



Name: _____ Course/Year/Section: _____ Date: _____

I. Multiple Choice (30 points)

Choose and **ENCIRCLE** the letter of the correct answer.

1. Which phase is the first in the Software Development Life Cycle (SDLC)?
A. Design B. Implementation C. Requirement Analysis D. Testing

2. Agile methodology emphasizes:
A. Waterfall structure B. Sequential tasking
C. Iterative development D. Hardware dependency

3. What does DevOps focus on?
A. Game development B. Manual deployment
C. Integration between development and operations D. None of the above

4. Which of the following is a frontend framework?
A. Node.js B. React C. MySQL D. PHP

5. Which language is primarily used in backend development?
A. HTML B. CSS C. Java D. Bootstrap

6. Which of these is a NoSQL database?
A. MySQL B. PostgreSQL C. MongoDB D. SQLite

7. Which technology is commonly used for cross-platform mobile development?
A. React Native B. HTML C. PHP D. Bootstrap

8. Which of the following is an Agile framework?
A. Scrum B. Waterfall C. V-Model D. Spiral

9. What is the key characteristic of microservices?
A. Single codebase B. Tightly coupled
C. Independent deployment D. Monolithic architecture

10. What does CI/CD stand for?
A. Code Inspection/Code Delivery B. Continuous Integration/Continuous Deployment
C. Control Integration/Component Development D. None of the above

11. Which technology is used to create RESTful APIs?
A. HTML B. CSS C. Node.js D. XML

12. Which one is a version control system?
A. Git B. Jenkins C. Docker D. Kubernetes

13. What does IoT stand for?
A. Internet of Transactions B. Integration of Technology
C. Internet of Things D. Information of Technology

14. Which of the following is a cloud computing model?
A. SaaS B. CaaT C. Daad D. Haat
15. Which language is typically used in frontend development?
A. PHP B. Python C. JavaScript D. SQL
16. Which is a popular containerization tool?
A. Kubernetes B. Docker C. GitHub D. Bitbucket
17. Flutter is primarily based on which programming language?
A. Java B. Dart C. Swift D. Kotlin
18. What is a benefit of using cloud computing?
A. Manual scaling B. Limited access
C. On-demand resources D. No internet needed
19. Which protocol is commonly used in REST APIs?
A. FTP B. SMTP C. HTTP D. TCP
20. What is the purpose of Jenkins in DevOps?
A. Code Editor B. Continuous Integration C. Database D. Testing Library
21. Which of the following best describes an emerging technology?
A. Obsolete system B. Already outdated
C. Recently developed with potential D. Only used in hardware
22. Which platform is known for serverless computing?
A. AWS Lambda B. MySQL C. Apache D. Windows Server
23. What is React Native used for?
A. Database queries B. Native mobile apps
C. Backend scripting D. Server management
24. Which of the following is a PaaS provider?
A. Google App Engine B. Arduino C. Linux D. React
25. Which of the following is not a benefit of Agile?
A. Customer involvement B. Early delivery C. Rigid planning D. Responding to change
26. AI stands for:
A. Artificial Interaction B. Artificial Intelligence
C. Application Interface D. Adaptive Integration
27. Which JavaScript runtime is used for server-side scripting?
A. Bootstrap B. React C. Node.js D. Angular
28. Which software process model follows a linear sequential flow?
A. Agile B. Waterfall C. Scrum D. DevOps
29. Which of the following is a backend framework?
A. Laravel B. React C. Vue.js D. Bootstrap
30. Which architecture is best for large, scalable applications?
A. Monolithic B. Layered C. Microservices D. Pipe and filter

II. True or False (20 points)

Write TRUE if the statement is correct and FALSE if it is not.

1. SDLC includes phases like design, testing, and deployment.
2. DevOps separates development and operations tasks.
3. HTML is a backend scripting language.
4. Flutter is used for iOS development only.
5. Microservices architecture is monolithic in nature.
6. Git is a version control system.
7. Node.js runs in the browser.
8. Cloud computing allows for scalable resources.
9. React Native supports Android development.
10. Waterfall allows for iterative releases.
11. CI/CD automates the software release process.
12. PHP is primarily a frontend language.
13. Kubernetes is used for container orchestration.
14. SQL is a programming language.
15. PaaS stands for Platform as a Service.
16. IoT devices operate without internet connectivity.
17. Agile encourages customer collaboration.
18. Dart is used in React Native.
19. Scrum is an Agile framework.
20. AI stands for Adaptive Interface.

III. Enumeration (20 points)

Provide the correct items as required.

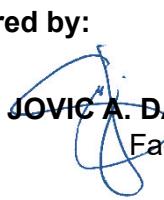
1. Enumerate the 5 phases of the Software Development Life Cycle (SDLC).
2. List 4 common Agile frameworks.
3. Enumerate any 4 emerging technologies discussed in application development.
4. List 5 benefits of DevOps in application development.
5. Give 3 examples of cloud service models.

IV. Essay (3 items x 10 points each)

Answer the following questions comprehensively.

1. Explain the advantages and disadvantages of using microservices architecture in software development.
2. Discuss how DevOps enhances the software development and delivery lifecycle. Provide concrete examples.
3. Describe how cloud computing has changed the way applications are developed, deployed, and maintained.

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