

UNIT-04

- Framework for Management and Control [AKTU - 2022-23, 2021-22]
- Collection of data
- Visualizing Progress
- Cost monitoring [AKTU - 2021-22]
- Earned Value Analysis [AKTU - 2021-22]
- Prioritizing monitoring
- Project tracking
- Change control software configuration management [AKTU - 2021-22]
- Managing contracts
- Contract management [AKTU - 2021-22]

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Project management Framework :-

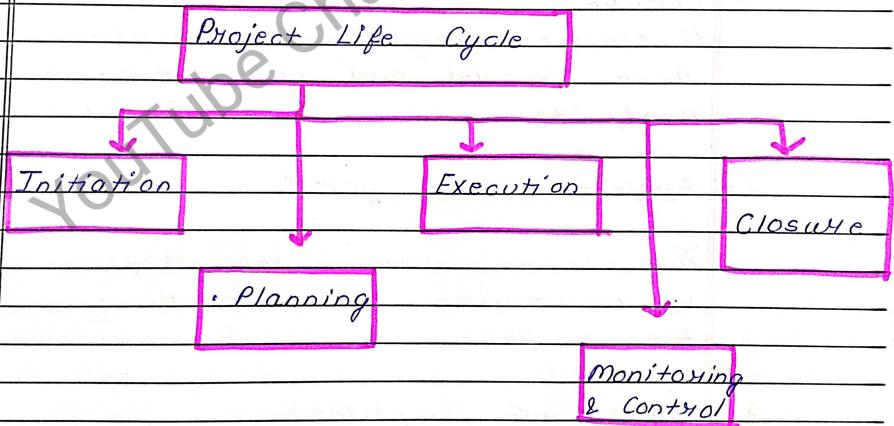
A Project Framework is a set of processes, tasks and tools that guide and organize the execution of project.

A Project Management Framework consists of the processes, tasks, and tools used to take a Project from start to finish.

It broken down into three parts

1. Project life cycle :-

This is the cycle a Project goes through from beginning to end. It consists 5 phases



- Initiation :-

→ This is where you define what the project actually.

- Planning :-

→ In this phase, you list all the project tasks in a detailed roadmap.

- Execution :-

→ Put the plan into action.

- Monitoring and Controlling :-

→ Project managers oversee progress by tracking team performance.

- Closure :-

A project manager will analyze these results and plan the next steps.

2. Project Control Cycle :-

The control cycle is the process of monitoring and controlling the project.

3. Tools and Templates :-

Project plans, project management

Reports and risk logs are common tools for managing tools.

The project management framework serves as a roadmap for managing project efficiency & goals are achieved.

Examples of project Framework :-

- PRINCE 2
- CCPM (Critical chain project management)
- Waterfall

Benefits of Project Management Framework :-

- Consistency
- Clarity
- Simplification
- Optimization
- Communication

• Consistency :- This allows for greater precision in planning project and setting deadlines.

• Clarity :- A framework clearly lays out all project tasks and tools needed to complete them.

• Simplification :- When large projects are

broken down into smaller tasks, it is easier for project manager to delegate tasks

- Optimization :- This enables them to successfully allocate and optimize resources for future projects

- Communication :- Project manager can effectively communicate with colleagues and boost inform flow employees

Collection of Data :-

- It help how much work completed & what task are remaining (maintain control over a project)

- Data collection is the process of collecting information from relevant sources in order to find a soln to the given statistical enquiry

- It is necessary to gather information about partially completed activities to focus the work to be completed

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Partial Completion Reporting :-

- Gather infoⁿ on partial completion of activities
- Estimate remaining work based on percentage of completion
- monitor progress and make necessary adjustment

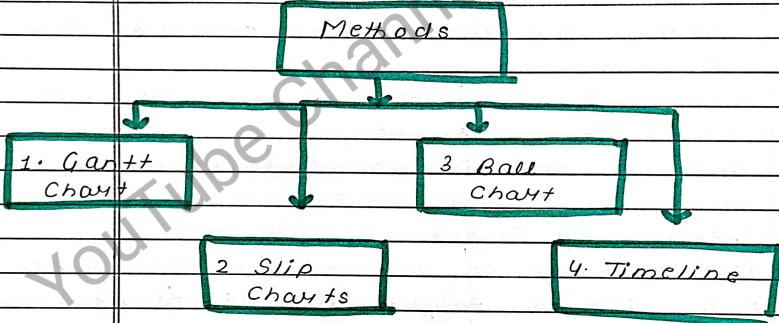
Reporting Risk using a Traffic light method :-

