1. Which of the following is an example of a **Platform as a Service (PaaS)** offering?
   a) Microsoft Azure
   b) Amazon EC2
   c) Google App Engine
   d) Dropbox
   e) Salesforce CRM

ANSWER – c) Google App Engine

2. In cloud computing, what does the term scalability refer to?

   a) The ability to handle increasing workloads by adding resources
   b) The security measures implemented by the cloud provider
   c) The method used to migrate data to the cloud
   d) The cost structure of cloud services
   e) The process of encrypting cloud data

ANSWER – a) The ability to handle increasing workloads by adding resources

3. Which cloud model provides computing resources such as storage, networks, and virtual machines on-demand?

   a) Software as a Service (SaaS)
   b) b) Platform as a Service (PaaS)
   c) Infrastructure as a Service (IaaS)
   d) Storage as a Service (StaaS)
   e) Database as a Service (DBaaS)

ANSWER - c) Infrastructure as a Service (IaaS)

4. In **multi-cloud** environments, what is a **key benefit**?

   a) Vendor lock-in
   b) Increased reliance on a single cloud provider
   c) Redundancy and flexibility across multiple cloud providers
   d) Reduced security
   e) Lack of support for distributed systems

ANSWER - c) Redundancy and flexibility across multiple cloud providers

5. Which of the following is **NOT a deployment model** in cloud computing?

   a) Public Cloud
   b) Hybrid Cloud

c)   Community Cloud
d)   Distributed Cloud
e)   Private Cloud

ANSWER - d) Distributed Cloud

6. Which consensus algorithm is most commonly used in **Bitcoin's blockchain**?

a)   Proof of Stake (PoS)
b)   Proof of Authority (PoA)
c)   Practical Byzantine Fault Tolerance (PBFT)
d)   Proof of Work (PoW)
e)   Delegated Proof of Stake (DPoS)

ANSWER - d) Proof of Work (PoW)

7. In **blockchain technology**, what is a **smart contract**?

a)   A legal agreement between two companies
b)   A contract that can only be enforced by the government
c)   A self-executing contract with the terms written into code
d)   A traditional contract executed using AI
e)   A physical contract stored on the blockchain

ANSWER - c) A self-executing contract with the terms written into code

8. What is the main purpose of **hashing** in blockchain?

a)   Encrypting the entire blockchain
b)   Validating and securing transactions by converting input data into a fixed-size string
c)   Connecting two separate blockchains
d)   Generating cryptocurrency tokens
e)   Executing smart contracts

ANSWER - b) Validating and securing transactions by converting input data into a fixed-size string

9. Which feature of blockchain ensures that once data is recorded, it cannot be altered?

a)   Consensus
b)   Decentralization
c)   Transparency
d)   Immutability
e)   Scalability

ANSWER - d) Immutability

10. What does a **block** in blockchain technology primarily consist of?

    a)   Cryptocurrency tokens
    b)   A list of files and videos
    c)   A batch of verified transactions
    d)   Source code for decentralized applications
    e)   Virtual machines

ANSWER - c) A batch of verified transactions

11. The **Agile Manifesto** prioritizes **customer collaboration** over:

    a)   Following a plan
    b)   Contract negotiation
    c)   Comprehensive documentation
    d)   Predictive modeling
    e)   Static project timelines

ANSWER - b) Contract negotiation

12. In **Scrum**, who is responsible for maximizing the value of the product and managing the product backlog?

    a)   Scrum Master
    b)   Product Owner
    c)   Development Team
    d)   Stakeholder
    e)   Project Manager

ANSWER - b) Product Owner

13. A key component of **Agile methodology** is the use of **sprints**. What is the typical duration of a sprint?

    a)   1 week
    b)   4 weeks
    c)   2-4 weeks
    d)   1 month
    e)   6 months

ANSWER - c) 2-4 weeks

14. In Agile, which ceremony is conducted at the end of a sprint to reflect on the process and identify improvements?

a) Sprint Planning
b) Daily Scrum
c) Sprint Review
d) Sprint Retrospective
e) Backlog Grooming

ANSWER - d) Sprint Retrospective

15. Which framework is based on the **Agile** methodology and emphasizes the flexibility and speed of the development process?

a) PRINCE2
b) Waterfall
c) Kanban
d) Scrum
e) Lean Six Sigma

ANSWER - d) Scrum

16. The **Triple Constraint** in project management is composed of:

a) Scope, Time, and Risk
b) Time, Cost, and Scope
c) Resources, Schedule, and Budget
d) Scope, Communication, and Cost
e) Risk, Quality, and Resources

