

## J2EE Mock Paper 3

1. What is the default fetch type in hibernate?
  - A. for OneToMany LAZY and for ManyToOne LAZY
  - B. for OneToMany LAZY and for ManyToOne EAGER
  - C. for OneToMany EAGER and for ManyToOne LAZY
  - D. for OneToMany EAGER and for ManyToOne EAGER
  
2. How can we specify init method for spring bean?
  - A. @PostConstruct annotation or init-method xml attribute
  - B. @PostConstruct annotation or post-construct xml attribute
  - C. @PreConstruct annotation or pre-construct xml attribute
  - D. @PreConstruct annotation or init-method xml attribute
  
3. If REST client sends following URL via get request, how will you access course id & student id?  
http://host:port/spring\_rest/courses/101/students/10
  - A. @RequestParam
  - B. @ModelAttribute
  - C. @PathVariable
  - D. @GetMapping
  
4. What will Hibernate Session's GET method return in case of valid id?
  - A. Throws NoResultException
  - B. null
  - C. Persistent entity
  - D. Detached entity
  
5. Which of the following is true?
  - A. In request dispatcher's scenario, minimum scope of attributes must be session scope.
  - B. In redirect scenario from one.jsp to two.jsp, client browser will see the URL of two.jsp.
  - C. In request dispatcher scenario from one.jsp to two.jsp, client browser will see the URL of two.jsp.
  - D. Request dispatching technique will be slower than send redirect.
  
6. Which of the following Java EE specifications is supported by Application Server but not by Web server?
  - A. Servlet
  - B. JSP
  - C. WebSocket
  - D. EJB
  
7. How to serve CSS files into Spring MVC application?
  - A. By adding <mvc:static-resources/> into the spring bean config xml file.
  - B. By adding <mvc:resources/> into the spring bean config xml file.
  - C. It automatically accessible if added into WEB-INF folder of web-application.
  - D. It automatically accessible if added above WEB-INF folder of web-application.

8. What is not true for JPA?
- A. JPA stands for Java Persistence API.
  - B. JPA is a specification and Spring is an implementation of it.
  - C. JPA has support for declarative transactions.
  - D. JPQL is query language used to write JPA queries.
9. There are two methods f1() & f2() in a java class in a spring application. Method f1() internally calls f2(). Both methods are annotated as:
- `@Transactional(propagation=Propagation.REQUIRES_NEW).`
- What would happen if f1() is called from some other service?
- A. New transaction will be created only for f1()
  - B. New transaction will be created only for f2()
  - C. New transaction will be created for both f1() and f2()
  - D. New transaction will not be created
10. Which of the following design patterns is more suitable when we have multiple algorithms for a specific task and depending on client choice, algorithm can be switched in runtime?
- A. Factory
  - B. Prototype
  - C. Strategy
  - D. Observer
11. Which of the following problems can be solved using Lookup Method Injection in Spring?
- A. Singleton to Prototype dependency
  - B. Prototype to Singleton dependency
  - C. Singleton to Singleton dependency
  - D. Prototype to Prototype dependency
12. Which method destroys session object?
- A. session.invalidate()
  - B. session.clear()
  - C. session.abandon()
  - D. session.destroy()
13. Consider the following HTML code:
- `<a href="WelcomeServlet"> WelcomeServlet#POST </a>`
- Which of the following methods of WelcomeServlet will definitely be called if the link is clicked?
- A. doGet()
  - B. doLink()
  - C. doPost()
  - D. doPut()
14. Which of the following is false about Web Services?
- A. Can only return JSON format
  - B. Can return any format as defined
  - C. Can't be consumed asynchronously by UI
  - D. Can't return two objects at a same time

15. Which of the following file is essentially used in maven?
- A. web.xml
  - B. pom.xml
  - C. maven.xml
  - D. apache.xml
16. Which of the following statements is true about hibernate get() methods?
- A. It always returns proxy without hitting database
  - B. It always hit the database and return real object
  - C. If no row found, it throws ObjectNotFoundException
  - D. If no row found, it throws NullPointerException
17. What is not possible using JSP EL?
- A. Access cookie value
  - B. Access request header
  - C. Do arithmetic operation
  - D. Modify bean properties
18. What is the significance of CascadeType PERSIST?
- A. When parent entity is inserted, child entities are inserted in individual transactions.
  - B. When parent entity is inserted, child entities are inserted in same transaction
  - C. When parent entity is updated, child entities are updated in individual transactions.
  - D. When parent entity is updated, child entities are updated in same transaction.
19. Which of the following design patterns is best suited to attach additional responsibilities to an object dynamically without creating sub classes?
- A. Decorator
  - B. Composite
  - C. Observer
  - D. Abstract Factory
20. How many ServletConfig & ServletContext objects will be created by web container?
- A. Only single one per entire web server.
  - B. One per servlet & one per web application
  - C. One per context & one per application
  - D. One per every servlet.
22. Which of the following transaction characteristics solves Dirty read issue?
- A. Atomicity
  - B. Consistency
  - C. Isolation
  - D. Durability

21. If two dependency beans of eligible types are available, how conflict in dependency injection will be resolved?

- A. by changing auto-wiring to byType.
- B. by changing auto-wiring to byName.
- C. by removing one of the bean.
- D. such conflict cannot be avoided

23. What will happen for the following code, when you bootstrap hibernate?

```
@Entity
public class Stock
{
    @Id
    private Integer id;
    @Column(unique=true)
    private String code;
    @Transient
    private String stockDesc;
    //all getters n setters are provided
}
```

This is the most likely outcome. The @Transient annotation on stockDesc indicates that this field should not be persisted to the database, so it won't be included in the table creation.

