(Q1) a) Mention and discuss the four fundamental activities in software development process:

-) Software is a set of instructions in the form of programs to govern the computer system and to process the hardware components.

The 4 fundamental activities are:

i) Software Specification: In this process, detailed discription of a software to be developed with its functional and non-functional requirements.

ii) Software Development: In this process, Designing, Programming, documenting, testing and bug fixing is done.

iii) Software Valiation: In this process, Evolution of software product is done to ensure that the software meets the business requirements as well the End users need.

iv) Software Evolution: It is a process of developing software initially, then firmely updating it for vourious reasons.

(Q1) b) Describe the key challenges facing software Engineering.

-) Major challenges are:

i) Rapid technology advancements

Every technology advancement is ~~a~~ an hindrance for the IT company But at the same time, technology evolving at a rapid rate leads to an added pressure for software proffessionals to leverage these upcoming technological trends and to stand out in the market.

ii) Time Limitation:

Software Engineering is a time game. Developers work under pressure Environment and strive to complete projects requirements within strict and sorer timelines.

iii) Limited Infrastructure/resources:

Another challenge faced by mejority of software development companies is lack of resources to execute project Efficiently.

iv) Increasing customer demands:

Software projects are generally coneptual and are aimed at designed and developing software products that meet various customer demands. To develop a small scale or a large scale product they have to understand the requirements carefully and implement to satisfy

(v) Conflicts with team members:

In a software development project, interpersonal conflicts occurs inevitably between software development & testing teams several factors contribute to such conflicts like working under high performing pressure, different minsets, difference in job roles & the very opposite nature of development & testing.

Q2) a) Discuss ACM / IEEE code of Eithics and proffessional practises.

-> The proffessional societies in US have cooperated to produce a code of ethical practises.

Ethical principles:

i) PUBLIC: Software Engineers shall act consistently with the public interest.

ii) CLIENT AND EMPLOYEE: Software Engineers shall ensure that their products and related modification meet the highest proffessional standards possible.

iii) PRODUCT: Software Engineers shall act in a manner that is in the best interest of their Client & Employee consistent with the public interest.

iv) JUDGEMENT: Software Engineering managers and leaders shall maintain integrity and independence in their proffessional judgement.

v) MANAGEMENT: Software engineering managers and leaders shall subscribe to and promote and Ethical approach to the management of software development and maintainance.

vi) PROFSSION: Software Engineering ~~M~~ shall advance the integrity and reputation of the proffession consistent with the public interest

vii) COLLEGUES: Software Engineers shall be fair to and supportive of their colleagues.

viii) SELF: Software Engineers shall participate in lifelong learning regarding the practise of their profession & shall promote an Ethical approach to the proffessional.

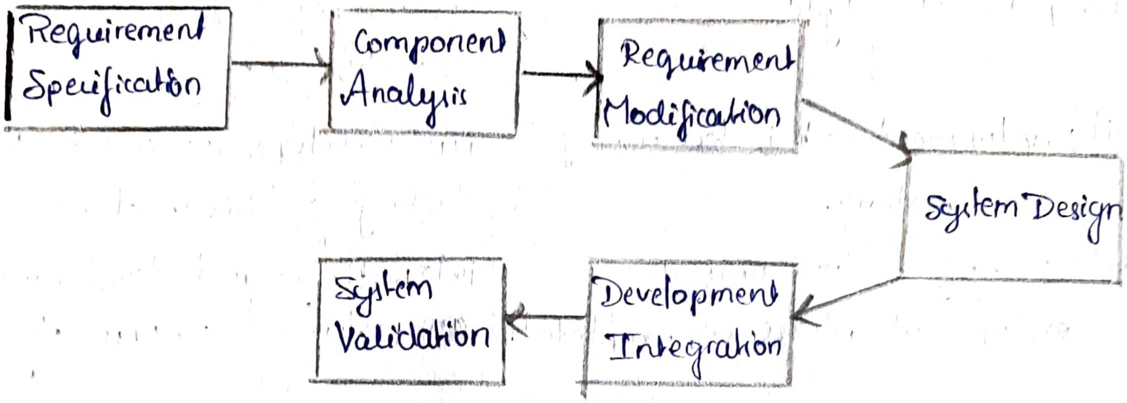
Q2) b) compare the features of the following software development approaches
i) Agile ii) Plan-Driven.

