Q.1] Explain task analysis, design dialogs notations, warning and error messages in detail.

⟹ 1. Task analysis -

(i) Task analysis provides study of performing tasks & comparative performance analysis of existing HCI system. Tasks may be divided into multiple sub tasks using modularity.

(ii) Multiple tasks may work as part of parallel processing. There are three techniques used in task analysis namely -
1. Tasks are divided into subtasks
2. Tasks are classified into various categories.
3. Tasks are listed.

(iii) Task analysis is used to provide guideline about sequence of tasks to be performed by the user & selection appropriate methodology used solve tasks in correct way.

2. Design Dialog notations -

(i) Design dialog notations used to ease of analysis & separation of the interface elements of the program from the actual calculations.

(ii) For using special notation is to write down th dialog before a program is written. This allows the designer to analyse the proposed structure perhaps use a prototyping tool to execute dial

(iii) A dialog notation is also a way for members of design team to talk about design & eventuall for designer to pass on intended dialog to progra of the actual application.

3. Warning –
   Something has not worked as it should work.
   This may be of greater or lesser importance
   depending on the circumstances .
   eg :- An input file was not found or was in
       wrong format .

4. Error –
   Something 'serious' has gone wrong. This may-
   require existing may be recoverable depending
   on the circumstances .
   eg :- The system has failed to allocate dynamic
       memory as requested .

Q.2] What is the importance of Design of Every Day Things
   (DOET) in HCI ?
→ 1. We are surrounded by many everyday things
   that have poor usability like programming
   a VCR, telephone features we can't remember
   how to use, photocopiers and fax machines
   face down or up.
2. Many of these things can be difficult to interpret
   and frustating to use if they provide no clues
   or false clues as to how they operate .
3. Usuability is important because poor usuability
   results in anger & frustation, decreased
   productivity in workplace, higher error rates,
   physical and emotional injury, equipment dama
   loss of customer loyalty, costs money .
4. Usuability is a measure of the effectiveness,

efficiency and satisfaction' with which specified uses can achieve specified goals in particular environment
5. Example of poor design —
Wireless powerpoint slide controller; refrigerator temperature control.

Q.3) Write short note on following testing:

→ 1. User testing —
(i) In HCI system phase wise, module wise & step wise testing is required at each & every level. Because every level is dependent on correctness of previous level. User testing is important testing to evaluate about best suitable solution from multiple users based on their perspective & technical skill set.

(ii) User testing is performed based on prediction analysis that includes historical knowledge, present knowledge & forecast knowledge about given problem. User testing provides outcome based approach at all the levels of HCI system.

2. Usability testing —
(i) It is a non functional testing technique that is a measure of how easily the system can be used by end users. It is difficult to evaluate & measure but can be evaluated based on below parameters-
1. Level of skill required to learn the software
2. Time required to get used to in using software
3. The measure of increase in user productivity
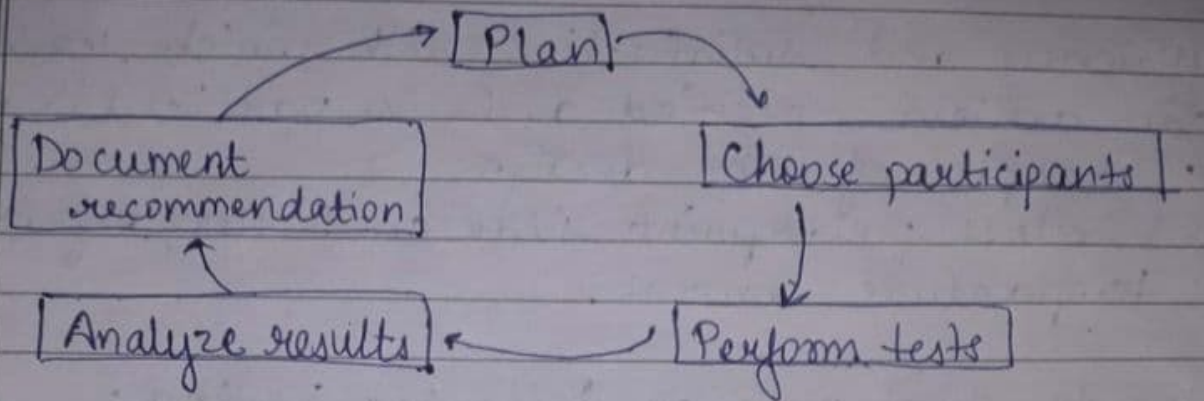4. Assessment of users attitude towards software

