

Unit IV: Defect Management

(weightage: 12 marks)

Q1/ Define Defect. (2m).

⇒ A defect is an error or bug in application which are created.

A programmer/developer while designing and building software make mistakes and error.

This mistakes or errors indicate that there are flaws in S/W. These are Defect.

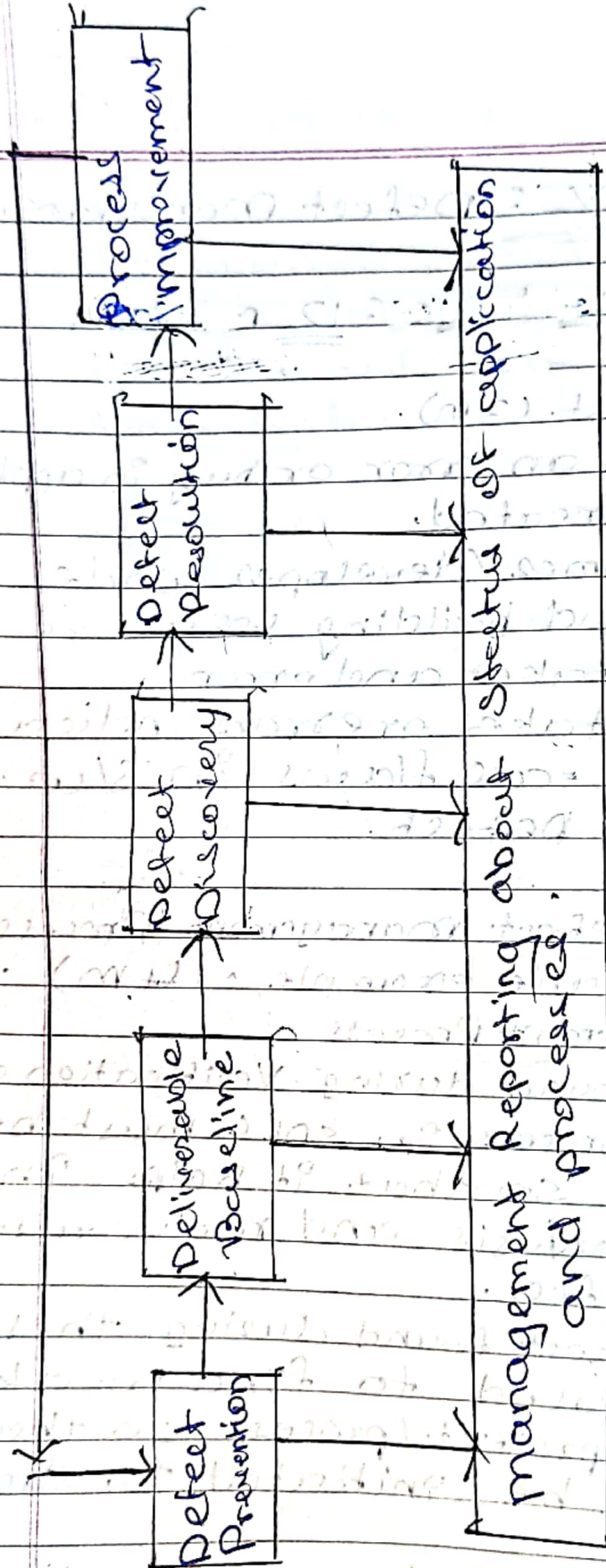
Q2/ Explain Defect management Process with suitable example. (4m).

⇒ Defect Management Process

Defects found during Verification and validation process in SDLC must be recorded so that it helps in further analysis and root causes of the defect.

The Defect found during these phases are used to find weak areas of project/process so that action can be initiated to strengthen it.

This process helps ensures that defects are efficiently managed and resolved to improve software quality.



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Defect Prevention: This step focuses on improving quality by avoiding defects in the software. It's impossible to remove all defects, but using proper techniques can reduce them.

