University of Mumbai
Examination Second Half 2021 (Lead College: BVIMIT)

Program: Master of Computer Applications
Curriculum Scheme: MCA (2year – 2020 Course)
Examination: M.C.A Semester I March 2022
Course Code: MCA12 and Course Name: Advanced Java

Time: 2 hour 30 minutes   Max. Marks: 80
Date : 29/03/2022

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Q1.	Choose the correct option for following questions. All the Questions are compulsory and carry equal marks
1.	Predict the output of the following program

```java
import java.util.*;
public class genericstack <E>
{
    Stack <E> stk = new Stack <E>();
    public void push(E obj)
    {
        stk.push(obj);
    }
    public E pop()
    {
        E obj = stk.pop();
        return obj;
    }
}
class Output
{
    public static void main(String args[])
    {
        genericstack <Integer> gs = new genericstack<Integer>();
        gs.push(36);
        System.out.println(gs.pop());
    }
}
```

Option A:	H
Option B:	Hello
Option C:	Runtime Error
Option D:	Compilation Error
2.	Which one of the following is a syntax to create a simple JSP?
Option A:	\<html> \<body> \<% out.print(2*5); %> \</body> \</html>
Option B:	\<html> \<body> \<! out.print(2*5); !> \</body> \</html>
Option C:	\<html> \<body> \<% @ out.print(2*5); %> \</body> \</html>
Option D:	None of the above
3.	Which are the IoC containers in Spring?
Option A:	BeanFactory, BeanContext, IocContextFactory
Option B:	BeanFactory, ApplicationContext
Option C:	BeanFactory, ApplicationContext, BeanContext
Option D:	BeanFactory, ApplicationContext, IocContextFactory
4.	Which are the different modes of autowiring?
Option A:	byName, byContent, setter, autodetect
Option B:	byName, byContent, constructor, autodetect
Option C:	no, byName, byType, constructor, autodetect
Option D:	no, byName, byType, constructor, autocorrect

5.	Which tag informs the spring container about the use of AspectJ annotation?
Option A:	aop:aspectj-autowire
Option B:	aop:aspectj-name
Option C:	aop:aspectj-autoproxy
Option D:	none of the mentioned
6.	Which advice combines all advices into one?
Option A:	@Before
Option B:	@After
Option C:	@AfterThrowing
Option D:	None of the mentioned
7.	Method of RowMapper interface in which, you have to construct the object that represents a row and return it as the method's return value.
Option A:	mapRow()
Option B:	query()
Option C:	update()
Option D:	none of the mentioned
8.	Class which declares a number of overloaded update() template methods to control the overall update process.
Option A:	org.springframework.jdbc.core.JdbcTemplate
Option B:	org.springframework.jdbc.core.*
Option C:	org.springframework.jdbc.*
Option D:	none of the mentioned
9.	Which of the following is a best practice for designing a secure RESTful web service?
Option A:	Validation - Validate all inputs on the server. Protect your server against SQL or NoSQL injection attacks.
Option B:	Session based authentication - Use session based authentication to authenticate a user whenever a request is made to a Web Service method.
Option C:	Both of the above.
Option D:	None of the above.
10.	What REST stands for?
Option A:	Represent State Transfer
Option B:	REpresentational State Transfer
Option C:	Represent State Transfer
Option D:	None of the above.

Q2   **Solve any Two Questions out of Three**   **10 marks each**

A   What is directives? Explain different types of directives in JSP.

B   Explain the Types of advices in detail.

C   Explain Data Access operations with JdbcTemplate and Spring.

Q3.   **Solve any Two Questions out of Three**   **10 marks each**

A   Explain in details Map Interface and it's all operations.

B   Explain Spring Boot RESTful WebService with example.

C   What are actions in JSP? Explain any four actions in JSP with suitable example.

Q4.   **Solve any Two Questions out of Three**   **10 marks each**

A   Explain Dependency Injection with Spring using Setter Injection in detail.

B   Why do we need Generics? Explain with an example of how Generics make a program more flexible?

C   Explain JSP architecture with suitable diagram.