fig: Usability Testing Process

3. User Acceptance Testing -

(i) A testing methodology where clients/users involved in testing the product is validate the product against their requirement. It is performed at client location at developers site

(ii) UAT is content dependent & UAT plans are prepared based on the requirements & not mandatory to execute all kinds of user acceptance tests & even coordinated & contributed by testing team.
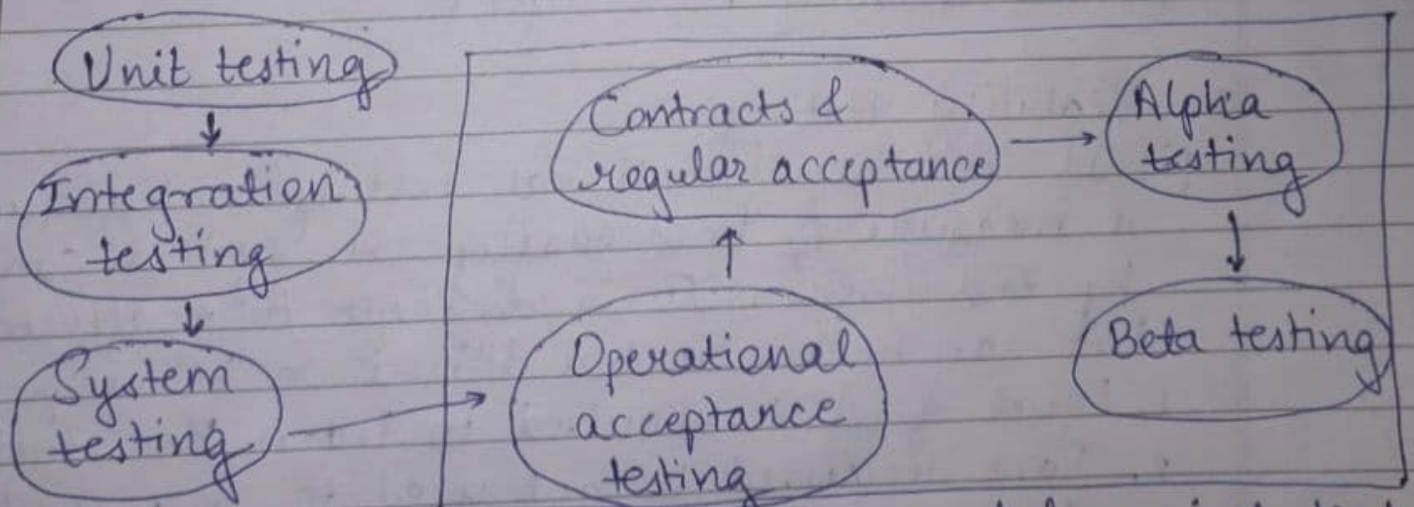
(iii) The acceptance test cases are executed against test data or using test script & then results are compared

with expected ones.

Q.4) What are the various phases used in Model-based Evaluation ?

⇒ 1. Use model first
2. User testing for final check
3. Loop back if necessary.