Deliverable Baseline: Once defects are fixed, the product is retested. If it meets the required standards, it moves forward.

Defect Discovery: Defects are identified during testing or by the team. They are acknowledged and should be addressed early.

Defect Resolution: The development team works to fix the defect. They also inform the testers when it's done so it can be verified.

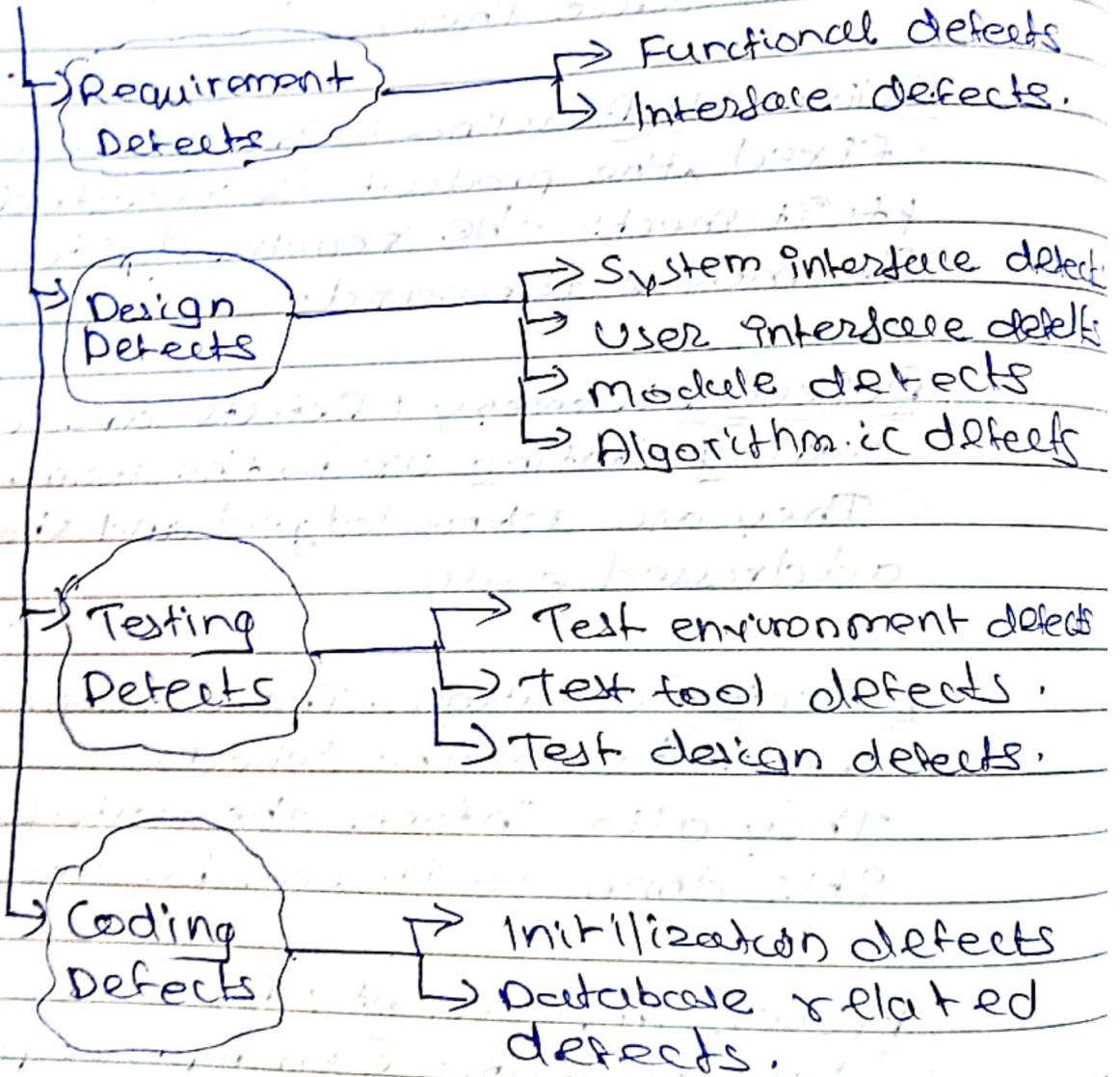
Process Improvement: By reviewing the defects, teams can improve processes to avoid similar issues in future.

