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B.S Software
Section B
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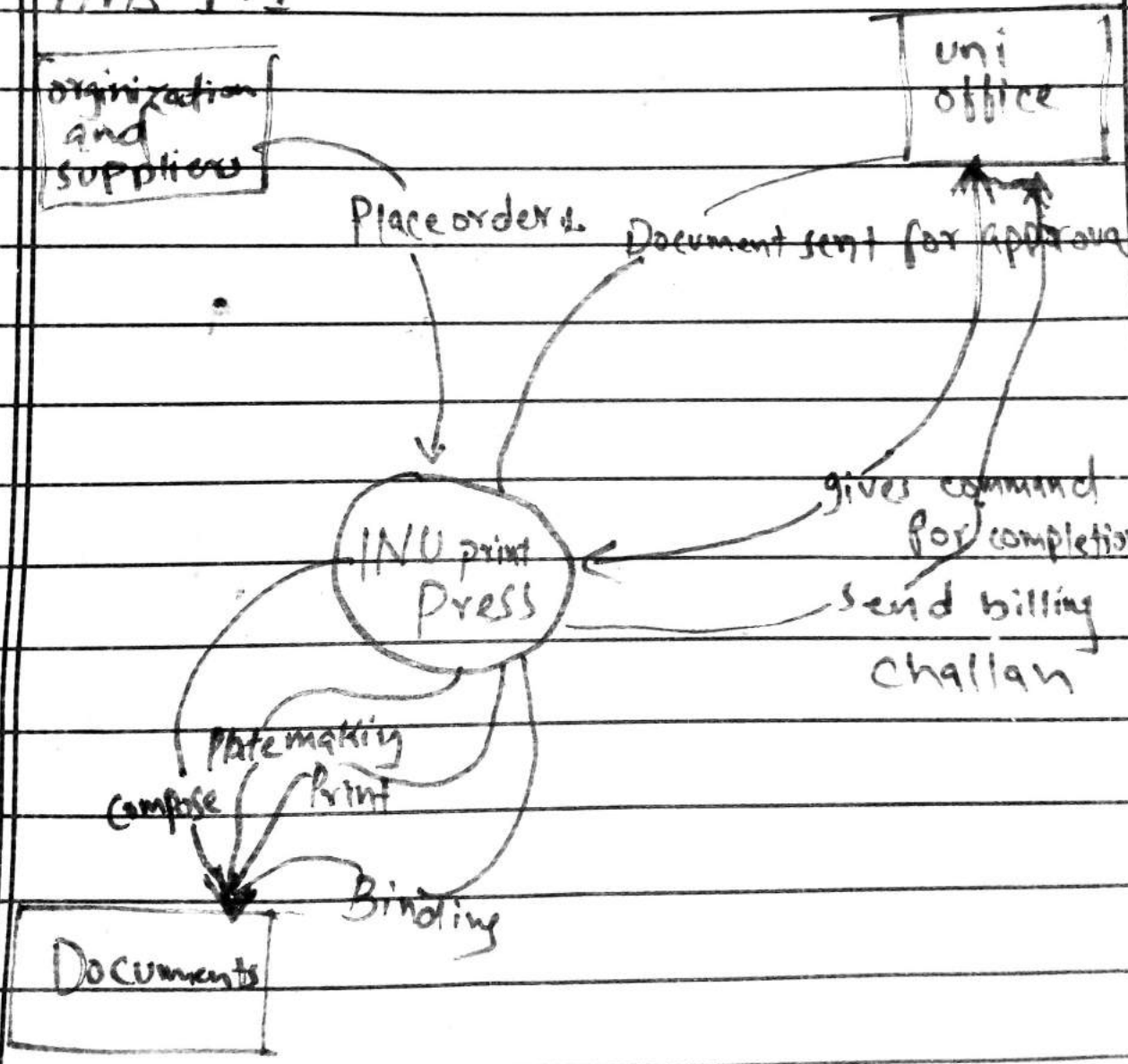
Q 1. Case Description

