Unit-2

Engineering and Production Stages :-

(or)

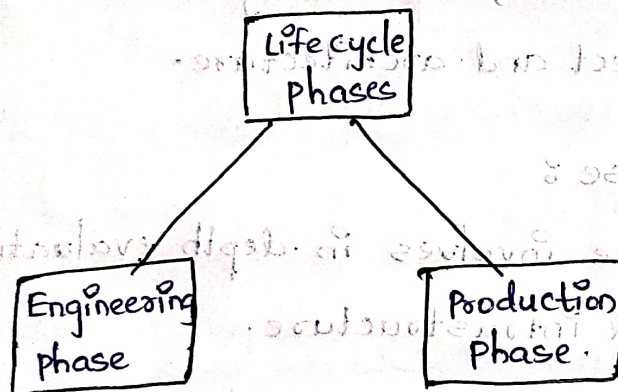### Life Cycles :-

- Life cycle phases consists of separated modules with defined functionalities.

- Life cycle phases describes the various phases of project management.

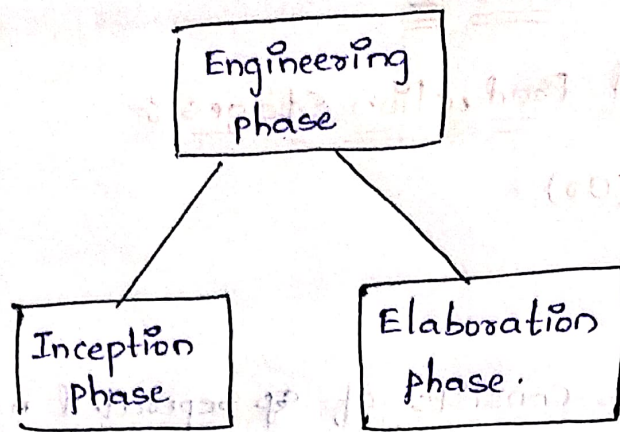- Life cycle phases are mainly divided into two categories.

    1. Engineering phase

    2. Production Phase.

1. Engineering phase :-

- Engineering phase involves establishing the goals and defines the overall scope of the project.

- Engineering phase involves the small team size and it is usually less predicted.

- Engineering phase is divided into 2 types

    a) Inception phase

    b) Elaboration phase.

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           ┌──────────────┐
           │ Engineering  │
           │    phase     │
           └──────────────┘
             ╱          ╲
    ┌──────────────┐  ┌──────────────┐
    │  Inception   │  │ Elaboration  │
    │    Phase     │  │   phase.     │
    └──────────────┘  └──────────────┘
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a) Inception Phase :

- Inception phase involves establishing goal and gathering requirements needed for software developm -ent.

- It involves cost estimation and identifying the risk factors.

- In the inception phase, we mainly work on the scope of the project and architecture.

b) Elaboration phase :

- Elaboration phase involves in depth evaluation of architecture and infrastructure.

- In the eloboration phase, we work on the efficiency of our architecture.

2. Production phase :-

- In production phase, we mainly focus on the implementation of project.

- It involves large team size and it is more predicted

- Production phase is divided into 2 types.

        a) Construction phase

        b) Transition phase.

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        ┌─────────────┐
        │ Production  │
        │   Phase     │
        └──────┬──────┘
         ┌─────┴─────┐
 ┌──────────────┐  ┌──────────────┐
 │ Construction │  │  Transition  │
 │    phase     │  │    phase.    │
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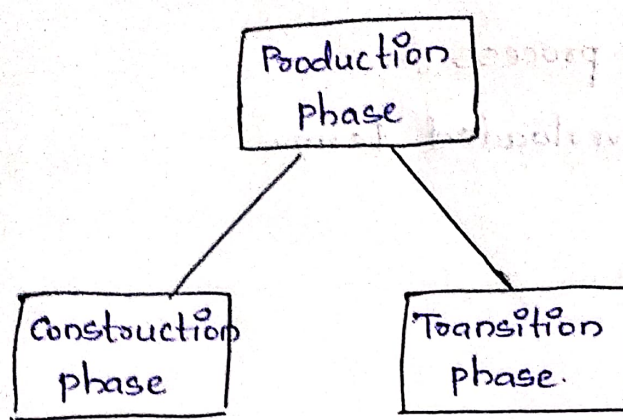
a) Construction phase :

- In the Construction phase, we perform the implement -ation of our software.

- In this phase, we perform strict testing and process optimization.

b) Transition phase :

- In the transition phase, we perform strictly testings mainly beta testing.

- In this phase, the developers works on project.

Improving software economics :-

- Software estimation is needed to be based on very careful analysis and should be supported by all.

- Software economic improvement came from reducing size, improving software process, improving team effectiveness, improving automation through software environment and achieving the required quality.

Improving team Effectiveness :-

- Teamwork is much more important than the Individual.

- Placing the right person in the right job

Improving Software process :-

- Process is an overloaded term.
- Meta process
- Micro process.
- Macro process.
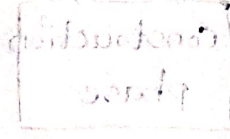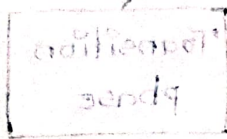
Improving Automation through Software environments :-

- Tools and environments used in the Software process.
- Planning tools, requirements management tools, etc.

Achieving required Quality :-

- Softwares are derived from development process and technologies.
- It improves cost efficiency.

Conventional Software Management :-

- In the past Organisation used Conventional Software management.
- This management utilized custom tools and process and virtually custom Components.
- The performance of the project is very much predicted in the schedule, cost and quality.
- It offers a standard scale of performance.
- It has flexibility of Software.
- Walkthroughs catch 60% of the errors.
- 80% of the contribution comes from 20% of the contributors.
- 50% of the software development used to programming.

Artifact Sets :- (or) Process Artifacts :-

To make the development of a Complete Software System manageable, distinct Collection of information in the form of artifacts.

Life cycle software artifacts are five types. They are

    1. Management Artifact.

    2. Engineering Artifact.

    3. Pragmatic Artifacts.

1. Management Artifact :-

- This set usually capture artifacts associated with planning and execution (or) Running process.

- It makes use of adhoc notations.

- It also includes texts, graphics.

2. Engineering Artifacts :-

- It is an idea regarding quality of these artifacts in transition of information from one set to another

- It is divided into four sets

    - Requirement set
    - design set.
    - implementation set
    - deployment set.

3. Pragmatic Artifacts :-

- Pragmatic Artifacts is the conventional document-driven approach.

- It gives development, polish, format, review, update, modify, etc.