- Analyzing the project element or component using a traffic light concept
- 1 Identify the first level element for assessment
- 2 Break the first level element into second level element
- 3 Analyze the second level element & mark the colour as :-
(GREEN - ON Target below)
AMBER - Not on target but Recoverable
RED - Not on target difficult to Recoverable

- Review all the second level elements to reach the first level assessment
- Review both 1st and 2nd to produce overall assessment

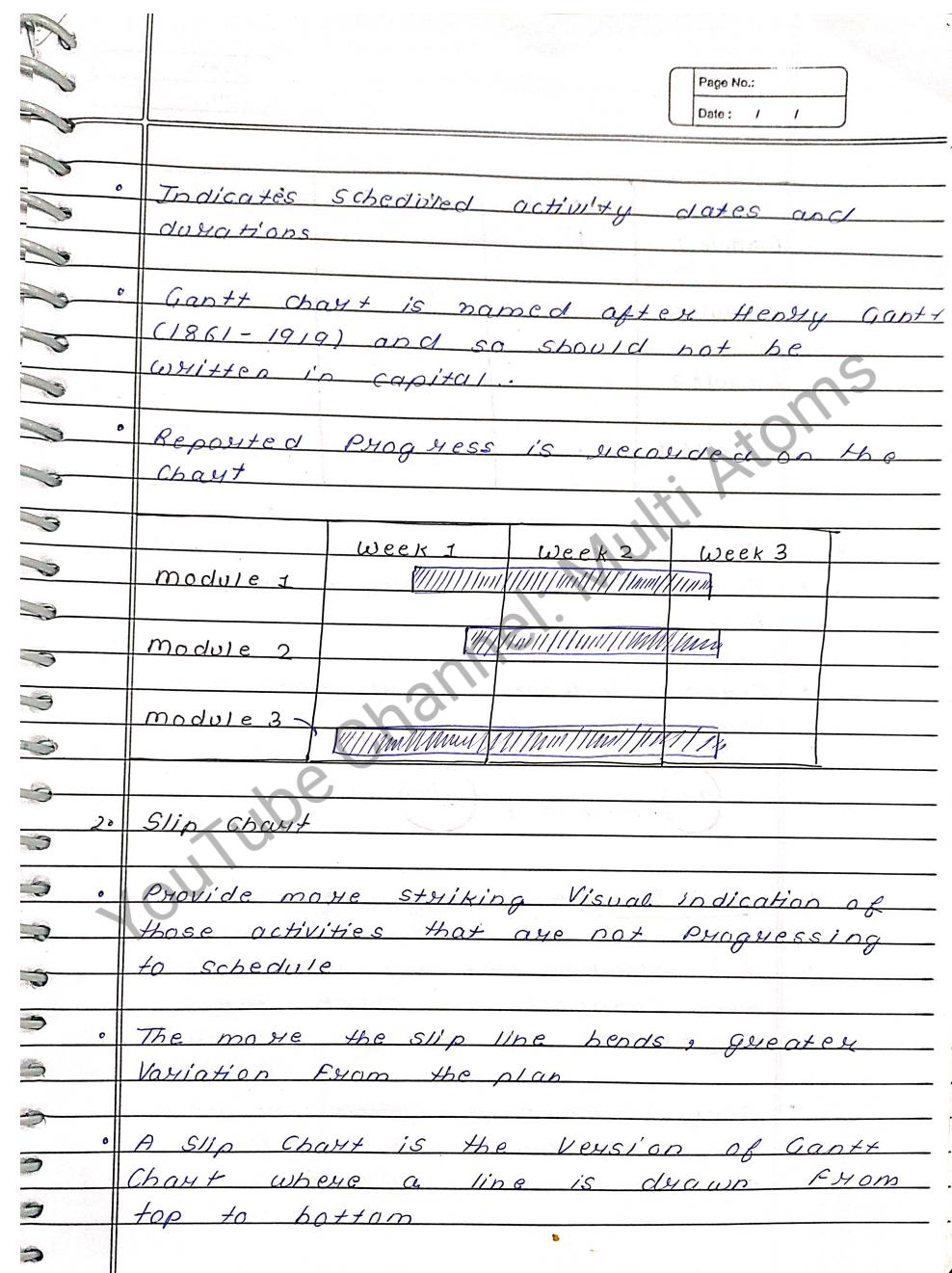
Visualizing Progress

- Collect the data, and show visually