Q1.1

Ans 1.1



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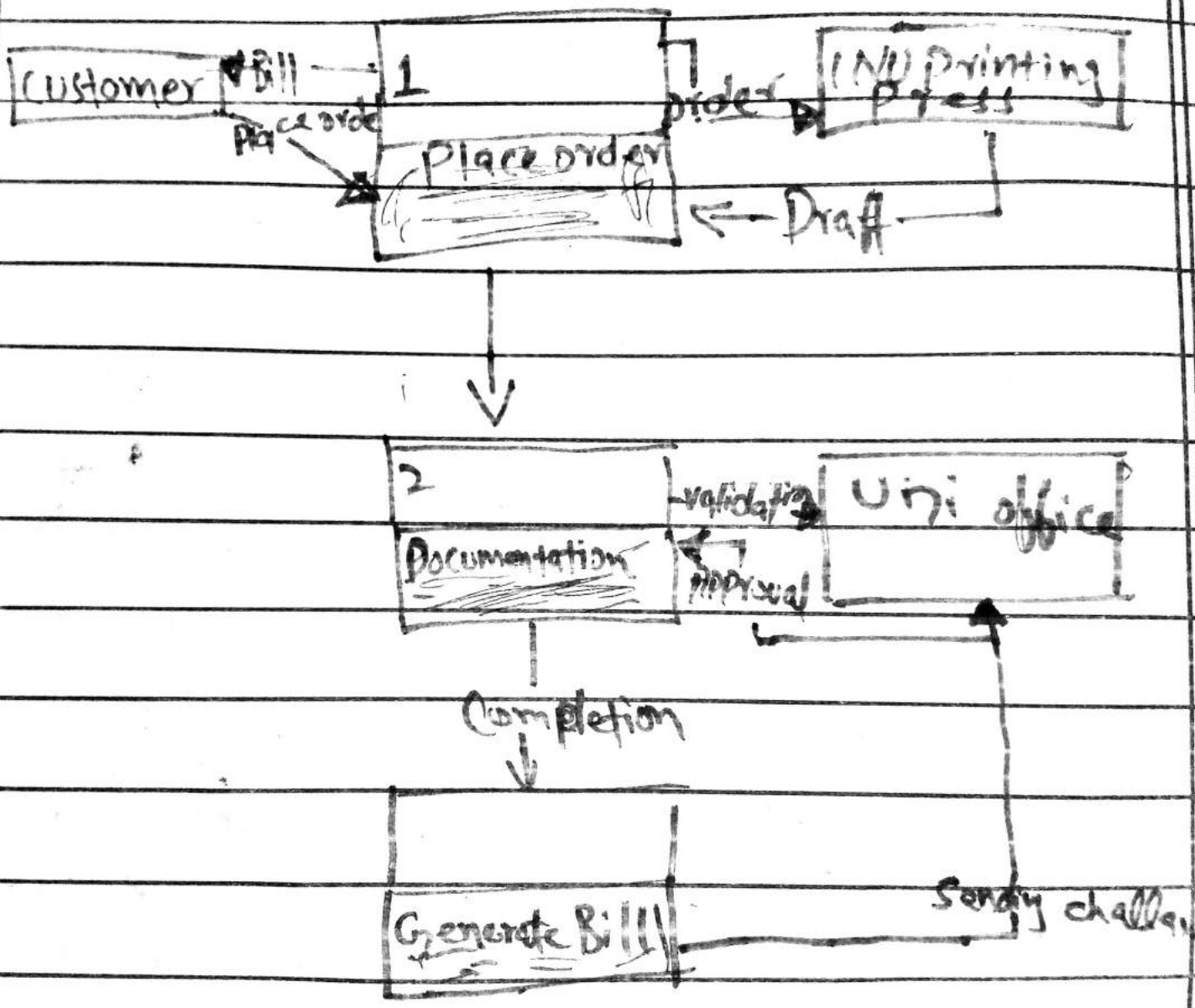
Q1.2

Ans :- 1st level DFD



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Q2.1 Explain why testing can only detect the presence of errors, not their absence?

Ans The goal of software testing is to observe the software behavior to meet its require expectation.
Testing is a set of activities where the tester try to make the software behave anamalous in order to detect a defect or anamoly to be later fix.

