



UNIVERSITY OF COLOMBO, SRI LANKA

UNIVERSITY OF COLOMBO SCHOOL OF COMPUTING

DEGREE OF BACHELOR OF INFORMATION TECHNOLOGY (EXTERNAL)

Academic Year 2021 – 2nd Year Examination – Semester 4

IT4206 – Enterprise Application Development
Part 1 - Multiple Choice Question Paper

(ONE HOUR)

Important Instructions :

- The duration of the paper is **1 (one) hour**.
- The medium of instruction and questions is English.
- The paper has **25 questions** and **eight (08) pages**.
- All questions are of the **MCQ** (Multiple Choice Questions) type.
- Answer all questions.
- Each question will have 5 (five) choices with **one or more** correct answers.
- All questions will carry **equal** marks.
- There will be a penalty for incorrect responses to discourage guessing.
- The mark for a question will vary from 0 (*All the incorrect options & no correct options*) to +2 (*All the correct options & no incorrect options*).
- Answers should be marked on the special answer sheet provided.
- Note that questions appear on both sides of the paper.
If a page is not printed, please inform the supervisor immediately.
- Mark the correct choices on the question paper first and then transfer them to the given answer sheet. **Please thoroughly read and follow the instructions provided on the other side of the answer sheet before you shade your correct choices.**
- **Answer sheets would be machine marked.**
- Calculators are **not** allowed.
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- 1) Which of the following statements is/are accurate regarding Component-Based Development (CBD)?
 - a. Components can be commercial off the shelf (COTS) software.
 - b. Components are an architectural method of separating concerns.
 - c. CBD is generally considered a costly software construction method.
 - d. CBD is done within the middleware infrastructure.
 - e. Spaghetti code is a by-product of CBD.

- 2) Which of the following statements is/are **inaccurate** regarding god classes?
 - a. They create a tight coupling between software components.
 - b. They make it difficult to maintain the software.
 - c. They are a result of adhering to separation of concerns.
 - d. They are objects that know too much.
 - e. They are objects that do too much.

- 3) Getting the data and invocations from one point in the software to another is called _____.
 - a. An aspect
 - b. Business logic
 - c. Cross-cutting concerns
 - d. Plumbing
 - e. Remote method invocation (RMI)

- 4) Which of the following statements are accurate regarding Enterprise Java Beans (EJB)?
 - a. Bean are snippets of programs that can function as a single program on its own.
 - b. They enable the developers to customize and configure reusable components at deployment without source code modifications.
 - c. They enable a programmer centric view where the software developer can focus on core business logic rather than other underlying cross-cutting concerns.
 - d. They are not portable and need rebuilding for each new EJB server deployment.
 - e. They enable the assembly and reassembly of software components into various applications.

- 5) Which of the following is/are accurate regarding Remote Method Invocation (RMI)?
- a. Both the stub and skeleton can reside in the same JVM.
 - b. RMI can only pass primitive data types as parameters and accept such types as return values.
 - c. RMI makes it simpler to write remote Java servers and Java clients that communicate with such servers.
 - d. The client helper in a JVM is called the skeleton.
 - e. The server helper in a JVM is called the stub.
- 6) What is the command line directive to run the RMI registry in the Windows environment? (. .> indicates the command prompt)
- a. ..> run RMIREgister
 - b. ..> RMIREgister
 - c. ..> start RMIREgister
 - d. ..> start register
 - e. ..> start RMIREgistry
- 7) What are the layers associated with the RMI architecture?
- a. Datalink Layer
 - b. Network Layer
 - c. Remote Reference Layer
 - d. Skeleton and Stub Layer
 - e. Transport Layer
- 8) Which of the following statements are accurate regarding the Naming class's `bind()` and `rebind()` methods?
- a. An `AlreadyBoundException` can occur with the `bind()` method and not the `rebind()` method.
 - b. The `bind()` method is responsible for binding a given name to a remote server.
 - c. The `bind()` method is responsible for binding a given name to a remote variable.
 - d. The `Rebind()` method is responsible for rebinding the given name to a new remote object.
 - e. The `Rebind()` method replaces an already existing binding for a given name.

