Assignment-1:

Q1. What are the reasons of a successful and unsuccessful software project?

Answer. The Reasons for the Failure mainly are:

Reason 1: Poor planning

Reason 2: Lack of leadership

Reason 3: Poor communication

Reason 4: Inadequate use of resources

Reason 5: Inability to overcome challenges

Some of the reasons for the success may be attributed to:

1 Defining the project's goals

2 Establish a project team structure

3 Create a project plan

4 Set realistic deadlines

5 Communicate effectively with stakeholders

6 Assembling a solid and experienced project team

Q3. Provide three examples of software projects that would be amenable to the waterfall model. Be specific.

1.An **Operating System**, as the various specific parts of the OS could be developed as the user requires them

2. A **Graphical User Interface**, similar to the OS, the GUI can be created according to the customer's requirements and approval.

3.A **Web Application**, a base application can be developed and delivered, followed by any number of additional plug-ins that the customer would want for additional functionality

Q4.Provide three examples of software projects that would be amenable to the prototyping model. Be specific.

Answer:

1. An e-commerce website, such as shopping site is an example where you can implement the prototyping approach.

2. You can develop the prototype of the various web pages of the shopping site such as catalogue page, product order page etc., and present it to the customer for approval

3. An general use App can be Modelled as prototype and can be shown to stakeholder for further feedback and improvement.

Q5.What process adaptations are required if the prototype will evolve into a delivery system or product?

Answer.

If a prototype is evolved into a delivery system or product, it begins with communication. The software engineer and customer meet and define the overall objectives for the software, identify whatever requirements are known, and outline areas where further definition is mandatory. The prototype serves as a mechanism for identifying software requirements. If a working prototype is built, the developer attempts to make use of existing program fragments or applies tools (e.g., report generators, window managers, etc.) that enable working programs to be generated quickly.

Q6.Provide three examples of software projects that would be amenable to the incremental model. Be specific

Answer.

Each linear sequence produces deliverable "increments" of the software for example, word--processing software developed using the incremental paradigm might deliver basic file management, editing and document production functions in the first increment; more sophisticated editing and document production capabilities in the second increment; spelling and grammar checking in the third increment, and advanced page layout capability in the fourth increment. The process flow for any increment may incorporate the prototyping paradigm. Incremental development is particularly useful when staffing is unavailable for a complete implementation by the business deadline that has been established for the project.

Q7. As you move outward along the spiral process flow, what can you say about the software that is being developed or maintained?
Answer.

As work moves outward on the spiral, the product moves toward a more complete state and the level of abstraction at which work is performed is reduced (i.e., implementation specific work accelerates as we move further from the origin).

Q8.What is a Product & Service based company?

Answer.

1.A company whose main source of income comes from selling products is a Product-Based Company. But, a company which do not have its own product but works for other companies or clients is a service-based company.

2.In a product based company quality is regarded as the king in terms of the scalability of the product. As against, clients are considered as king. This is because these companies want their customers to be completely satisfied with the services, only then they would be retained for the long term.

3.In the case of product-based companies, there is a physical or digital exchange of the product. Whereas, in service-based companies, the client pays for the experience.

4.While in product-based companies, the quality and quantity of the product are the same. As against, the quality and quantity of service are different for different clients.

Q9.What is a Process framework & framework activities ?

Answer.

Software Process Framework is an abstraction of the software development process. It details the steps and chronological order of a process. Since it serves as a foundation for them, it is utilized in most applications. Task sets, umbrella activities, and process framework activities all define the characteristics of the software development process.

The process framework is required for representing common process activities. Five framework activities are described in a process framework for software engineering. Communication, planning, modeling, construction, and deployment are all examples of framework activities. Each engineering action defined by a framework activity

comprises a list of needed work outputs, project milestones, and software quality assurance (SQA) points.

Q10.What are principles of software engineering?
Answer.

1. KISS (Keep It Simple, Stupid)
2. DRY (Don’t Repeat Yourself)
3. YAGNI (You Aren’t Gonna Need It)
4. BDUF (Big Design Upfront)
5. SOLID :

S – SRP (Single Responsibility Principle)

O – OCP (Open Closed Principle)

L – LSP (Liskov Substitution Principle)

I – ISP (Interface Segregation Principle)

D – DIP (Dependency Inversion Principle)