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Q2.2 Define the following terms

- Unit Testing
- System Testing
- Black box testing

White box Testing

Ans Unit Testing :-

- The most 'micro' scale of testing.
- Test done on particular functions or code Modules.
- Require knowledge of the internal program design and code.
- Done by programmers not by testers.

Objectives :- . To test function of a program or unit of code such as a program or a Module.

. To test internal logic.

. To verify internal design.

. To test path and condition coverage.

. To test exception conditions and error handling.

When :- After Modules are coded

Input :- Internal Application Design

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- Master Test Plan.
- Unit Test Plan.

Output:- ~~Internal Application Design.~~

Output:- • Unit Test Report.

Who :- • Developer.

Methods:- • White box testing techniques

Tools:- • Debug

- Re-structure
- Code Analyzers.
- Path/statement coverage tools.

Education:- • Testing Methodology.

- Effective use of tools.

System testing :- It is level of testing that validates the complete and fully integrated software product.

Objectives:- • To verify that the system components perform control functions.

- To perform inter-system test.
- To demonstrate that the system performs both functionally and operationally as specified.
- To perform appropriate types of tests to transaction flow, installation, Reliability, Regression etc.

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When :- After integration Testing.
Inputs - • Detailed Requirements and external Application Design.
• Master test plan.
• System test plan.
Output :- • System test report.
Who :- • Development team and users.
Methods :- Problem/configuration management.
Tools :- Depends.
Education :- Testing Methadology.

Black box testing :- • No knowledge of internal design or code required.
• Tests are based on requirements and functionality.
• Not based on any knowledge of internal design or code.
• Covers all combined parts of a system.
• Tests are data driven
• It uncovers
1) Incorrect or missing functions.
2) Interface errors.
3) Errors in data structures or external database access.

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4) Performance errors-
5) Initialization and termination errors.

White Box testing:-
- Based on knowledge of Internal logic of an application code-
- Based on coverage of code statements, branches, paths, conditions-
- Tests are logic driven-
- It ensures
1) All independent paths within a Module have been exercised atleast once-
2) Exercise all logical decisions on true false sides.
3) Execute all loop at their boundries and within their operational bounds-
4) Exercise internal data structures to ensure their validity-

Q3

Q3.1 Breifly describe three type of software maintenance - why is it some difficult to distinguish bew them?

Ans 1) Fualt repairs:- Code errors are usually cheap to correct. designs errer are more expensive as they may involve rewriting of several programs components. Requirement errors are the most expensive to repair because of expensive system redesign which be necessary.

2) Environmental adaption:- The type of maintenance required when some aspect of system environment such as the hardware, the platform operating system or other support software changes the application system must be modified to adapt it to cope with these environmental changes.

3) Functionality addition:- The type of maintenance is necessary when the system requirements change in responce to organizational or business change. the scale of changes required to software is often much greater than for other types of maintenance.

There are some difficult to distinguish bcoz same set of changes may cover all three type of maintenance.

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Q3.2 What are principle factors that affect the cost of system reengineering Also briefly explain reengineering process with the help of diagram.

Ans Software Reengineering:- It is a procedure of software advancement which is done to improve the practicality of a software framework. Reengineering is the assessment and change of framework to reconstitute it in othe structure. This procedure includes a blend of sub-forms of reverse engineering reconstructing ~~and so forth~~, forward engineering and so forth. Reengineering is the reorganizing and altering existing software frameworks to make them more viable.

Targets of reengineering:-

- To depa depict a savy alternative for framework advancement.
- To depict the exercises associated with software upkeep process.

