# PROJECT MANAGEMENT

## SCHOOL OF BUSINESS MANAGEMENT

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# Anurag Group of Institutions

## School of Business Management

Course Name : PROJECT MANAGEMENT

Course Number : A93002

Course Designation : Core

Credits : 4

II MBA – I Semester

(2019-20)

| **Name of Faculty** | **Academic Year/Regulation** |
|---|---|
| G. Sreevani | 2019-20/R18 |

## SYLLABUS

| | |
|---|---|
| Unit – I | Basis of Project Management: Introduction, Need for the Project management, Project Management knowledge areas and processes, project life cycle, project manager, phases of project management life cycle, project management processes. |
| Unit – II | Project Identification and selection: Introduction, Project identification process, project initiation, pre-feasibility study, feasibility study, project breakeven point. |
| Unit – III | Project planning: Introduction, project planning, need for project planning, project life cycle, Roles, Responsibilities and team work, project planning process, work break down structure. |
| Unit – IV | Organization structure and organizational issues: Introduction, concept of organization structure, roles and responsibilities of project leader, relation between project leader and line manager, leadership styles for project managers, conflict resolution, team management and diversity management, change management. |
| Unit – V | PERT and CPM: Introduction, Development of project network, Time estimation, Determination of critical path, PERT model, measures of variability, CPM model and network cost system. |

| Text Books | |
|---|---|
| 1 | Gary Larson, Project Management, TMH 2/e,2015 |
| 2 | Jeffery k. pinto. Project Management-Pearson Education 2015 |

| Reference Books | |
|---|---|
| 1. | R. Paneerselvam, P. senthil Kumar project management, PHI, 2015 |
| 2. | Thomas M Chappels, financially Focused Project Management, SPDM 2008 |

## MBA PROGRAM EDUCATIONAL OBJECTIVES (PEO's):

1. To teach the fundamentals of the key elements of a business organization.
2. To provide a critical perspective on theoretical knowledge and practical approach to various functional areas of management and decision making.
3. To develop analytical skills to identify the link between the management practices in the functional areas of an organization and business environment.
4. To establish and realize a creative research culture among the student community.
5. To provide insights on latest technology, business communication, management concepts and to build team work and leadership skills within them.
6. To inculcate the habit of inquisitiveness and creativeness aimed at self-actualization and realization of ethical practices.

## PROGRAM LEARNING OUTCOMES (PO's)

The learning outcomes specify the knowledge, skills, values and attitudes students are expected to attain in courses or in a program.

1. ***Business Environment and Domain Knowledge***: Graduates are able to improve their awareness sand knowledge about functioning of local and global business environment and society.
2. ***Critical thinking, Business Analysis, Problem Solving and Innovative Solutions****:* Graduates are expected to develop skills on analyzing the business data, application of relevant analysis, and problem solving in other functional areas such as marketing, business strategy and human resources.
3. ***Global Exposure and Cross-Cultural Understanding***: Demonstrate a global outlook with the ability to identify aspects of the global business and Cross Cultural Understanding.
4. ***Social Responsiveness and Ethics:*** Graduates are expected to identify the contemporary social problems, exploring the opportunities for social entrepreneurship, designing business solutions and demonstrate ethical standards in organizational decision making.
5. ***Effective Communication***: Graduates are expected to develop effective oral and written communication especially in business applications, with the use of appropriate technology.
6. ***Leadership and Teamwork***: Graduates are expected to collaborate and lead teams across organizational boundaries and demonstrate leadership qualities, maximize the usage of diverse skills of team members in the related context

**Course objective:** To enable the students to managing projects with a special focus on every phase such as project planning, execution, monitoring and evaluation

**Course outcomes: At the end of the Course students will be able to**

- Explain the basic principles of project management.
- Analyze the feasibility of project.
- Evaluation of an organization climate for project implementation.
- Plan and organize project management and responsibilities.
- PERT and CPM techniques for Project Management

**MAPPING OF COURSE OUT COMES WITH PO's & PEO's**

| Course Outcomes | PO's | PEO's |
|---|---|---|
| **CO1** | 1,2,3,4,5,6 | 1,2,3,5 |
| **CO2** | 2,3,4 | 3,4,5 |
| **CO3** | 2,3,5,6 | 3,4,6 |
| **CO4** | 5,6 | 2,3,4,5 |
| **CO5** | 4,5 | 4,5,6 |

