19/25

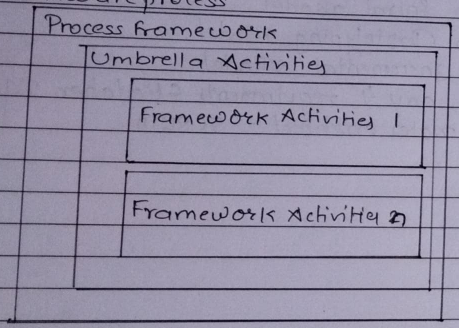
*Answers:-

Q] Explain in brief the Software Process framework.

→

- A software engineering process is the model selected for managing the creation of software from customer initiation to the release of the finished product.

- Software process



- Framework activities include #1
  - Work tasks
  - Work products
  - QA checkpoints
  - Project milestones

- A generic process framework following activities it composes :-

1) Requirement / Information gathering :
   Communication with client to understand project requirements for defining software features and then the document is made called software requirement specification (SRS).

2) Design : like DFD
   Diagrams or Plan to be designed which defines the workflow that is to follow. and is made/considered w.r.t. SRS.doc.. to know what to add/remove.

3) Implementation :
   An longest phase of all phases where code generation is carried out which has a proper developed code or result as per the requirements followed.

4) Testing :
   Developed code is to be tested here in these phase to check whether all the requirement of client are fullfilled or not by software and if has corrected and modified s/w code.

5) Deployment :
   Delievers software to Client and collect feedback from clients based on evaluation software support

6) Maintenance :
   once the s/w is deployed actual problems from user's perspective will come up. and it's team's responsibility to solve users prob. time to time and can add/delete additional features as per users requirements.

- Umbrella Activities Include :-
  1) Software project tracking & control
  2) Risk Management →
  3) Software Quality assurance (SQA) → to ensure btr. qly. of s/w.
  4) Software configuration management (SCM)
  5) Formal technical review (FTR) →

SPTC | SCM
RM | FTR
SQA

Q] Mention any 4 requirement Elicitation Methods.

→ - Requirements Elicitations is the practice of researching & discovering the requirements of systems for users, customers and other stakeholders.
- There are different ways to identify customer reqs

1) Interviews:
Organizath may take var. kinds of interviews as they are imp way for gathering requirements. Support to cover any missing requirements as no. of people participate in this proces

2) Survey:
Collecting req. is economically beneficial bcz it collects reqs. from a large no. of persons at same time. Most useful for capturing clear factual info.

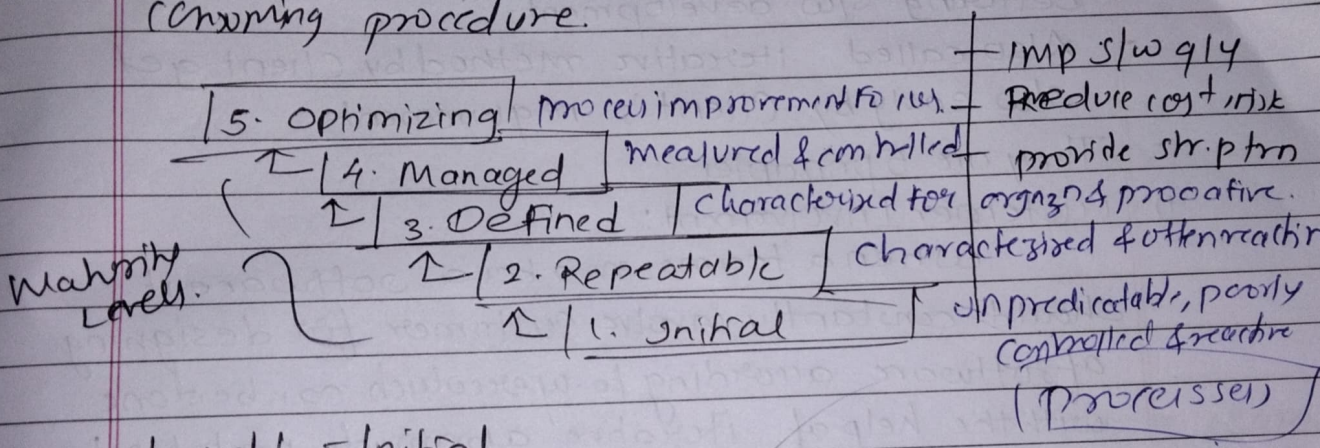
3) Domain Analysis:
Each sdw put into same domain category. The experienced persons in that domain can be a great support to study general and specific reqs.

