



Sardar Patel Institute of Technology

Bhavan's Campus, Munshi Nagar, Andheri (W), Mumbai : 400058, India

(Autonomous College of Affiliated to University of Mumbai)

RE

End Semester Examination

December 2022

Maxi Marks : 100

Class : FY MCA

Course code: MC506

Name of the course : Java Programming

Duration : 3 hours

Semester : 02

Branch : MCA

Q No		Max Marks	CO	BL								
1a	One person can have different behaviour. For example, a person acts as an employee in the office, a customer in the shopping mall, a passenger in a bus/train, a student in school, and a son at home. Explain in detail which OOP concept follows this analogy, Justify your answer with an example mentioned above.	10	1	3								
1b	<p>A. Which are the best practices to follow while using packages in Java Program?</p> <p>B. Assume you have written some classes. Belatedly, you decide they should be split into three packages, as listed in the following table. Furthermore, assume the classes are currently in the default package (they have no package statements).</p> <p style="text-align: center;">Destination Packages</p> <table><tr><th>Package Name</th><th>Class Name</th></tr><tr><td>mygame.server</td><td>Server</td></tr><tr><td>mygame.shared</td><td>Utilities</td></tr><tr><td>mygame.client</td><td>Client</td></tr></table> <p>1. Which line of code will you need to add to each source file to put each class in the right package?</p> <p>2. To adhere to the directory structure, you may need to create some subdirectories in the development directory and put source files in the correct subdirectories. What subdirectories must you create? Which subdirectory does each source file go in?</p> <p>3. Do you think you'll need to make any other changes to the source files to make them compile correctly? If so, what?</p>	Package Name	Class Name	mygame.server	Server	mygame.shared	Utilities	mygame.client	Client	4	1	3
Package Name	Class Name											
mygame.server	Server											
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2a	<p>Assume you are working on the following database</p> <table border="1"> <thead> <tr> <th>Name</th><th>FName</th><th>City</th><th>Age</th><th>Salary</th></tr> </thead> <tbody> <tr> <td>Smith</td><td>John</td><td>3</td><td>35</td><td>\$280</td></tr> <tr> <td>Doe</td><td>Jane</td><td>1</td><td>28</td><td>\$325</td></tr> <tr> <td>Brown</td><td>Scott</td><td>3</td><td>41</td><td>\$265</td></tr> <tr> <td>Howard</td><td>Shemp</td><td>4</td><td>48</td><td>\$359</td></tr> <tr> <td>Taylor</td><td>Tom</td><td>2</td><td>22</td><td>\$250</td></tr> </tbody> </table> <p>Explain the steps involved in connecting and querying the database using a java program.</p>	Name	FName	City	Age	Salary	Smith	John	3	35	\$280	Doe	Jane	1	28	\$325	Brown	Scott	3	41	\$265	Howard	Shemp	4	48	\$359	Taylor	Tom	2	22	\$250	10	2	3
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2b	Differentiate between Multithreading and Multiprocessing. Illustrate any real life example of multithreading.	10	2	3																														
3a	<p>A. State the advantage of Servlet over CGI,</p> <p>B. Discuss the set of essential methods required for any basic servlet program.</p>	4 6	3	2																														
3b	Discuss in detail the directory structure that must be followed to create the servlet. What is the role of deployment descriptor along with all its necessary elements? State how to access the servlet.	10	3	3																														
4a	<p>Illustrate the process of execution of a JSP. Describe error handling in JSP with an application.</p> <p style="text-align: center;">OR</p> <p>Discuss in detail the architecture of Hibernate.</p>	10	4	2																														
4b	Assume you are designing a web application to manage the information of students enrolled for different courses in your organization. There are three classes which are essential parts of the design: Student, Employee, Department, every student or an employee belongs to a specific department. There are several changes happening in the department every day so clients want these classes to be loosely coupled. Propose which framework you will use to provide loose coupling and different methods to implement the loose coupling within the classes. Mention the steps involved in creating the above application.	10	4	4																														
5	Design a dynamic web application similar to twitter using servlet and JSP designing concepts, use any framework of your choice.	20	3	3																														