**Articulation matrix of Course outcomes with PO's**

| | Program Outcomes | | | | | | Program Educational objectives | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **PO 1** | **PO 2** | **PO 3** | **PO 4** | **PO 5** | **PO 6** | **PEO 1** | **PEO 2** | **PEO 3** | **PEO 4** | **PEO 5** | **PEO 6** |
| **CO1** | 3 | 2 | 2 | 2 | 2 | 1 | 2 | 2 | 2 | - | 1 | - |
| **CO2** | - | 2 | 2 | 2 | - | - | - | - | 2 | 1 | 1 | - |
| **CO3** | - | 2 | 2 | - | 1 | 1 | - | - | 2 | 1 | - | 1 |
| **CO4** | - | - | - | - | 1 | 1 | - | 1 | 2 | 1 | 1 | - |
| **CO5** | - | - | - | 2 | 2 | - | - | - | - | 1 | 1 | 1 |

| Definitions | I. Remembering | II. Understanding | III. Applying | IV. Analyzing | V. Evaluating | VI. Creating |
|---|---|---|---|---|---|---|
| **Bloom's Definition** | Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers. | Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas. | Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way. | Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations. | Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria. | Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions. |
| **Verbs** | • Choose<br>• Define<br>• Find<br>• How<br>• Label<br>• List<br>• Match<br>• Name<br>• Omit<br>• Recall<br>• Relate<br>• Select<br>• Show<br>• Spell<br>• Tell<br>• What<br>• When<br>• Where<br>• Which<br>• Who<br>• Why | • Classify<br>• Compare<br>• Contrast<br>• Demonstrate<br>• Explain<br>• Extend<br>• Illustrate<br>• Infer<br>• Interpret<br>• Outline<br>• Relate<br>• Rephrase<br>• Show<br>• Summarize<br>• Translate | • Apply<br>• Build<br>• Choose<br>• Construct<br>• Develop<br>• Experiment with<br>• Identify<br>• Interview<br>• Make use of<br>• Model<br>• Organize<br>• Plan<br>• Select<br>• Solve<br>• Utilize | • Analyze<br>• Assume<br>• Categorize<br>• Classify<br>• Compare<br>• Conclusion<br>• Contrast<br>• Discover<br>• Dissect<br>• Distinguish<br>• Divide<br>• Examine<br>• Function<br>• Inference<br>• Inspect<br>• List<br>• Motive<br>• Relationships<br>• Simplify<br>• Survey<br>• Take part in<br>• Test for<br>• Theme | • Agree<br>• Appraise<br>• Assess<br>• Award<br>• Choose<br>• Compare<br>• Conclude<br>• Criteria<br>• Criticize<br>• Decide<br>• Deduct<br>• Defend<br>• Determine<br>• Disprove<br>• Estimate<br>• Evaluate<br>• Explain<br>• Importance<br>• Influence<br>• Interpret<br>• Judge<br>• Justify<br>• Mark<br>• Measure<br>• Opinion<br>• Perceive<br>• Prioritize<br>• Prove<br>• Rate<br>• Recommend<br>• Rule on<br>• Select<br>• Support<br>• Value | • Adapt<br>• Build<br>• Change<br>• Choose<br>• Combine<br>• Compile<br>• Compose<br>• Construct<br>• Create<br>• Delete<br>• Design<br>• Develop<br>• Discuss<br>• Elaborate<br>• Estimate<br>• Formulate<br>• Happen<br>• Imagine<br>• Improve<br>• Invent<br>• Make up<br>• Maximize<br>• Minimize<br>• Modify<br>• Original<br>• Originate<br>• Plan<br>• Predict<br>• Propose<br>• Solution<br>• Solve<br>• Suppose<br>• Test<br>• Theory |

**Course Schedule**

Distribution of Hours in Unit – Wise

| Unit | Topic | Chapters | Total No. of Hours |
|---|---|---|---|
| | | **Book 1** | |
| **I** | Basis of Project Management | Gary Larson, R. Panneerselvam, P. Senthil kumar, Jeffery k. pinto | 10 |
| **II** | Project Identification and selection | Gary Larson, R. Panneerselvam, P. Senthil kumar, Jeffery k. pinto | 09 |
| **III** | Project planning | Gary Larson, R. Panneerselvam, P. Senthil kumar, Jeffery k. pinto | 12 |
| **IV** | Organization structure and organizational issues | Gary Larson, R. Panneerselvam, P. Senthil kumar, Jeffery k. pinto | 12 |
| **V** | PERT and CPM | Gary Larson, R. Panneerselvam, P. Senthil kumar, Jeffery k. pinto | 12 |
| Total classes for Syllabus coverage | | | 55 |
| Tutorial Classes : 1 per week | | | |