* Integration:

To can we integrate the new systems with existing components.

* System Validation:

To evaluate or validate the system that it can be accepted by the customer or not.



Q5) a) Extreme Programming is one of the most important software development met newer of Agile models. ~~If~~ It is used to improve software ~~development compa~~ Quality and responsiveness to customer requirements.

* Code Review:

It detects and corrects Errors effectively. It suggests pairs programming as coding and reviewing of written code carried out by a pair of programmers who switch their works between them Every hour.

Testing:

Testing code helps to remove errors and improve it reliability. XP suggests test driven development (TDD) to continuaslly write & Execute test cases.

Incremental Development:

As the customer provide their valuable feedback developer keeping in mind come up with new increments every few day after Each iteration.

Simplicity:

It is Easy to test and debug the software that is simple and good quality.

Design:

Good Quality design is important to develop good quality software So, Everybody should design dialy.

It helps to identify bugs at the interfaces of different functionalities.

Plan Driven	Agile Development
i) In plan-driven approach all of the process activities are planned in advance and progress is measured against this plan.	i) In agile process planning is incremental & it is easier to change the process to reflect changing customer requirements.
ii) client involvement is less as compared to Agile.	ii) Client Involvement is high as compared to plan-driven software development.
iii) Development cost is less using this method.	iii) Development cost is high using this method.
iv) Testing is done once the development phase is completed.	iv) Testing and development process are performed concurrently.

(Q3) Describe the stages in Reuse oriented software Engineering.

→ Software reuse is a term used for developing the software by using the existing software components. Reuse Software Engineering is based on guidelines & principle for reusing the Existing software.

stages in Reuse oriented software engineering are as follows:

* Requirement Specifications:

First of all, specify the requirements. This will help to decide that we hence some existing software components for the development of software or not.

* Component Analysis:

It helps us to decide that which components can be reused where.

* Requirement updatations/modifications:

If the requirements are changed by the customer, then still existing components are helpful for reuse or not.

* Reuse System Design:

If the requirement are changed by the customer, then still existing system design are helpful for reuse or not.

* Development:

Existing components are matching with new software or not

Q5) b) Discuss two different approaches for coping with the change.

* Change anticipation:

where the ~~software~~ process includes activities that can anticipate possible changes before significant rework is required.

Ex: A prototype system may be developed to show some key features of the system to customer.

* Change Tolerance:

where the process is designed so that changes can be accumulated at relatively low cost. This normally involves some form of incremental development. Proposed changes may be implemented in incremental that have not been developed. If this is impossible, then only a single incremental (a small part of the system) may have been altered to incorporate the change.

Q4) 1. Introduction:

Through our software we aim to provide an online platform for the people interested in bying and selling electronic items without physically visiting the store. Here the admin will be having the power of rejecting or approving who can sell & various categories of particular shops in the software.

2. Feasibility of the Project:

When talking about the feasibility of the project we mean whether or not it can be acheived

Technical feasibility:

As per the hardware requirements the systems works with existing hardware.

> Browser - Any browser to run the website.

> Operating System - Windows and above.

> Languages used - PHP, MySQL, HTML/CSS, Javascript.

Hence the project is technically feasible.

- Operational Feasibility:

The important characteristic of our software in the ease of use. This allows shopkeeper's & the shoppers get to what they want faster without running into compatibility. Also providing customer reviews to make the organizations understand the needs of their customers to improve their business.

- Economic feasibility:

~~The im~~ Since the software used are open source & there is no additional hardware requirements as such the cost of the hardware and software are negligible so the project is economically feasible.

3. Scope of the project:

- Any organization or shopkeeper can easily increase their sales by using the website as well all know how pademic changed the traditional way of buying and selling.
- The customers can easily buy the required requirements from the store provided online.
- The software can be easily used by everyone.

4. Hardware & software requirement:

Hardware Requirements:

Memory (RAM) - Minimum 2GB.

Ethernet (LAN) or a Wireless adapter (wifi)

Software Requirements:

operating system: Win 7 or above

Language used: HTML/css, PHP, Javascript, MySQL,

Framework: Laravel.

5. Modules:

There are total 3 modules -

i) Admin module -

The admin will login to his account created by the developer Approve/reject the request of shopkeeper/organizations wanting to sell their products.

Keep track of the list of categories allowed for the shopkeeper