- 9) What is/are the fundamental principle(s) of the Remote Method Invocation (RMI) architecture?
- a. All communication happens through the stub and skeleton layer.
 - b. Everything marshalled has to be unmarshalled.
 - c. The behaviour and implementation of that behaviour are separate concepts.
 - d. The behaviour and the implementation of the behaviour are tightly coupled.
 - e. The behaviour and implementation should run on the same Java Virtual Machine (JVM).
- 10) Which of the following statements about containers in an application server is/are true?
- a. Application components can declaratively configure security in XML deployment descriptors or code-level annotations.
 - b. A web container can deploy EJB, JMS, and JPA components.
 - c. The containers can only read XML deployment descriptors in deployments. Code-level annotations are not supported.
 - d. The EJB container must be executed separately, outside of the application server, as it only supports running the web container inside it.
 - e. There must only be one container in an application server. Multiple containers within a single application server are not allowed.
- 11) Which of the following is/are J2EE modules?
- a. EJB, Web, Applet and Resource adapter
 - b. EJB, Web, Applet and Java servlet
 - c. EJB, Web, Application client and Applet
 - d. EJB, Web, Application client and Java servlet
 - e. EJB, Web, Application client and Resource adapter
- 12) Which of the following is/are true about Java beans?
- a. It extends java.io.Serializable class
 - b. It implements java.io.Serializable interface
 - c. It provides getter methods for its properties
 - d. It provides no-argument constructor
 - e. It provides setter methods for its properties

- 13) The directory structure of a web application may not contain
- a. a deployment descriptor.
 - b. link libraries.
 - c. JSP pages
 - d. tag libraries.
 - e. static content.
- 14) Which of the following statements is/are **inaccurate** regarding the deployment directory structure of a JavaEE application?
- a. Application context should have the WEB-INF immediately under it.
 - b. Classes directory and the WEB-INF are at the same level.
 - c. JAR file should be immediately inside the lib directory.
 - d. JAR should have the META-INF immediately under it.
 - e. Package structure for classes must be immediately inside the classes directory.
- 15) Which of the following is/are associated with the web tier of a classical web-based JavaEE application?
- a. Data Access Objects
 - b. Lightweight Directory Access Protocol
 - c. Plain Old Java Objects
 - d. Representational State Transfer
 - e. Simple Object Access Protocol
- 16) Which of the following is/are **not** servers implementing the JEE specification?
- a. Apache Tomcat Server
 - b. Glassfish Server
 - c. Internet Information Services Server
 - d. JBoss Server
 - e. Wildfly Server

- 17) Which of the following statements is/are accurate regarding the EJB architecture?
- a. A mobile application can be a client.
 - b. A servlet can be a client.
 - c. Another enterprise bean can be a client.
 - d. The enterprise bean intercepts client communication.
 - e. Business logic lives in the enterprise java beans.
- 18) Which of the following statements is/are accurate regarding the `include` method in servlets?
- a. Control remains with the calling servlet.
 - b. Forwards a request from a servlet to another resource.
 - c. Transfers control to the calling servlet.
 - d. Useful when loading contents of a resource.
 - e. Useful when loading static content from the calling servlet.
- 19) Which of the following statements is/are accurate regarding the Hypertext Transfer Protocol (HTTP)?
- a. An HTTP client will connect to the server, send the request, and wait for a response from the server.
 - b. A HEAD HTTP method works much like the post method but only submits the header information.
 - c. HTTP is a stateless protocol.
 - d. An HTTP request consists of an HTTP method, the URL and the form parameters.
 - e. The status code 3xx in the HTTP response represents a redirection
- 20) Which life cycle event(s) of WebSockets is/are responsible for notifying the connection to the other end is established?
- a. Close event
 - b. Destroy event
 - c. Error event
 - d. Message event
 - e. Open event

- 21) What type of JavaBean is/are instantiated once per application and exists for the lifecycle of the application?
- a. Entity Beans
 - b. Error driven beans
 - c. Message-driven beans
 - d. Singleton session beans
 - e. Session beans
- 22) What is/are the WebSocket annotation(s) used to annotate the function to call when establishing a new connection?
- a. @OnMessage
 - b. @OnOpen
 - c. @OnError
 - d. @OnClose
 - e. @OnDestroy
- 23) What is/are the state(s) of the stateful session bean which is/are available in the stateless session bean?
- a. Does not exist
 - b. Destroy
 - c. Open
 - d. Passive
 - e. Ready
- 24) What is/are the annotation used in a stateful session bean to invoke just after activating it?
- a. @PostPassivate
 - b. @PrePassivate
 - c. @PreDestroy
 - d. @PostActivate
 - e. @Remove

25) What is/are the general-purpose methods contained in the `javax.servlet`?

- a. `destroy()`
- b. `getServletConfig()`
- c. `getServletInfo()`
- d. `init(...)`
- e. `service(... , ...)`