Lecture Plan

| S. No. | Topic | No of Lecture Hours | Teaching Learning Process |
|---|---|---|---|
| | **UNIT-1** | | |
| 1 | Introduction to Need for the Project management | 2 | Chalk & Board |
| 2 | Project Management knowledge areas and processes | 2 | PPT |
| 3 | Project life cycle | 1 | Activity |
| 4 | Role of project manager | 1 | Assignment |
| 5 | Phases of project management life cycle | 1 | Activity |
| 6 | Project management processes | 1 | Presentation |
| 7 | Case study | 2 | Discussion |
| | **UNIT-2 Project Identification** | | |
| 1 | Project Identification and selection | 2 | Chalk & Board |
| 2 | Project identification process | 2 | PPT |
| 3 | Project initiation | 1 | Activity-Role play |
| 4. | Pre-feasibility study & feasibility study | 1 | Activity |
| 5 | Project breakeven point. | 2 | Presentation |
| 6 | Case Study | 1 | Discussion |
| | **UNIT-3 Project Planning** | | |
| 1 | Project planning | 2 | Chalk & Board |
| 2 | Need for project planning | 2 | Activity |

| | | | |
|---|---|---|---|
| 3 | Project life cycle | 1 | Presentation |
| 4 | Roles, Responsibilities and team work | 2 | Role Play |
| 5 | Project planning process | 2 | Presentation |
| 6. | Work break down structure | 2 | Chalk & Board & Activity |
| 7 | Case study | 1 | Discussion |
| **Unit-IV Organization structure & Issues** | | | |
| 1 | Organization structure and organizational issues | 2 | Chalk & Board |
| 2 | Roles and responsibilities of project leader | 2 | Role Play |
| 3 | Relation between project leader and line manager | 2 | PPT |
| 4 | Leadership styles for project managers | 2 | Role Play |
| 5 | Conflict resolution | 1 | Activity |
| 6 | Team management and diversity management, | 1 | Activity |
| 7 | Change management | 1 | Chalk & Board |
| 8 | Case study | 1 | Discussion |
| **Unit-V Strategic Compensation Challenges** | | | |
| 1 | PERT and CPM | 2 | Problems |
| 2 | Development of project network | 2 | Problems |
| 3 | Time estimation & Determination of critical path | 2 | Problems |
| 4 | PERT model- Problems | 3 | Problems |
| 5 | CPM Model- Problems | 3 | Problems |
| **Total contact classes for Syllabus coverage : 55** | | | |

Minutes of Course Review Meeting

| Details of Meeting No - | |
|---|---|
| Date of Meeting | |
| Member's Present | |
| Signature of Member's | |
| Remarks | |
| **Details of Meeting No -** | |
| Date of Meeting | |
| Member's Present | |
| Signature of Member's | |
| Remarks | |
| **Details of Meeting No -** | |
| Date of Meeting | |
| Member's Present | |
| Signature of Member's | |
| Remarks | |

**Unit-1**

**Short questions:**

1. Explain the concept of Project (L2, CO1)
2. Explain Project Management (L2, CO1)
3. List out the objectives of Project management(L1, CO1)
4. Why projects are important? (L1, CO1)
5. Outline the characteristics of projects. (L2, CO1)
6. Differentiate Process and Project Management. (L4, CO1)
7. Explain Project stake(L2, CO1)
8. Identify the determinants of Project success. (L3, CO1)
9. List out the dimensions of Project. (L1, CO1)
10. Outline the advantages & disadvantages of Project management. (L2, CO1)
11. Explain project communication management. (L2, CO1)
12. List out the skills of project manager. (L1, CO1)
13. Identify types of projects. (L3, CO1)
14. Explain the need for the project(L2, CO1)
15. List out the benefits of project. (L1, CO1)

**Long questions:**

1. Discuss the classification & characteristics of Project. Support it with the help of example. (L2, CO1)
2. Explain Project Life Cycle and discuss it with the help of example. (L2, CO1)
3. Explain the first stage of Project Management in detail. (L2, CO1)
4. Explain why project management is important in organization. (L2, CO1)
5. Illustrate the project management knowledge areas and its process. (L2, CO1)
6. Evaluate the phases of project management. (L4, CO1)
7. List out the roles and responsibilities of project manager(L1, CO1)
8. Explain the activities of Project planning. (L2, CO1)
9. Identify the activities of Project execution(L3, CO1)
10. Discuss the goals of project management and explain the steps of project initiation. (L2, CO1)

**Unit-2:**

**Short questions:**

1. List out critical qualities of project. (L1, CO2)
2. Explain project conceptualization. (L2, CO2)
3. Identify the impact of project selection. (L3, CO2)
4. Explain Feasibility study(L2, CO2)
5. Identify the business case. (L3, CO2)
6. Explain situational analysis. (L2, CO2)
7. List resource analysis. (L1, CO2)
8. Importance of skill inventory(L5, CO2)
9. Explain the term risk management. (L2, CO2)

