



In-Semester Examination - II (Autumn '2022)
IT618 Enterprise Computing

A

Student ID: _____

Name: _____

SOLUTION

Max Points: 70

Time: 60 minutes

IMPORTANT NOTE:

1. There are 6 pages in the question paper, make sure that you have received them all!
2. For all multiple choice questions correct option carries 2 marks whereas wrong answer carries ~~0.5~~ mark.
3. Write your IDs on every sheet.
4. **Answers that are difficult to read shall simply be ignored.**

1. Check most correct option in following questions

i. Which of following is NOT an advantage of multi-tier application -

- ☒ A. Efficiency
- B. Code reusability
- C. Scalability
- D. Availability

ii. Which tier component Servlet object is?

- A. Client Component
- ☒ B. Presentation Tier component
- C. Business layer component
- D. Can be used at any tier

iii. Assuming that Customer Service is a business tier component.
What three-layer factoring violation do you see in following service component

```
public class CustomerService {  
  
    public void saveCustomer(HttpServletRequest request) {  
  
    }  
  
}
```

- A. We cannot determine unless complete implementation is known
- ☒ B. Business component having dependency on Presentation Tier component
- C. No there is no such violation
- D. Presentation Tier component having dependency on business tier

iv. Which tier component Hashmap is-

- A. Client Component
- B. Presentation Tier component
- C. Business layer component
- ☒ D. Can be used at any tier

- v. What is correct about "Dependency Inversion Principle"
- A. It lets us reduce the dependencies
 - B. It is implemented through Polymorphism
 - C. It moves dependencies to "parent class"
 - ☒ D. All above are correct statements
- vi. Which of following is NOT correct about JDBC driver-
- A. You require JDBC Driver for running a program that requires communicating to a RDBMS.
 - ☒ B. You need JDBC Driver at Compile Time
 - C. A JDBC driver is specific to a DBMS
 - D. A JDBC program is not specific to a DBMS
- vii. The file "persistence.xml" is used for
- A. Defining JPA dependencies
 - B. Defining JNDI resources
 - ☒ C. Defining persistence unit
 - D. Defining application flow
- viii. Which of following component is NOT part of JDBC API -
- A. "java.sql.DriverManager"
 - B. "java.sql.Driver"
 - ☒ C. "org.postgresql.Driver"
 - D. "javax.sql.DataSource"
- ix. Which of following is NOT method of entity manager -
- A. persist
 - B. remove
 - ☒ C. insert
 - D. refresh
- x. Data Access Object
- ☒ A. is a strategy
 - B. is an interface in Java Persistence API
 - C. is a JPA component
 - D. is a Hibernate component
- xi. Which of following Annotations is mandatory for a JPA entity -
- A. @Column
 - ☒ B. @Id
 - C. @Table
 - D. @PrimaryKey
- xii. Which of following annotation is NOT related to Relationship Mapping -
- A. @ManyToOne
 - ☒ B. @Column
 - C. @JoinColumn
 - D. @JoinTable
- xiii. Use of @JoinColumn is to
- ☒ A. Define Foreign Key relationship
 - B. Define Many to One relationship
 - C. Define All relationship
 - D. None of above



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- xiv. Recall scenario of one of the Labs, "visitor tracking application for a residential society". Is creating two separate classes "Visitor" and "House" is a correct solution?
- ☒ A. Yes, because these are two different concepts
 - B. No, creating two classes is incorrect, they represent single concept of visitor
 - C. Does not really matter, whether we create two classes, or create a single class combining functionalities of both classes
- xv. Which of following is NOT correct about Dynamic query-
- ☒ A. Faster to execute
 - B. Helps in avoiding SQL injection
 - C. It is a query, where some part of the query becomes known at run-time
 - D. Can be executed through prepared statement
- xvi. What is return type of a JPQL query
- A. A List of Rows
 - B. A List of Entity Objects
 - ☒ C. A List of Objects
 - D. All of above are correct
- xvii. Which of the servlet object that does not provide `setAttribute`
- A. Request object
 - B. HttpSession object
 - ☒ C. Servlet Object
 - D. None of above
- xviii. Which of following is correct about Spring
- A. Supports JPA
 - B. Support MVC
 - C. Provides DAO
 - ☒ D. All above
- xix. Responsibility of "Business Tier Façade" object is
- ☒ A. Act as business tier gateway for presentation tier
 - B. Act as data access layer gateway in business tier
 - C. There is no such object
- xx. "Business Object (BO)" refers to
- A. Any object that works in business tier are business objects
 - ☒ B. Objects that represents data model of the application
 - C. Objects that are in business tier and serve client requests
- xxi. URL Mapping in servlet configuration is
- A. Specifying how URL is to be handled
 - ☒ B. Specifying Servlet class name for a URL
 - C. Specifying what URLs are allowed in a Java Web application
 - D. All of them

- xxii. What is correct about "getInitParameter" method of Servlet object
- A. It returns parameters that are specified through `init` method of servlet and done at servlet load time
 - ☒ B. It returns servlet parameters that are defined as servlet configuration parameters specified
 - C. Both are correct

- xxiii. Which of following is undesirable
- ☒ A. Business Tier Depending on Presentation Tier Components
 - B. Business Tier Depending on Data Access Components
 - C. Presentation Tier depending Business Tier Components
 - D. None of above

2. Suppose a Java Web container currently has 10 requests from 5 different clients for a ServletA. Assuming that this is only servlet currently loaded

[4]

- i. How many instances of ServletA will be there in web container? 1
- ii. How many instances of request object will be there in web container? 10
- iii. How many request processing threads are running? 10
- iv. How many instances of ServletConfig object? 1

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xxiii. Responsibility of "Business Tier Façade" object is

- ☒ A. Act as business tier gateway for presentation tier
- B. Act as data access layer gateway in business tier
- C. There is no such object

2. Suppose a Java Web container currently has 15 requests from 10 different clients for a ServletA. Assuming that this is only servlet currently loaded

[4]

- i. How many instances of ServletA will be there in web container? 1
- ii. How many instances of request object will be there in web container? 15
- iii. How many request processing threads are running? 15
- iv. How many instances of ServletConfig object? 1