- Visualizing progress is important to effectively communicate the project status to everyone involved
- After collecting data the project manager will represent the collected data using static picture.



1. Gantt Chart :-

- Simplest, oldest techniques for tracking the project progress



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	Week 1	Week 2	Week 3
Module 1			
Module 2			
Module 3			
Module 4			

3. Ball Chart :-

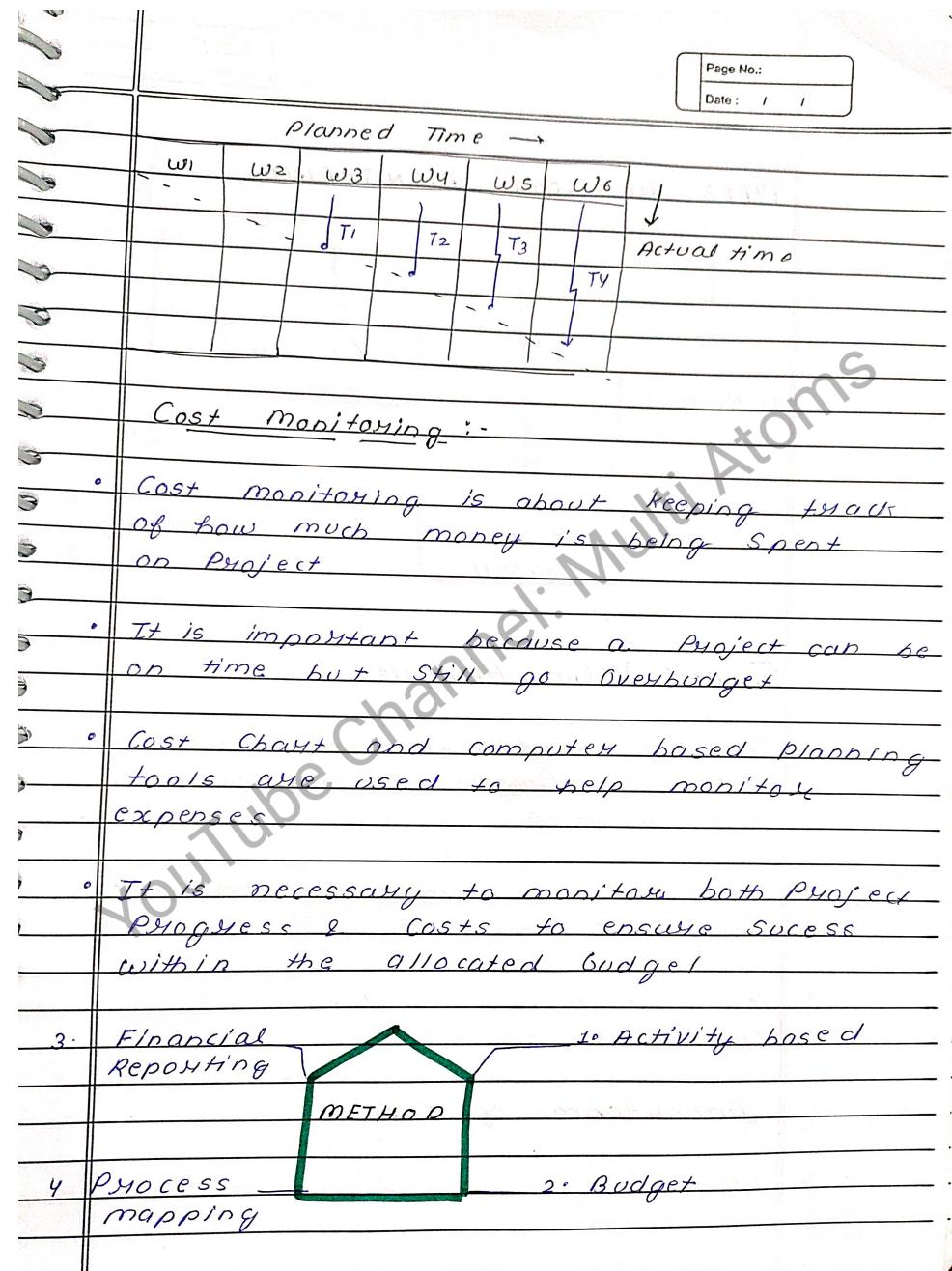
- To show whether target have been met or not.
- Circles indicate start date & competition date.