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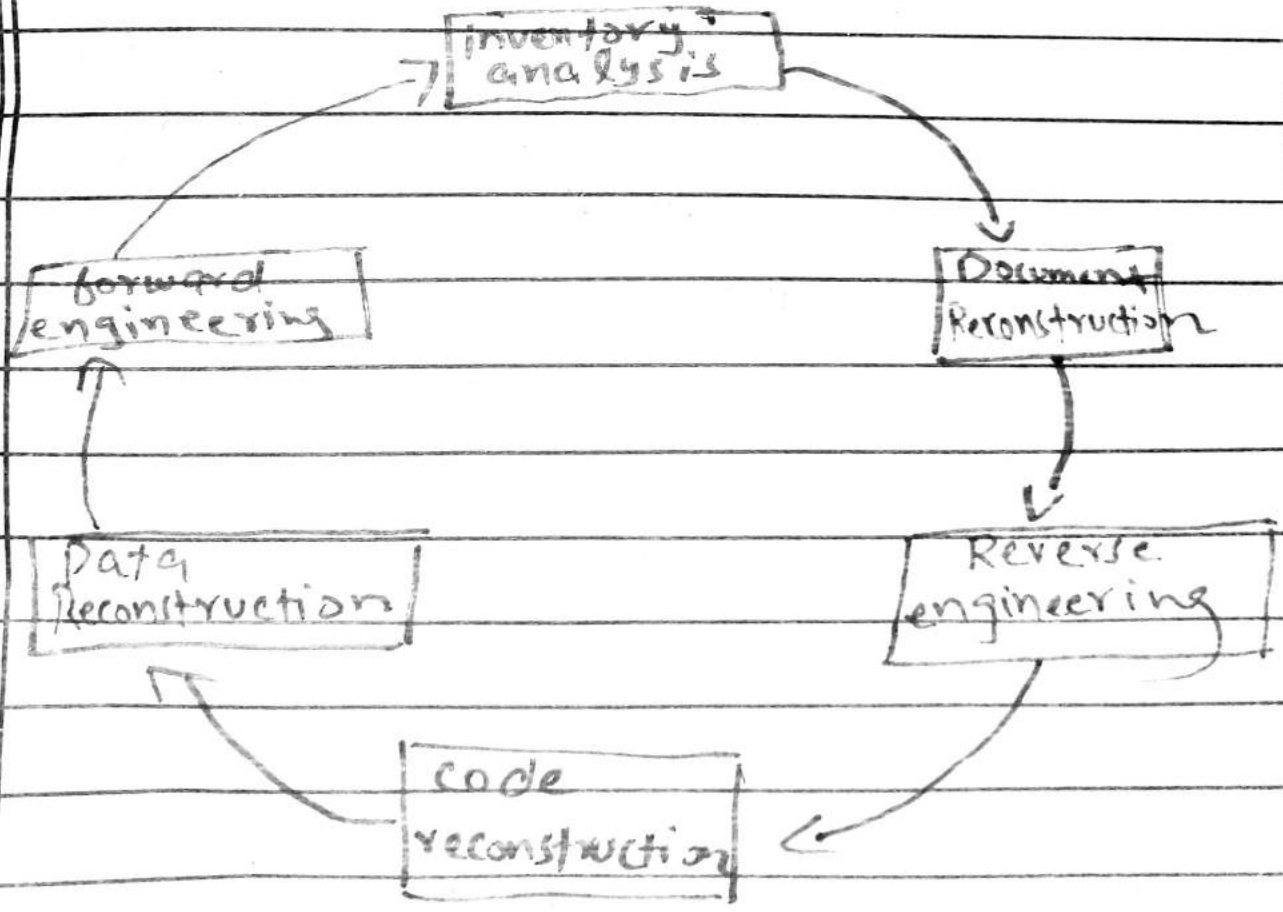
- To recognize software and information re-engineering and to clarify the issues of information re-engineering.

Steps associated with re-engineering:

a) Inventory Analysis.
b) Document reconstruction.
c) Reverse engineering.
d) Code reconstruction.
e) Data reconstruction.
f) forward engineering.



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Re-engineering cost factors :-

- The nature of software to be re-enginered.
- The instrument bolster accessible for re-engineering.
- The degree of required information transformation.
- The accessibility of master staff for re-engineering.

Focal points of re-engineering:-

Reduced risk :- As the software already existing, the hazard is less as compare to new software improvement.

Advancement issues, staffing issues and particular issues are heaps of issues that may emerge in new software improvement.

Reduced cost :- The experiance of re-engineering is not exactly the expenses of growing a new software - Got what you were searching for? Find out more and become independent.

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Being learning data structures and Algorithms with the assistance of the most trusted DSA self paced course, and that too at the most understudy well disposed cost.

The end