Part 1 – Short Answer Questions

Q1. Define *Software Process*.
Q2. List the four main activities in all software processes.
Q3. Differentiate between *plan-driven* and *agile* development.
Q4. What is *incremental development* and why is it useful?
Q5. Mention two disadvantages of the Waterfall model.
Q6. Write the four values of the Agile Manifesto.
Q7. List three principles of agile methods.
Q8. What are the three main roles in Scrum?
Q9. State the purpose of the *Sprint Review* and the *Sprint Retrospective*.
Q10. What is a *Product Backlog*?

① A set of related activities involved in producing a software system including specifications, design and implementation, validation, evolution.

② 1- Software Specification   2- Software design and implementation
3- Software validation.   4- Software evolution.

③ Plan driven ,   Agile
① everything planned in advance   ① Plans are flexible and updated as needed
② heavy documentation   ② light documentation
③ little customer interaction   ③ Continuous customer involvement.
④ Suitable for stable req.   ④ Suitable for changing req.

④ It builds the system in small usable parts
↙Benifits : early delivery , easier testing , faster feedback , flexibility to change

⑤ 1- hard to handle changing requirements
2- late delivery of working software → Feedback comes very late.

⑥ 1- Indivuals and interactions over processes and tools

2- Working Software over Comprehensive documentation.

3- Customer Collaboration over Contract negotiation

4- Responding to change over following a Plan

⑦ 1- Customer involvement throughout the Project

2- Incremental delivery of working Software

3- Embrace change and maintain Simplicity

⑧ 1- Product Owner: Manages Backlog and Priorities

2- Scrum Master: Facilities Process and remove blockers

3- Development team: Self-organizing, delivers the product increment

⑨ * Sprint Review: Demonstrate product , Collect feedback

* Retrospective : Reflect on the process , Plan improvements

⑩ A prioritized list of all Product features, enhancements, fixes

⤷ Maintained by the Product Owner.

💡 **Part 2 – Problem-Solving / Scenario Questions**

Q11.
A team is developing an online food delivery system using Scrum. During a sprint, one developer faces a delay because of a database issue.

- What Scrum event can help the team identify this problem early?

- Who is responsible for removing such obstacles?

① Daily Scrum ⟶ 15 Min. Meeting
② Scrum Master

Q12.

A software company is using the MoSCoW method to prioritize features of a mobile banking app.

Classify the following items as **Must**, **Should**, **Could**, or **Won't Have**:

a) Login with two-factor authentication → Must have

b) Change app theme color → Could have

c) Transaction history export to Excel → Should have

d) Cryptocurrency payment option → won't have (for now)

Q13.

The Product Owner notices customers are confused by the app's interface. How can *prototyping* and *incremental delivery* help solve this issue?

* Prototype can be built to test and improve the user interface early

* Incremental delivery allows small updates to improve usability based on user feedback each Sprint

Q14.

Explain how the *INVEST* principle ensures high-quality user stories in Agile development. Write a short example story that follows this rule.

I — N — V — E — S — T

Independent — Negotiable — Valuable — estimable — Small — Testable

↳ No dependency — ↳ Can be discussed — ↳ Benefits Student — ↳ Can be Sized — ↳ fits in 1 Sprint — ↳ has clear Criteria

Q15.

In a Scrum project, the Product Owner keeps changing priorities during the sprint, which frustrates the team.

- According to Scrum rules, what should happen when requirements change mid-sprint?

- What's the correct way to handle such changes?

* Sprint Scope must not change once it Starts

* Scrum Master Should remind everyone to respect the time box and Sprint Goal

Q16.

A company is switching from Waterfall to Agile. List three challenges they might face and how Scrum practices can help overcome them.

1. Resistance to Self organization: Scrum Master trains and guides the team.

2. lack of Customer Collaboration: Scrum introduces regular reviews

1. (illegible) ... Self organization ... Scrum ... team ...

2. lack of Customer Collaboration: Scrum introduces regular reviews

3. Difficulty adopting to change: Agile uses Short Sprint for flexibility

⭕ Part 3 – Multiple Choice Questions (MCQs)

Q17.

Which of the following is *not* a core activity in software processes?

A. Specification

B. Validation

C. Implementation

D. Marketing *(circled)*

Not part of Software process

Q18.

The Agile Manifesto values _____ more than comprehensive documentation.

A. Processes and tools

B. Working software *(circled)*

C. Contract negotiation

D. Following a plan

Agile values working Software over documentation

Q19.

In Scrum, who is responsible for managing the Product Backlog?

A. Scrum Master

B. Product Owner *(circled)*

C. Development Team

D. Project Manager

Owns and prioritizes the backlog

Q20.

The main goal of *Daily Scrum* is to:

A. Review the product increment

B. Plan for the next release

C. Synchronize team progress and identify blockers *(circled)*

D. Update the Product Backlog

Main goal of daily Scrum

Q21.

Which of the following is a *benefit* of incremental development?

A. High cost

B. Easy to adapt to changes

C. Long delivery time

D. Late customer feedback

Q22.

In the MoSCoW prioritization method, "Could Have" means:

A. Essential for system functionality

B. Can be implemented later if time allows

C. Must be included in the current sprint

D. Should be rejected permanently

Q23.

Which of the following principles is *not* part of Agile development?

A. Customer collaboration

B. Responding to change

C. Following a strict plan

D. Working software

Q24.

Which of the following is the best example of a user story?

A. The developer should write unit tests.

B. As a user, I want to reset my password so that I can regain access to my account.

C. The system must store data in SQL Server.

D. Create a login page.

Q25.

Who ensures Scrum principles are followed and helps remove obstacles?

A. Scrum Master

B. Product Owner

C. Team Leader

D. Project Sponsor

ensures process , Remove Blockers

Q26.

The *Sprint Retrospective* focuses mainly on:

A. Reviewing progress with customers

B. Planning backlog items for next sprint

C. Reflecting on the process and improving teamwork

D. Presenting the product increment