Management Reporting: Defect data is reported to help manage risks and improve overall processes.

expected

Defect Classification (2m)

Defect Classification.



Q3. Give the state any 1 defect classification and its meaning. (2 marks)

⇒ 1) Requirement (Specification) Defects

Happens when the product doesn't match what the customer wants because of misunderstandings.

2) Design Defects

Occur when the system structure or component interactions are designed incorrectly.

3) Coding Defects

Result from mistakes writing the code, like not initializing variables properly.

4) Testing Defects

Arise when there are errors in testing process, such as using wrong or incomplete cases.

Q4. Write any two root causes of defect. (2m)

⇒ i) Lack of design Experience.

ii) Lack of coding practice.

iii) Multiple changes in requirements.

iv) Miscommunication of requirements

introduces error in code.

v) Unrealistic time schedule for development.

2m

Q5 Enlist any four attributes of defects. Describe them with suitable example. (4m).

⇒ 1) Defect ID: Identifies defects as there are many defects might identified in system. example: D1, D2, D3 etc.

2) Defect Name: Name of defect which example explains the defect in brief. It must be short but descriptive. i.e Login error

3) Project Name: Indicates project name in which defect is found. eg: Library Management System.

4) Module / Sub-module name: for which defect is found. Example: Login form.

5) Phase introduced: Phase of life cycle to which the defect belongs. example: 2, 1

6) Phase found: phase of project when the defect is found is added here.

7) Defect type: Define defect type. Example, security defect, gui defect etc.

8) Severity: Declared in test plan. Example: high, medium or low.

9) Priority: defined based on how the project decides a schedule to take the defects for fixing.

example, High, low, moderate.

10) Summary: Describes short about Defect

11) Status: dynamic field, open, assigned, resolved, closed, held, deferred, or reopened etc. . . .

12) Description: Describes in detail.

13) Reported by / Reported on who found defect, and on what date.

14) Assigned to: The tester is being assigned to some testing team member.

Q6 State any four defect reporting guidelines. (2m).

- ⇒
- 1) Describe the problem clearly.
 - 2) Give important details.
 - 3) Rate the seriousness.
 - 4) Add Proof.

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Q7 Enlist different techniques for finding defects and describe any one technique with example. (4 marks)

⇒ Different techniques for finding defects are

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02
- 1) Static Technique.
 - 2) Dynamic Technique.
 - 3) Operational Technique.

① Static Technique

This checks the software without running it.

It involves reviewing documents, code or designs to find mistakes.

No execution of software is needed.

02 This method ensures everything follows the requirements.

Example: A team reads through the code without running it to find any mistakes, like typos or missing instructions.

② Dynamic Technique

This method tests the software by actually running it to see if it works as expected.

It includes methods like system testing and unit testing.

Where software is tested against requirements and marked as pass or fail.

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Example: A tester runs the app to check if pressing the "submit" button actually submits the form.

③ Operational Technique

This checks if the processes for development and testing are being followed properly.

