**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.

: It is basically a process used to produce software and test, analyze, and build your software or applications.

2.)

Put the steps below in the appropriate order:

1. Feasibility Study

2. Requirements analysis

3. Design

4. Code

5. Test

6. Deploy

7. Operate

3.) What is the “Buy vs. Build” scenario?

: You can either buy canned software which is already pre- made, or you can always build your own software. Building your own software is expensive and it is cheaper to buy it, but in the long run is better. You cannot really modify canned software and there is not as much customizing. However, canned software is convenient and is ready to go.

4.)

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

1. Can the project be completed on time?

2. What is the budget for the project?

3. Will the project entail new staff members or not?

5.)

Name three elements of the requirements specification:

: business rules

: security roles

: Sample reports/code

6.)

Who approves the requirements specification?

: The customer must approve the requirements and make sure that everything look okay before on to the next step.

7.)

What is the difference between logical and physical design?

: Logical design is all the components and the code that makes up the algorithm and all the requirements to make it run.

: Physical design is all the hardware and the software that meets the components. Includes the server and network components.

8.)

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

: code reuse, you can use the same code, so you do not have to reiterate the code and keep rewriting it every time.

9.)

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

: If you do not find any issues or potential problems when before you deploy it, it can be very expensive to fix the code or redo any code once it is deployed. Fixing bugs can be pricey as well.

10.)

What is load testing and why is it important?

: Because before you deploy it, you want to load test it in case of any problems or issues. If you deploy it and there are bugs or issues, then it would be hard to fix the bugs and the issues once it is deployed.

11.)

How does unit testing differ from integration testing?

: unit testing is code that is tested in little groups that is tested bit by bit.

: Integration testing is the group of unit or groups of code tested all in one.

**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.

13.)

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

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 | Design | Design |
| Design | Implementation | Implementation |
| Code | Testing | Verification |
| Test | Deployment | Deployment |
| Deploy | Maintenance | Maintenance |
| Operate |  |  |
|  |  |  |

15.)

Name two advantages and two disadvantages of the Waterfall methodology:

Advantages: Easy to understand, Easy to manage, Better cost wise.

Disadvantages: Not flexible, Not good at prolonged projects or applications.

**What is Agile?**

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

16.)

Agile is a collection of values and principles that teams can use for 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?

: Making the best decision to develop and design the most effective 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.

: User stories

20.)

What is the Product Backlog?

Thing of it as a wish list. The user story is all the features and request from the user and the backlog is a collection or a list of all the user stories.

21.)

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

: Release planning, they look at the user stories that they want to include

22.)

What is the term for a project manager in Scrum?

: Scrum Master

23.)

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

: Short milestones, that allow the team to complete the project and look at it in groups.