ANSWER - b) Time, Cost, and Scope

17. Which **project management methodology** is focused on **delivering the project in phases** and allows for revisiting and revising previous stages?

a) Agile
b) Waterfall
c) Lean
d) Six Sigma
e) PRINCE2

ANSWER - b) Waterfall

18. Critical Path Method (CPM) is used to:

a) Identify high-risk activities
b) Plan and schedule the activities in a project
c) Determine the fastest way to complete a project
d) Increase the project cost

e) Track project expenditures

ANSWER - b) Plan and schedule the activities in a project

19. In project management, what does the term **scope creep** refer to?

a) Failure to manage resources efficiently
b) Gradual changes or uncontrolled expansion in a project's scope without corresponding adjustments to time, cost, and resources
c) Using unapproved project tools
d) Exceeding project deadlines
e) Delaying the project due to scope changes

ANSWER - b) Gradual changes or uncontrolled expansion in a project's scope without corresponding adjustments to time, cost, and resources

20. The **PMBOK** guide is a set of standard guidelines in project management. What does **PMBOK** stand for?

a) Project Management Book of Knowledge
b) Professional Manual for Business Operations Knowledge
c) Project Management Body of Knowledge
d) Process Management Blueprint of Knowledge
e) Program Management Book of Knowledge

ANSWER - c) Project Management Body of Knowledge

21. In the context of **IoT**, which technology is most often used for **short-range communication** between devices?

a) LTE
b) Wi-Fi
c) NFC
d) Satellite
e) Fiber optics

ANSWER - b) Wi-Fi

22. What is a major challenge related to the widespread adoption of **IoT** technology?

a) Lack of public interest
b) Device interoperability and security issues
c) Excessive battery life
d) High availability of hardware
e) The reduced cost of sensors

ANSWER - b) Device interoperability and security issues

23. In an **IoT ecosystem**, the primary role of **edge computing** is to:

    a) Centralize all computing tasks
    b) Reduce the need for cloud storage
    c) Process data closer to the devices to reduce latency and bandwidth usage
    d) Increase the range of communication between devices
    e) Enhance the graphical interface of applications

ANSWER - c) Process data closer to the devices to reduce latency and bandwidth usage

24. Which **protocol** is commonly used for lightweight machine-to-machine (M2M) communication in **IoT** devices?

    a) HTTP
    b) FTP
    c) MQTT
    d) SMTP
    e) POP3

ANSWER - c) MQTT

25. In **smart cities**, IoT technology is commonly used for:

    a) Water conservation and sustainable farming
    b) Personal data collection
    c) Surveillance only
    d) Efficient management of resources such as energy, waste, and traffic
    e) Space exploration

ANSWER - d) Efficient management of resources such as energy, waste, and traffic

26. In **Agile**, the term **velocity** refers to:

    a) The time taken to deploy a project
    b) The number of features delivered per sprint
    c) The rate at which a project team completes tasks over time
    d) The speed at which a product is tested
    e) The backlog size

ANSWER - c) The rate at which a project team completes tasks over time

27. Which of the following technologies is closely related to the concept of **serverless computing**?

a)   Containers
b)   Microservices
c)   Virtual Machines
d)   Functions-as-a-Service (FaaS)
e)   Blockchains

ANSWER - d) Functions-as-a-Service (FaaS)

28. Which of the following best describes a **hybrid cloud**?

a)   A cloud environment where public and private cloud systems work together seamlessly
b)   A public cloud deployment with third-party hosting
c)   A single cloud service provider environment
d)   A cloud model optimized for personal data storage
e)   A database system spread across multiple regions

ANSWER - a) A cloud environment where public and private cloud systems work together seamlessly

29. Which of the following is a primary **advantage** of using **blockchain** in **supply chain management**?

a)   Reduced overhead costs
b)   Improved transparency and traceability of transactions
c)   Increased labor efficiency
d)   Faster transaction speeds
e)   Lower cloud storage costs

ANSWER - b) Improved transparency and traceability of transactions

30. Kanban is primarily used to:

a)   Track the project budget
b)   Manage the flow of tasks through visual boards and limit work-in-progress
c)   Create risk management strategies
d)   Optimize database queries
e)   Build DevOps pipelines

ANSWER - b) Manage the flow of tasks through visual boards and limit work-in-progress