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**Subject: Software Engineering**

**1. A short description to explain the meaning of Software Development Life Cycle (SDLC). Do ensure that you include three (3) software development models in your explanation. [5 marks - Individual]**

SDLC is a process for software project which includes the idea of analysing and designing, implementing, testing and deployment of an information system. Requirement engineering is involved in this process as well. These are the different phases of SDLC.

3 software development models are mentioned below.

1. Waterfall Model

A waterfall model is a process in software development which involves the phases starting from requirements, analysis/design, coding, testing to deployment. These phases are seen flowing downwards just like a waterfall.

One advantages of waterfall model is that it is broken down into smaller parts hence having to manage the task easier.

1. Prototyping

A prototype is a drastically scaled down initial version of the target system. There is 2 types of prototyping models. One of them would be Throwaway Prototyping and the other is Evolutionary Prototyping.

* Throwaway Prototyping

A minor part of the development would be produced, allowing end users to try and give evaluation. A full specifications would be written after validating with the client and the prototype will then be discarded. The main system will be developed.

* Evolutionary Prototyping

An initial prototype will be developed and presented to users for feedbacks. The prototype will then be refined and this process is repeated till it reach the final and completed system.

One advantages of prototyping is allowing requirements to be clarified by users.

1. Agile method

Agile is an iterative approach where a software/system is developed incrementally at the start of the project rather than delivering it all at once. Project is broken down into smaller builds and these are provided in iterations. Each build is incremental.