**There are four videos listed on these pages. Watch the videos and answer the questions in this document. Submit answers by e-mail by Monday.**

**What is the Software Development Lifecycle?**

<https://www.youtube.com/watch?v=6h5j6cfv2m4>

1.)

Provide a basic definition of the Software Development Lifecycle.

**The Software Development Lifecycle is a list of steps that are taken by software development teams to produce working software.**

2.)

Put the steps below in the appropriate order:

* Design **(3)**
* Feasibility Study **(1)**
* Operate **(7)**
* Code **(4)**
* Deploy **(6)**
* Test **(5)**
* Requirements Analysis **(2)**

3.)

What is the “Buy vs. Build” scenario?

**The “Buy vs. Build” scenario is described as determining if there is already software available on the market that can be purchased (and possibly modified) instead of developing a custom product.**

4.)

What three resources does the feasibility study use to determine if the software project can be completed?

**Time, Budget, and existing staff.**

5.)

Name three elements of the requirements specification:

**Business rules, Security requirements, and Sample reports.**

6.)

Who approves the requirements specification?

**The Customer.**

7.)

What is the difference between logical and physical design?

**Logical design determines the groupings of software components that are necessary to meet basic requirements, while Physical design includes hardware elements that are necessary to host the software properly.**

8.)

What is one way in which programmers can save time during the coding phase of the project?

**Looking for code from previous projects that can be repurposed.**

9.)

What is the advantage of finding problems early in the SDLC?

**In the earlier stages, bugs and problems are cheaper and easier to fix, as the program is more flexible at those stages.**

10.)

What is load testing and why is it important?

**Load testing determines a program’s limits, and is important for finding how well a program will perform during peak demand.**

11.)

How does unit testing differ from integration testing?

**Unit tests test individual units of code, and are usually conducted by developers. Integration testing tests the integration between software modules, and is usually done by testers.**

**Waterfall model definition and example**

<https://www.youtube.com/watch?v=Y_A0E1ToC_I>

12.)

The waterfall model is a project management methodology based on a sequential design process.

**True.**

13.)

The waterfall model is most appropriate for projects that are small in size with requirements that can be defined up front.

**True.**

14.)

The table below shows the steps of the general SDLC process and the Waterfall process. In the center column, fill in the Waterfall step that corresponds to the SDLC. You can use Waterfall steps more than once.

|  |  |  |
| --- | --- | --- |
| **SDLC** | **< ---** | **Waterfall** |
| Feasibility Study | **Requirements** | Requirements |
| Requirements Analysis | **Requirements** | Design |
| Design | **Design** | Implementation |
| Code | **Implementation** | Verification |
| Test | **Verification** | Deployment |
| Deploy | **Deployment** | Maintenance |
| Operate | **Maintenance** |  |
|  |  |  |

15.)

Name two advantages and two disadvantages of the Waterfall methodology:

**Two disadvantages to the waterfall methodology are the fact that one is limited to only one step at a time, and that one has to wait for one step to finish fully before beginning the next. Two advantages are that the steps can be broken down into segments to increase productivity, and that the steps are very clearly labeled and easy to follow, as to avoid confusion on all fronts.**

**What is Agile?**

<https://www.youtube.com/watch?v=Z9QbYZh1YXY>

16.)

Agile is a collection of **Beliefs** that teams can use for **Making Decisions** about how to do the work of

**Developing Software.**

17.)

The table below shows the relative value items from the Agile Manifesto. Match the items on the right to the ones on the left as they are shown in the manifesto.

|  |  |  |
| --- | --- | --- |
| Individuals and interactions | **Processes and Tools** | Comprehensive documentation |
| Working software | **Comprehensive Documentation** | Processes and tools |
| Customer collaboration | **Contract Negotiation** | Following a plan |
| Responding to change | **Following a Plan** | Contract negotiation |

18.)

What is the primary measure of progress in Agile software development?

**Working Software.**

**Intro to Scrum in Under 10 Minutes**

<https://www.youtube.com/watch?v=XU0llRltyFM>

19.)

In the Scrum methodology, what is the name for new product features? Provide an example of a feature from one of your own projects as it would be written under Scrum.

**As a (programmer), I want (to have a simple and easy user-interface), so that (users can quickly and easily navigate my program without assistance).**

20.)

What is the Product Backlog?

**The collection of the user-stories, also described as ‘a wish list of all the things that would make this product great’.**

21.)

Under Scrum, which role determines which features will make it into a software release?

**The role of Product Owner determines which features make it into the product backlog, representing the users and customers of the product.**

22.)

What is the term for a project manager in Scrum?

**The ‘Scrum Master’.**

23.)

What is the purpose of a Sprint and how does it relate to the project as a whole?

**Sprints are short-duration milestones that allow teams to tackle a manageable chunk of the project, and get it to a ship-ready state.**