- A. Table creation will fail.
- B. SessionFactory creation will fail
- C. Table will be created with only id & code columns.
- D. Table will be created with id, code & stockDesc columns

24. What will happen in the following hibernate code sample, if account a with id=100 exists in DB, with balance=5000?

```
Session hs=factory.getCurrentSession();
BankAccount a=hs.get(BankAccount.class,100);
a.setBalance(7000);
tx.commit();
a.setBalance(8000);
```

- A. Account balance will still be 5000
- B. balance will be 7000
- C. balance will be 8000
- D. Runtime exception is thrown

25. Which of the following represents Spring MVC controller?

- A. org.springframework.servlet.DispatcherServlet
- B. org.springframework.web.servlet.DispatcherServlet
- C. org.springframework.web.controller.DispatcherServlet
- D. org.springframework.controller.DispatcherServlet

26. Which of the following listeners can be used to track active sessions in my Servlet based web application?

- A. HttpSessionAttributeListener
- B. HttpSessionBindingListener
- C. HttpSessionListener
- D. ServletContextListener

27. Which of the following represents the correct syntax of include directive in JSP?

- A. <% @include file="header.jsp" %>
- B. <% @include page="header.jsp" %>
- C. <jsp:include file="header.jsp"/>
- D. <jsp:include page="header.jsp"/>

28. What is the main difference between forward and sendRedirect methods?

- A. Both are same, except sendRedirect can't be used by a Servlet
- B. sendRedirect doesn't preserve data after redirecting the request
- C. both methods can only be used once in an application
- D. All of the above

29. Which of the following attribute is used to map a reference of bean as a value in a map's entry in spring beans?

- A. value-ref
- B. entry-value
- C. map-value
- D. ref

30. Name the dependency injected by web container into Servlet for init params?

- A. HttpSession
- B. ServletRequest
- C. ServletResponse
- D. ServletConfig

31. What will happen in the following hibernate code, if user id is annotated with @Id & @GeneratedValue?

```
User u=new User("Ravi","Seth","ravi@gmail.com");
u.setId(10);
//session : org.hibernate.Session
session.persist(u);
//tx : org.hibernate.Transaction
tx.commit();
```

- A. A new record will be saved with user id=10;
- B. Throws PersistentObjectException
- C. A new record will be inserted using auto incremented id
- D. No change in DB.



32. When multiple beans of same type available, spring container throws exception while bean auto wiring. Which of the following annotations can be used to fix this issue?

- A. @Required
- B. @Qualifier
- C. @Bean
- D. @Lookup

33. Which of the following annotations is used to read query parameters in Spring MVC?

- A. @PathVariable
- B. @RequestBody
- C. @RequestParam
- D. @RequestMapping

34. Assume TestBean is a valid java bean class, under beans package.

Consider following code:

```
index.jsp
<jsp:useBean id="test" class="beans.TestBean" scope="application"/>
<c:redirect url="login.jsp"/>
login.jsp
<jsp:useBean id="test" class="beans.TestBean" scope="application"/>
```

How many times TestBean will be instantiated, if there are 10 clients accessing index.jsp of this web site?

- A. 10 times.
- B. 20 times.
- C. 1 time
- D. 2 times.

35. Which of the following annotation (for bean creating class) and application context is used for annotation-based configuration in spring?

- A. @Configuration and AnnotationConfigApplicationContext
- B. @BeanFactory and AnnotationConfigApplicationContext
- C. @Configuration and ClassPathXmlApplicationContext
- D. @BeanFactory and ApplicationContext

36. Consider following 2 servlets.

```
@WebServlet(value="/s1", loadOnStartup=1)
public class FirstServlet extends HttpServlet {...}
@WebServlet(value="/s2")
public class SecondServlet extends HttpServlet {...}
```

Which of the following is true?

- A. Web container never invoke init method of the second servlet.
- B. Web container invokes init method of the second servlet at web app start up.
- C. Web container invokes init method of the first servlet at web app start up.
- D. Web Container starts life cycle of the first servlet, after client request.

37. Consider following JSPs. What will be displayed on client browser?

```
test1.jsp
<%
    request.setAttribute("age",25);
    session.setAttribute("height","160cm");
%>
<c:redirect url="test2.jsp"/>
```

```
test2.jsp
Age : ${requestScope.age}
Height : ${sessionScope.height}
```

- A. Blank Page
- B. Age: 25  
Height: 160cm
- ☒ C. Age:  
Height: 160cm
- D. Age :25  
Height:

38. In spring, what is the meaning of only @AutoWired applied to a field?

- A. No automatic wiring
- B. Autowiring by name
- C. Autowiring by type
- ☒ D. Autowiring by constructor

39. What is the role of @ResponseBody annotation in RESTful web services?

- A. Marshalling
- B. Request Mapping
- ☒ C. Unmarshalling
- D. Resolving a view

40. Which of the following best describes a DAO pattern?

- A. DAO are used to declare and define general tasks that can be performed on a DB
- ☒ B. DAO are used only to implement DB functionalities
- C. DAO only uses an interface
- D. We can replace all DB implementations by using a DAO

In the Spring Framework, bean scope determines the lifecycle and visibility of a bean within the Spring IoC container. The main scopes are:

1) Singleton: One shared instance for the entire container.  
Annotation: @Scope("singleton")

2)Prototype: A new instance for each request.  
Annotation: @Scope("prototype")

3)Request (Web): A new instance for each HTTP request.  
Annotation: @Scope("request")

4)Session (Web): A new instance for each user session.  
Annotation: @Scope("session")

5)Global Session (Web): Similar to session but for a global session in a Portlet environment.  
Annotation: @Scope("globalSession")

6)Application/Singleton (Web-aware): Similar to singleton but web-aware for a web application context.  
Annotation: @Scope("application")