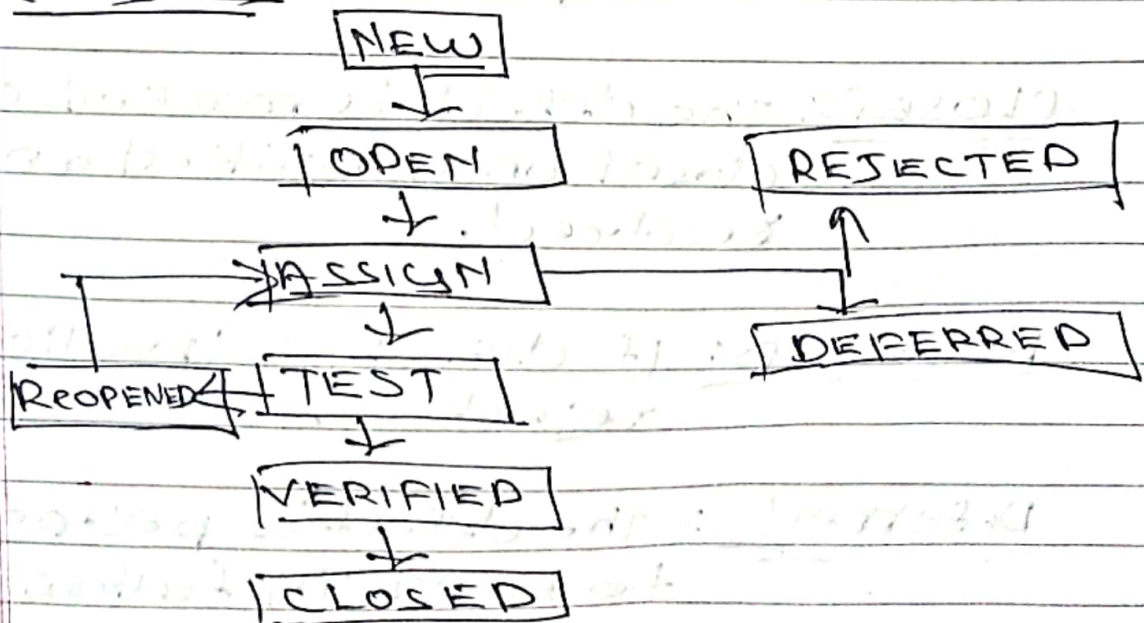
It includes techniques like smoke testing & sanity testing.

Example: After fixing a bug, a tester quickly checks if fixed worked and didn't break anything else.

Q8. Draw a Defect Life Cycle. (3m)
or bug life cycle

Describe defect Life Cycle with neat Diagram.

⇒ Diagram



New: when defect is logged and posted for the first time. It states is given as "new".

Assigned: After the tester has posted the bug, the lead of tester approves that bug is genuine and he assigns the bug to corresponding developer and team.

OPEN: At this state the developer has started analysing and working on defect fix.

TEST: The Developer fixes the defect and the tester check if it is resolved.

VERIFIED: The tester verifies that the defect is fixed and working as expected.

CLOSED: The defect is marked as closed once verified and resolved.

REJECTED: If defect is invalid, it's rejected.

Deferred: The defect is postponed to fixed in future release.

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Reopened: If the defect persists after being fixed, it is reopened for future action.

Q9 ~~Q9~~ Draw defect template and write example for it. (6m)

⇒
Defect Template

A defect report or Defect Template is document that describe a defect, including Severity, priority, and Steps to replicate the problem.

Each and Every Organisation must have a defect Template which captures defect data.

○ Different software management tools offer defect templates, sometimes test case template is extended as defect template.

A defect Report's primary purpose is to help developers quickly reproduce and fix the fault.

Defect Template

Defect Report	
ID	Unique Identifier given to defect. (Auto)
Project	Project name
Product	Product name
Release Version	Version of product (eg: 1.0)
Module	Specific module where defect was detected
Detected Build Version	Build version of product where the defect was detected.
Summary	Summary of defect. keep it clear & concise
Description	Detailed description of defect. Describe as much as possible but without repeating & complex words
Steps to Replicate	Step-by-step description of way to reproduce the defect.
Actual Result	The actual result you received when you followed steps.
Expected Result	The expected results.
Attachments	Attach any additional info like ss or logs
Remarks	Any additional comments.
Defect Severity	Severity of defect