o HTML Elements & Attributes	
o Creating, changing, and deleting nodes.	
• Handling Events – Types & how to control	1%
• Ajax	
o JavaScript & HTTP Communication	
o Synchronous & Asynchronous requests.	
• JavaScript Async	
o JavaScript Callback	
o Promises	
o Async/ Await	
• Data Storage – Cookies, Web Storage, IndexedDB	

ReactJS	**4%**

• React JS Basics	
• React JS Features	
• React JS Setup and Hello World Application	
• React JS JSX	
• React JS ES6 Features	1%
• Using create-react app	
• Anatomy of React Project	
• Running the App	
• Debugging first react app	
• Templating using JSX	
o Working with react – createElement	
o Expressions	
o Using Logical Operators	
o Specifying attributes & children	
o Fragments	
• About Components	2%
o Significance of Components Architecture	
o Types of components	
o Functional	
o Class Based	
o Pure	
o Component Composition	
• Working with state & props	
o What is state & its significance	
o Read state & set state	
o Passing data to component using props	1%
o defaultProps	
• ReactJS Hooks	
• React JS Lifecycle	

Industrial Advanced Concepts	

• Principles of SOLID	
• Agile Methodology	
• Data Structure and Algorithms	
• Java Advanced Tools as per Latest Releases	

❖   Resume Preparations
❖   Interview Preparations
❖   Mock Interviews
❖   Assignment Work
❖   Key Features of UV Technocrats Training
➢ FOCUS ON MORE AND MORE PRATICE.
➢ PROVIDE BUSINESS BLUE PRINT FOR STUDY.
➢ PERSONAL ATTENTION.
➢ ONE TO ONE TRANNING.
➢ PROVIDE CERTIFICATION LEVEL TRANNING.
➢ PROVIDE CERTIFICATION ALL MATERIAL.
➢ PROVIDE SCREEN SHOT OF CONFIGURATION SCENARIO.
➢ PROVIDE SCREEN SHOT OF ALL END USER SCENARIO.
➢ PROVIDE ALL TYPE OF TRANNING- CONSULTANT, SUPPORT CONSULTANT, AND END USER ACTIVITY.
➢ PROVIDE THEORY LECTURE ON REAL TIME SCENARIO.
➢ GROUP DISCUSSIONACTIVITY.