Total No. of Questions: 6   Total No. of Printed Pages:2

Enrollment No.....................................

Faculty of Engineering
End Sem Examination May-2023
CS3CO37 Advanced Java Programming
Programme: B.Tech.   Branch/Specialisation: CSE / All

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 implementation of Iterator can traverse a collection back and forth?   1
          (a) Iterator   (b) ListIterator (c) SetIterator   (d) MapIterator
     ii. Which collection allows indexed access to its elements, but its methods are not synchronized?   1
          (a) ArrayList   (b) Vector   (c) TreeMap   (d) HashSet
     iii. The servlet Context object is _____.   1
          (a) One for each servlet   (b) One for whole web application
          (c) One for each session   (d) None of these
     iv. A _____ is known as deployment descriptor file for servlet.   1
          (a) pom.xml   (b) web.xml   (c) config   (d) None of these
     v.   The default scope of java bean object is-   1
          (a) Request   (b) Session   (c) Page   (d) Application
     vi. Which of the following is not a Directive tag-   1
          (a) Include   (b) Import   (c) Page   (d) TagLib
     vii. 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
     viii. What are two ways to achieve dependency injection in spring?   1
          (a) Using getter and setter methods
          (b) Using setter and constructor
          (c) Using getter and constructor
          (d) Using setter and factory methods

P.T.O.

ix. Spring boot is used for developing?   1
     (a) Web applications   (b) REST API
     (c) Microservices   (d) All of these
x.   What is spring initializer?   1
     (a) A web-based tool for generating a basic spring boot project structure
     (b) A command-line tool for generating a basic spring boot project structure
     (c) A tool for initializing a spring-based application with a specific set of dependencies
     (d) A tool for creating a spring boot application with a specific set of features

Q.2 i.   What are wildcards? What are its types?   4
     ii. What is collection framework in Java? Explain all with examples.   6
OR   iii. Write a program using set interface to add elements in set, remove elements in set and to search element in set with proper explanation. 6

Q.3 i.   Difference between servlet context and servlet config.   4
     ii. What do you understand by servlet listeners and servlet filters?   6
OR   iii. Write a program to print username and password from login.html page to a loginservlet.   6

Q.4 i.   Explain scripting tags, expression tag, declarative tag used in JSP.   3
     ii. Write a program to store value from jsp page to database.   7
OR   iii. Write a program to show use of (jsp : useBean) action tag.   7

Q.5 i.   What do you understand by IOC and dependency injection?   4
     ii. What do you mean by POJO programming model?   6
OR   iii. How MVC architecture is used in spring framework?   6

Q.6   Attempt any two:
     i.   What is spring boot framework? What are its advantages?   5
     ii. Why should we use spring boot JDBC?   5
     iii. What are different spring boot annotations?   5

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Marking Scheme
CS3CO37[T]-Advance JAVA Programming

Q.1	i)	b) ListIterator	1
	ii)	a) ArrayList	1
	iii)	b) one for whole web application	1
	iv)	b) web.xml	1
	v)	c) page	1
	vi)	b) Import	1
	vii)	a) To manage the lifecycle of beans and their dependencies	1
	viii)	b) using Setter and Constructor	1
	ix)	d) All	1
	x)	a) A web-based tool for generating a basic Spring Boot project structure.	1

Q.2	i.	Definition of wildcards- 1 mark, 3types – 1mark each	4
	ii.	Collection framework- 1 mark,	6
		Array list, set, map, queue, linkedlist-1 mark each with example	
OR	iii.	Add element- 2marks	6
		Remove – 2mark	
		Search – 2mark	

Q.3	i.	4 difference- 1 marks each	4
	ii.	servlet listeners – 3marks	6
		and servlet filters – 3 marks	
OR	iii.	Login.html – 2marks,	6
		loginservlet-4marks	

Q.4	i.	Scripting tag, expression tag, declarative tag- 1 mark each	3
	ii.	Program with jdbc connectivity- 3marks,	7
		prepared statement – 4 marks.	
OR	iii.	Java bean class-3 marks,	7
		class file with getter setter method-2 marks,	
		index file- 2marks.	

Q.5	i.	IOC -2 marks and dependency injection-2 marks	4

	ii.	POJO programming model-5 marks ,example-1 mark	6
OR	iii.	How MVC architecture is used in Spring Framework.	6

Q.6			
	i.	Spring boot definition -1 marks, 4 advantages -4 mark	5
	ii.	5 points to show JDBC in spring boot	5
	iii.	5 annotations -1 mark each	5

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