

Enrollment No.....



Faculty of Engineering / Science

End Sem Examination May-2024

CS3CO37 / BC3CO63 / BC3CO43

Advanced Java Programming

Programme: B.Tech./B.Sc. Branch/Specialisation: CSE All/ CS

**Duration: 3 Hrs.****Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1 i. Which of these methods deletes all the elements from invoking collection? **1**  
 (a) clear() (b) reset()  
 (c) delete() (d) refresh()
- ii. Which of the following is a valid lambda expression? **1**  
 (a) (x, y) -> return x\*y; (b) (x, y) => return x\*y;  
 (c) (int x, int y) = x\*y; (d) (x, y)<-> return x\*y;
- iii. Which of the following code retrieves the body of the request as binary data? **1**  
 (a) DataInputStream data = new InputStream()  
 (b) DataInputStream data = response.getInputStream()  
 (c) DataInputStream data = request.getInputStream()  
 (d) DataInputStream data = request.fetchInputStream()
- iv. How is the dynamic interception of requests and responses to transform the information done? **1**  
 (a) Servlet container  
 (b) Servlet config  
 (c) Servlet context  
 (d) Servlet filter
- v. “request” is instance of which one of the following classes? **1**  
 (a) Request (b) HttpRequest  
 (c) HttpServletRequest (d) ServletRequest
- vi. JSTL core tags support all of the below, except: **1**  
 (a) Conditional (b) Iteration  
 (c) URL forwarding (d) SQL manipulation

		[2]	
vii.	What is Spring MVC?	1	
	(a) A programming language for web development		
	(b) A lightweight java framework for building web application.		
	(c) A database management system for web application.		
	(d) A library for handling server side rendering.		
viii.	What is the purpose of the Spring IoC container?	1	
	(a) To manage the lifecycle of beans and their dependencies		
	(b) To handle the configuration of the application		
	(c) To provide a caching mechanism for the application		
	(d) To provide a security mechanism for the application		
ix.	Spring JDBC framework offers a convenient class, to simplify your DAO implementation-	1	
	(a) org.springframework.jdbc.core.support		
	(b) org.springframework.jdbc.core.support.JdbcDaoSupport		
	(c) Both (a) and (b)		
	(d) None of these		
x.	Method to retrieve the JDBC template-	1	
	(a) setJdbcTemplate()                      (b) getTemplate()		
	(c) getJdbc()                                      (d) getJdbcTemplate()		
Q.2	i. How do you create a generic constructor in Java?	2	
	ii. What is the difference between iterator and enumeration?	3	
	iii. What are the different types of wildcards in Java generics?	5	
OR	iv. Explain various interfaces used in collection framework.	5	
Q.3	i. What is a Servlet?	2	
	ii. What is HTTP? What are HTTP request methods?	8	
OR	iii. What is spring MVC? What is the front controller of spring MVC? Explain MVC pattern architecture.	8	
Q.4	i. What is JSP? How can we forward the request from JSP page to the Servlet?	3	
	ii. What are the scripting tags used in JSP? Explain with example.	7	
OR	iii. Explain the Java server page life cycle.	7	
Q.5	i. What is the difference between constructor injection and setter injection?	4	

		[3]	
	ii. What is a spring IOC container? What is ApplicationContext and how to use it inside spring?	6	
OR	iii. What are the different spring modules?	6	
Q.6	Attempt any two:		
	i. What are the steps to connect to the database in java?	5	
	ii. What are the JDBC API components?	5	
	iii. Why spring boot is preferred over any other framework? What are the advantages of spring boot?	5	

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## Marking Scheme

### Advanced Java Programming-CS3CO37(T)-BC3CO63(T)

Q.1	i)	A		1
	ii)	A		1
	iii)	C		1
	iv)	D		1
	v)	C		1
	vi)	D		1
	vii)	B		1
	viii)	A		1
	ix)	B		1
	x)	D		1
Q.2	i.	Code of generic constructor	2 Marks	2
	ii.	3 Difference	3 Marks	3
	iii.	Types	3 Marks	5
		Syntax	2 Marks	
OR	iv.	Chart	2 Marks	5
		Interface	3 Marks	
Q.3	i.	Definition	2 Marks	2
	ii.	HTTP	3 Marks	8
		Methods	5 Marks	
OR	iii.	Spring MVC	2 Marks	8
		MVC diagram	4 Marks	
		Front Controller	2 Marks	
Q.4	i.	JSP definition	1 Mark	3
		Syntax	2 Marks	
	ii.	Tag	3 Marks	7
		Code	4 Marks	
OR	iii.	Diagram	2 Marks	7
		Method Explanation	5 Marks	
Q.5	i.	4 Difference	4 Marks	4
	ii.	Spring IOC container	2 Marks	6
		Application context	4 Marks	
OR	iii.	6 modules	6 Marks	6

Q.6

i.	1 Mark with each step	(1 Mark*5)	5
ii.	5 Component	(1 Mark*5)	5
iii.	Spring foot advantages better from other Framework	3 Marks 2 Marks	5

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