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[ANSWER 1]

Software engineering is the process of analyzing user's needs and designing, constructing, and testing end-user application that will satisfy these needs through the use of software engineering / programming language.
It helps you to obtain, economically, software which is relaible and works efficiently on the real machine.

We need software engineering to engineer a software product, you have to study the subject of software engineering. Software engineering is intended to support professional software development, rather than individual programming.

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[Answer 2]

Software developement Life cycle (SDLC) is a process used by software industry to design, develop and test high quality softwares.

The SDLC aims to produce high quality software that meets or exceeds customer expectations, reaches completion within times and cost estimates.

Waterfall model was the first process model to be Introduced. It is also reffered as linear-sequential life cycle model. In waterfall model each phase must be completed before the next phase can begin and there is no overlapping in the phases.

The sequential phases in waterfall model are -

- Requirement gathering and analysis
- System design
- Implementation
- Integration and testing
- Deployment of system
- Maintanence.

Waterfall model Applications :-
- Requirement are very well documented, clear and fixed

- Pur Product defination is stable

- Technology is understood and is not dynamic

- Ample resourses with expertise are available to support the product

- There are no ambiguos requirement.

[ANSWER 3]

Prototype model is a software developement model in which prototype is built, tested and reworked until an acceptable protype is acheived. It also creates base to produce the final system or software. It works best in scenarios where project requirement are not known in detail. It is an iterative, trial and error method which takes place between client and developer.

Advantages of Prototype model :-

• Users are actively involved in developement. Therefore, errors can be detected in the initial stage of software developement Process

• Helps team member to communicate efficitively.

• There will be hardly any chance of software rejection

• Prototype's can be changed even discarded

• Prototypes may offer early training for future users of the software system.

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[ANSWER 4]

A software requirement specification (SRS) is a description of software system to be developed. It lays out functional and non-functional requirement and may include, a set of use casses that describe user interactions, that the softuare must provide.

The important parts of SRS documents are:

• Functtonal requirement: The purposeful requirement part's discuss the functtonalities needed from the system, The system is taken is taken into account to perform a group of high level functtons Fi.

• Non functional requirement: Maintainlibuty of system, movablity of the system, the usability of the system.

• Goal's of implementation: The goals of implementation part documents some general suggestion relating to development. These suggestion guide' trade - off amoung style goals.