Code and Test

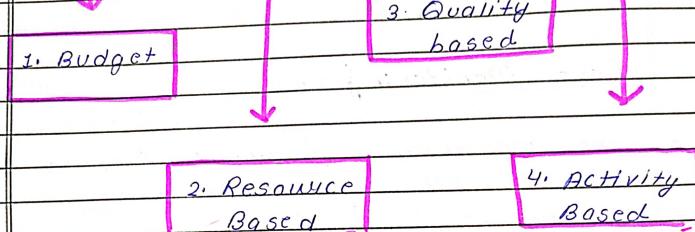
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4. The Timeline :-

- This records the way that targets have changed throughout the project.
- Analyse existing system - at start this was due finish on Monday of week 3 and it did finish them.



TYPES OF COST MONITORING



Earned Value Analysis :

- Industry standard method of measuring a Project's Progress at any given Point in time
- Forecasting its Completion date and Final Cost.
- As work is completed, it is considered "earned"

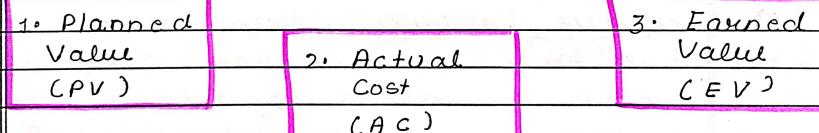
Importance of EVA

- Will the Project likely to be

Completed on time

- At the end of the project, is it likely that the cost will be less than, equal to or greater than the original estimate
- EVA is a method to measure a Project Progress, predict its Completion Final Cost and analyze difference in schedule and budget
- Compared Planwork with the actual work Completed to see if the project is on track or not

To measure Progress
we use 3 Values



1. Planned Value :-

- Budgeted cost for the work Schedule to be done
- Portion of the Project budget planned to be spent at any given Point of time.

2 Actual Cost (AC)

→ Money spent for the work accomplished

→ Total cost incurred up to a specific point in time

3 Earned Value

→ Percent of the total budget actually completed at a point of time

$$EV = \text{do complete} \times \text{Budget}$$

Calculation using Earned Value data:-

→ Cost Variance :- CV help us understand whether we are under or over budget.

$$CV = EV - AC$$

→ Schedule Variance :- Help us to understand whether we are behind or ahead of schedule

$$SV = EV - PV$$

→ Cost Performance Index :- Measure Efficiency of your spending

$$CPI = \frac{EV}{AC}$$

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Schedule Performance Index :- Measure Efficiency of your schedule

$$SPI = \frac{EV}{PV}$$

→ By analyzing these earned value matrices, you can identify areas where you may be over or under budget & behind or ahead of schedule

→ This information helps us to make informed decision & take corrective actions to keep the project on track.

Ques- Discuss Earned Value Analysis & Compute Estimate At Completion and Variance At completion if both SPI and CPI influence Project work when given Variables are

- Budget At Completion = \$ 22,000
- Earned Value = \$ 13,000
- Planned Value = \$ 14,000
- Actual Cost = \$ 15,000