4) Brainstorming:
An informal debate held betn different stake holders and all their suggestions documented for further reqs. analysis.

Q) "Capability Maturity Model (CMM)"

→

- The CMM invented by Software Engineering Institute (SEI) states a growing sequence of levels of a soft. develment orgnzn.
- CMM is a mechanism used to create and redefine s/w creath procedure of orgnzn.
- Higher the level, better the s/w development proc. so reaching every level is a cost consuming & time consuming procedure.



1) Level 1 - Initial

s/w development process is unpredictable w.r.t. to time & cost. things depend on current staff, if staffs changes, proces changes.

2) Level 2 - Repeatable

Planning & management of new project is based on experience of similar projects.

3) Level 3 - Defined.

Training prog. are implemented so that staff members have skills reqd.

Level 4 - Managed.
process are measured & controlled for user q/y. management.

Level 5 - Optimizing
If there is prblm in s/w then this level 5 approach is to not get the same prblm in future.

Q) Agile Methodology

→
- It values the small changeable increament for bettering s/w development.
- Also called iterative method by Client get s/w early by Client's requirement.
- They are 5 principles

1) Customer Involvement:
when a teams make a software it should constantly involve customer for designing of software according to user which can be done with the help of iterative approach prototype to user.

2) Incremental delievery:
By iterative approach prototype has been given to user for feedback & again a better prototype is made, update will go one by one.

3) People not process:
Software designer can develop these software acc to process & their own logic.

4) Embrace Change:
Change can happen acc. to user & adapt the changes. So it should be flexible.

5) Simplicity:
Allow simplicity to build s/w.

Q] SCRUM

→ • SCRUM

- One of the most popular Agile methodology.
- Scrum is a lightweight, iterative & incremental framework
- Scrum breakdowns the development phase into stages or cycles called "sprints".
- It is used in s/w for managing & controlling s/w development.

• Character.

1. Stakeholder:
person want to build s/w bay to company for making s/w.
2. Product owner:
Task list for s/w what to add/not
3. Scrum Master:
help to convey the task to developer team.
4. Developer team:
Implement the req^r. code to project to build the s/w.
5. Customer:
End (users) the person who uses the s/w.

dicated thereby
Scrum team has scrum master and product
constant communications on the daily basis.
Key words: Backlog, sprint, Daily scrum, scrum master owner.

Advantages:

- Freedom & Adaption
- High quality, low risk product
- Reduce the development time up to 40%.
- Scrum, customer satisfaction is very importa

- Reviewing the current sprint before moving to new one.

Disadvantage:

- More efficient for small team size
- No changes in the sprint.

SCRUM:

1. Stakeholders
2. Product
3. Scrum Master
4. Development Team
5. Customers.

Stakeholder visits a company which makes software as stakeholder gives their demand to the company for a particular software which they want.
A software team is selected for this task. In this team a product owner is there which will create a product Backlog. product owner mentions all the task required for making a software in the Backlog. And these task have a priority ie the task which is having more priority are at the top of the list & the least important at bottom
Scrum Master makes the communication b/w the task of the Backlog to the development team through scrum meetings
In scrum meeting have a software developer, product owner & ~~scrum~~ Scrum master all are present.
These scrum meeting are also known as sprint planning meetings.
In these sprint planning meeting the things which are discussed as considering time to decide which top priority task can be completed from Backlog which is known as sprint Backlog.
A sprint Backlog is consists of current task which the team is currently going to complete.
This meeting will held everyday. It is a stand up meeting duration of 15-20 mins. In this meeting 3 questions are asked ~~to~~ of which are 1. what the team has done b/w the previous meeting ~~until~~ to this meeting. 2. what problems are faced 3. How to complete or solve problem.
Then Development team makes software to the customer & gives feedback. It is a iterative model.

... reqst system
Shym contimads

(4) NFR

system.
fast security, logical, reliable, portability.

Types
(1) Product req.
execution in specific way deliver

(2) Organisan reqr.
policy rules.

(3). Extornd req.
s/w communicate with others/w.