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S-E-Assignment-1.

TE Comp B.

Q1] What is the significance of recognizing software requirements in the software engineering process?

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- (i) As the technology changes, the user requirements and environment in which software is working also changes so every organisation is enabled based on the software engineering principles used by that organisation.
 - (ii) Implementing and managing large size of software programmes requires a specific modularize the tasks so that size of software can't hamper the software quality.
 - (iii) Software engineering provides methodology for implementing complex software systems with high quality.
 - (iv) Extending the previous software to add new functionalities requires more cost in terms of time to develop and efforts taken by people, as compared to the process of developing new software to provide the functionality.

(2) Describe the main characteristics of different process models used in software development.

⇒ (i) Waterfall Model :-

- Sequential and linear approach. Each phase must be completed before moving to the next one.
- Proper well structured, suitable for projects with well-defined requirements, minimal changes and stable scope.

(ii) V - Model :-

- Parallel development and testing approach. Each development phase is followed by a corresponding testing phase.
- Limited adaptability to changing requirements potential for miscommunication between development and testing phases.

(iii) Incremental Model :-

- Similar to iterative models, but the software is built in increments, each delivering specific functionality.
- Requires careful planning to define increments.

(3) How does the capability maturity model contribute to improving software development process?

⇒ (i) The CMM models application in software development has sometimes been problematic applying multiple models that are not integrated within and across an organisation could be costly in training appraisals and improvement activities.

(ii) CMM 1 framework consist of a collection of computer programs based on knowledge, engineering, software engineering, integrated product and process development and provides sourcing.

— CMMI framework has three groups:

1. CMMI for development.
2. CMMI for service.
3. CMMI for acquisition.

(4)

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Perspective Process Model	Evolutionary Process Model
(i) Developed to bring order and structure to the software development process.	(i) Stages consist of growing increments of an operational software product with evolution.
(ii) It can accommodate changing requirements	(ii) Improvement is represented in the product.
(iii) It is more popular.	(iii) It is less popular.
(iv) Waterfall Model and incremental models are a few examples of perspective process model	(iv) Eg: Spiral and prototyping model as well as RAD model.

(5)

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- (i) Waterfall model is the approach used in software development process.
- (ii) It is used to be called as classical life cycle model or linear sequential model.
- (iii) Agile software development describes an approach to software development,

nuclear through the collaboration of hands
of self organizing and self functional
teams and their resources.

(iv) The team will be sub-divided in this
context, by the nature of various
software development.