**Spring**

**Lesson 1: Introduction to Spring Platform and environment**

1. Discuss Spring Boot usage.
2. Which spring module is helpful to develop the application to be connected with third party applications
3. Discuss spring boot features.

**Lesson 2: Introduction to Spring Framework, IoC**

1. Discuss the Life cycle of Beans in Spring factory container
2. Discuss all the ways of bean initialization and destruction(through xml,implementing interface & using annotations @PostConstruct, @PreDestroy)
3. Discuss all the features of Application context(eg internalization,ect) and BeanFactory(responsibilities)
4. Discuss the bean scopes and prototyping and singleton behavior
5. Discuss PropertyPlaceholderConfigurer
6. Discuss all the annotations @ComponentScan, @EnableAutoConfiguration, @Configuration,@Component, @Controller, @Repository,@service,@AutoWired
7. Discuss <context:component-scan> and <context:annotation-config>.
8. Discuss dependency injection.i,e Constructor injection(by index and by type)and Setter injection
9. Discuss using collections for injection
10. Discuss getBean()
11. Discuss all the three spring layers
12. Discuss on spring architecture.
13. Dependency injection/ IoC pg 2-12,2-13
14. How many ways a spring bean can be configured?
15. Responsibilities of IoC container
16. Go thru the Demo codes of day 1 for xmls configuration and autowiring thru xml
17. Different types of injection
18. Inner beans and Outer beans - Can i use inner beans also ?
19. Drawback of inner bean
20. Autowiring types
21. Difference between application context and Bean factory(I18N,etc)
22. Go through the life cycle of bean factory and Applicaiton context
23. Bean scopes, What is the default bean scope
24. Bean factory PostProcessor- discuss
25. Dispatcher Servlet is the frontcontroller.
26. Go through the complete syntax of viewResolver tag
27. discuss on multiple spring config files using listener class in web.xml

**Lesson 4: Spring MVC framework**

1. Discuss Spring MVC Lifecycle
2. Discuss ViewResolver
3. handleRequest(or userdefined method) that returns ModelAndView ("index","msg",values)…….Discuss each parameter
   1. ( msg is the model name,index is the jsp view name and values is the model data)
4. Discuss InternalResourceView
5. Discuss Configuring the ContextLoaderListener in web.xml
6. Discuss the below annotations @RequestMapping(discuss both at class level and method level with code), @Controller, @RequestParam, @ModelAttribute
7. Discuss @Valid,@Size,@NotNUll,@Pattern,@Email annotations
8. Discuss bindingResult.hasErrors()
9. Discuss @PathVariable
10. Discuss view resolver with suffix and prefix properties
11. <property name="prefix" value="/jsp/"/>
12. <property name="suffix" value=".jsp" />
13. </bean>
14. View Resolver maps logical view names into view objects
15. Discuss <context:property-placeholder location="classpath:jdbc.properties" />
16. Discuss <mvc:annotation-driven ../>
17. . Importance of @Valid
18. RESTful RESTless
19. discuss on return new modelandview(...) parameters
20. discuss on @RequestPAram

Sample code

@RequestMapping

Public class LoginController{

@RequestMapping(“loadForm”)

public String loadData(){} }

<http://localhost:8080/projectname/loadForm.obj>

ii) @RequestParam

@Controller

Public class LoginController{

@RequestMapping(“checkLogin”)

public String isValidUser(@RequestParam(“username” String uname){} }

URL need to be used for making the request for the above mentioned controller is

<http://localhost:8080/projectname/checkLogin.obj?username=capgemini>

**Lesson-5-Spring with JPA**

1. Which tag definition is used in the xml file to configure the entity Manager Factory Bean?List down the nested tag definition for that bean definition**.**
2. List down the annotation require to inject the entity manager bean in DAO
3. Which tag is used in the xml to handle the transactions via annotations?
4. Which annotation is used in spring to inject the EntitymanagerFactory?
5. Which tag is require in xml to configure Spring Data ?
6. List the names of interfaces used to interact JPA at Runtime.

**JPA With Hibernate**

**Lesson-3-**

1. Explain the significance of EntityMangerFactory and EntiManager and explain about the functions available in JPA2.0 EntityManager?
2. Explain the life cycle of entity in JPA ORM?
3. Explain the Significance of @Entity, @Table, @ID, @Column, @Transient annotation?
4. Explain about the important 9 functions of EntityManager.
5. Which xml file we require for JPA persistence configuration for specifying the database information?
6. Which 3 mapping strategies are used in JPA for mapping the inherited classes?List all the annotation and their parameter for mapping all type of strategies.