Start
↓
Choose benchmark tasks
↓
Specify/revise interface design
↓
Construct/revise engineering model
↓
Evaluate usuability with model an benchmark tasks
↓
Problems ? ————— Yes
↓ No
Implement/revise prototype
↓
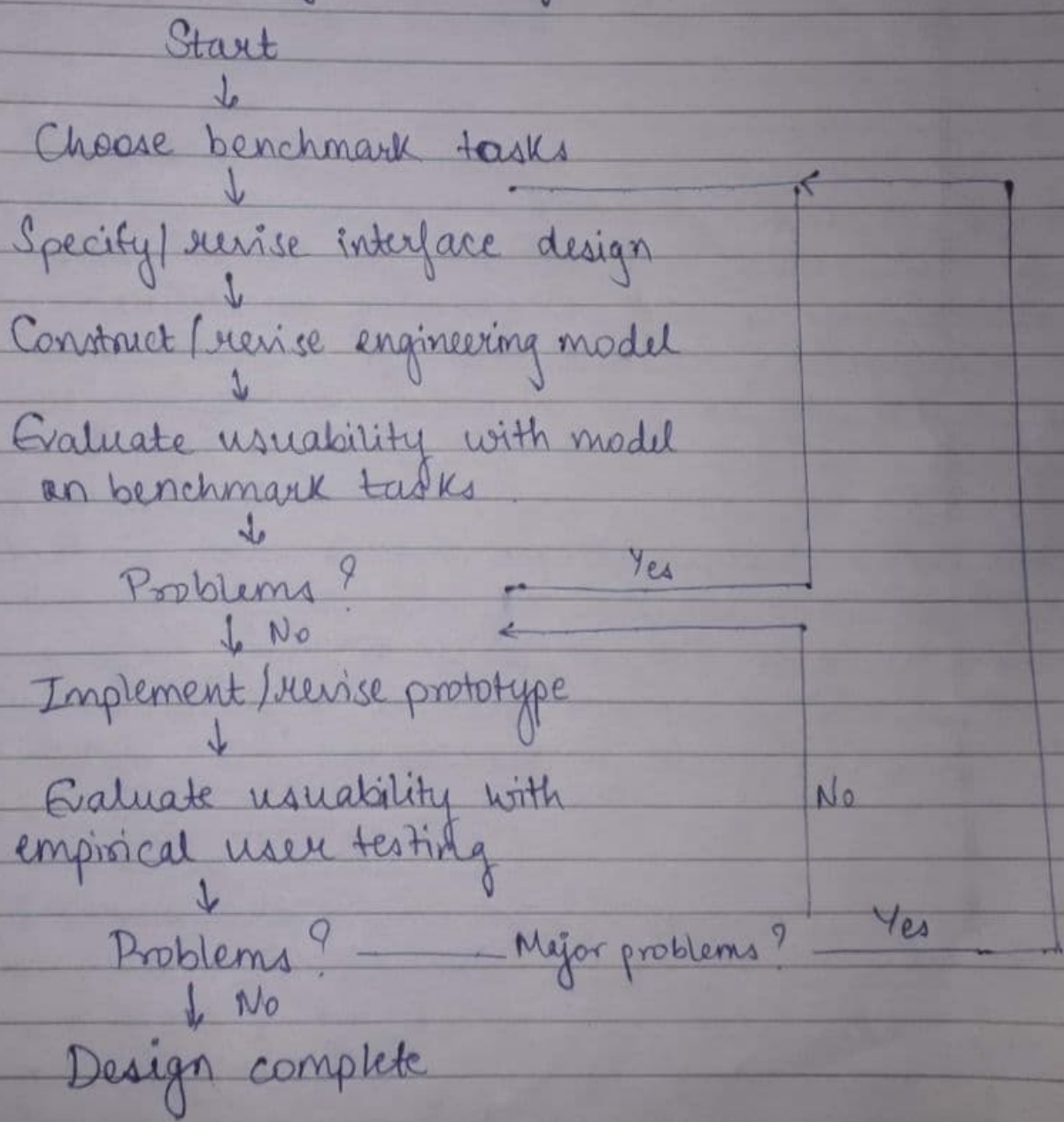Evaluate usuability with empirical user testing   No
↓
Problems ? ————— Major problems ? ——— Yes
↓ No
Design complete

fig: Engineering Model Process