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Solⁿ EAV (if both SPI and CPI influence the project work)

$$= AC + [BAC - EV] \\ CPI \times SPI$$

$$SPI = \frac{EV}{PV} = \frac{13,000}{14,000} = 0.93$$

Since SPI is less than 1, this indicate the project is behind schedule

$$2. CPI = \frac{EV}{AC} = \frac{13,000}{15,000} = 0.87$$

Since CPI is less than 1 this indicate that the project is over budget

$$3. EAC = AC + [(BAC - EV) / (CPI \times SPI)]$$

$$= 15000 + [(22,000 - 13,000) / 0.93 \times 0.87] \\ = \$26,123$$

$$4. VAC = BAC - EAC \\ = \$22,000 - 26,123 \\ = -\$4,123$$

The project is experiencing a budget overrun

Prioritizing monitoring :-

→ Prioritization is the process by which a set of items are ranked in order of importance

→ In project management
The process of prioritizing project in an activity for

defining what project within a portfolio to perform in what sequence

→ It is an attempt to make the project portfolio more effective through identifying the most effective way of implementing the project

→ Project prioritization is the process of determining which potential and existing project are the most urgent and important

Different priorities that helps in deciding levels of monitoring :-

1. Critical Path activities :- Any delay in an activity on the critical path will cause a delay in the completion date for the project

2. Activities with no free float :- These subsequent delays can have serious effect on resources schedule.

3. High-risk activities :- A set of high-risk activities should have been identified as part of the initial risk profiling exercise.

ex:- high risk those activities that have a high estimated duration variance

Project tracking: Project tracking is a project management method used to track the progress of tasks in a project.

- A project manager is a person who has the overall responsibility for the successful initiation, planning, design, execution, controlling.
- A time tracking report helps the team to see how much time overall is spent on specific tasks and how much individual team member spends on tasks.

Software configuration management:

- SCM is one of the foundation of software engineering. It is used to track and manage the emerging product and its versions.
- Through SCM the design required can be traced to the final software product.
- SCM ensure that all people involved in the software process know what is being designed.

developed, built, tested and delivered

Goals of SCM:

- Software configuration management activities are planned.
 - Selected software work product are identified, controlled and available.
- Objectives of Software configuration man.
1. Reduced user-down time
 2. Reliable data backup
 3. multi-user support

4- major SCM Activities:

1. Configuration identification:
 - Basically, SCM should manage all software related component that are used during development, testing and production.
 - Software configuration items added to the SCM are things such as tools, design, documents, requirements etc.
2. Change Control:-

→ Change Control involves procedures and tools to bring in order to Change Process.

3. Software Configuration status reporting

→ SCSR is a record keeping activity of software Configuration management

4. Audit and reviews :-

→ Audit and review are used to ensure that changes have been properly implemented

Managing Contracts :-

→ Contract management is the overseeing of project contract from their initial pre-award phase through to completion

→ Contract management systems can ease the workload needed to get to Contract creation and its following stages of Contract management

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Different phases of Contract management

1. Contract Creation :- This contract management stage involves identifying the contract type and who will be responsible for each task.

2. Contract Negotiation :- Negotiation helps to establish trust between the contract's two parties

3. Contract Approval :- All may have to give approval on the contract specification before the final deal is made

4. Contract Finalization : The process of Contract signing by the involved parties is the final step to getting the project started

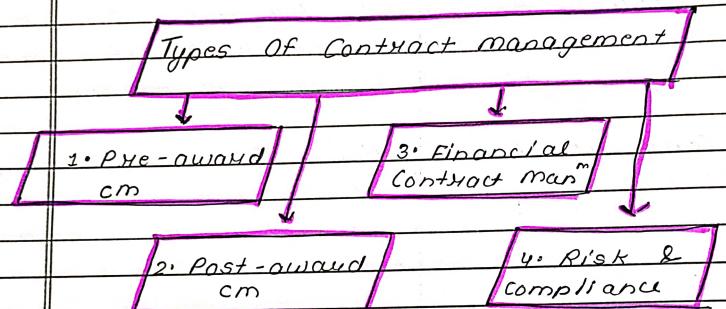
5. Contract Change Management :- Project changes are guaranteed to occur throughout the project lifecycle once the work begins

Issues Face during Contract management are:-

1. Contract Execution :- Poor contract management often leads to lost or missing files and final contract approvals.

2. Contract Tracking :- monitoring and tracking signed contract that are then passed along to other team members who may not be familiar with them. Project delays leads to project overspending.

3. Contract Revision :- managing contract changes before and after contract approval is important to project success.



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