10. List out the factors of idea exploration (L1, CO2)
11. Explain the kinds of opportunities in project identification. (L2, CO2)
12. Explain the importance of project charter. (L2, CO2)
13. Explain BEP. (L2, CO2)
14. Explain analysis of competition. (L2, CO2)
15. Classify the markets in market environment. (L4, CO2)

**Long questions:**

1. Evaluate the different stages of project identification process flow with suitable example. (L5, CO2)
2. Outline the ranking criteria's of candidate projects. . (L2, CO2)
3. Discuss about the resource evaluation phase in project identification. . (L2, CO2)
4. Outline the importance of pre-feasibility study in project identification and selection. (L2, CO2)
5. Explain the different types of feasibility in feasibility analysis. . (L2, CO2)
6. Illustrate the steps in feasibility study. (L2, CO2)
7. Distinguish between technical feasibility and economic feasibility study. (L4, CO2)
8. Discuss the reasons to do feasibility study. (L2, CO2)
9. Discuss the purpose of doing pre-feasibility study. (L2, CO2)
10. Evaluate the importance and impact of BEP on revenue and expenses. (L5, CO2)

**Unit 3:**

**Short questions**

1. Explain the need of project planning. (L2, CO3)
2. Outline the structure of project planning. (L2, CO3)
3. List out the tools for project planning. (L1, CO3)
4. Identify the elements of project planning. (L3, CO3)
5. List out the duties of project team members(L1, CO3)
6. Identify the role of business analyst in project planning(L3, CO3)
7. Explain project schedule(L2, CO3)
8. Elaborate WBS(L2, CO3)
9. Explain how to manage plans in project(L2, CO3)
10. List out the steps for creating a project plan. (L1, CO3)
11. Explain project scope. (L2, CO3)

**Long questions**:

12. Discuss about project planning with a suitable example. (L5, CO3)
13. Discuss the role of multi-disciplinary teams in planning project activities. (L5, CO3)
14. Explain the concepts of cost estimating and cost improvement in project budgeting. (L2, CO3)
15. Illustrate the concept of cost estimating and improvement in project budgeting. (L2, CO3)
16. Describe work break down structure and role of multidisciplinary teams. (L2, CO3)
17. Evaluate the methods of project budgeting. (L4, CO3)
18. Explain the steps in project management planning process(L2, CO3)

**Unit-4**

**Short questions**

1. Explain organization structure. (L2, CO4)
2. List out the types of organization structure. (L1, CO4)
3. Outline the problems of organization in the workplace. (L2, CO4)
4. Summarize the role of project leader. (L2, CO4)
5. Outline the responsibilities of line manager. (L2, CO4)
6. Identify the duties of project leader. (L3, CO4)
7. Explain the concept of pace setting. (L2, CO4)
8. Explain Leadership. (L2, CO4)
9. Explain conflict management. (L2, CO4)
10. Summarize the concept of conflict in project management? (L2, CO4)
11. Explain project teams resolve the conflicts. (L2, CO4)
12. Outline the consequences of conflict. (L2, CO4)

**Long questions:**

13. Discuss the various types of project organizations and discuss its suitability for different project. . (L4, CO4)
14. Explain conflict management? Discuss its role in a project. . (L4, CO4)
15. Discuss the types of project organization. (L4, CO4)
16. Explain the team methods for resolving conflict. (L4, CO4)
17. Illustrate formal organization structure? And what are the types available in project organization? Explain them all. (L2, CO4)
18. Identify how the conflict may be arise in project organization? How the same will be resolved? . (L3, CO4)
19. Discuss in detail about conflict management role in a project. . (L4, CO4)
20. Explain in detail the functional organizational and matrix organizational structure. (L2, CO4)

**Unit-5:**

**Short questions**:

1. Explain PERT. ( L2, CO5)
2. Explain the concepts of network diagram. ( L2, CO5)
3. List out the types of floats. ( L1, CO5)
4. Outline the errors of network diagram. ( L2, CO5)
5. Explain the procedure to construct the network. ( L2, CO5)
6. Elaborate CPM. ( L4, CO5)

Long notes:

1. Distinguish between Total float, Free float and Independent float. ( L5, CO5)
2. Explain crashing in CPM technique? ( L2, CO5)
3. Discuss importance of project cost analysis. ( L4, CO5)
4. Explain the procedure of PERT. ( L2, CO5)

5. A project schedule has the following characteristics: ( L6, CO5)

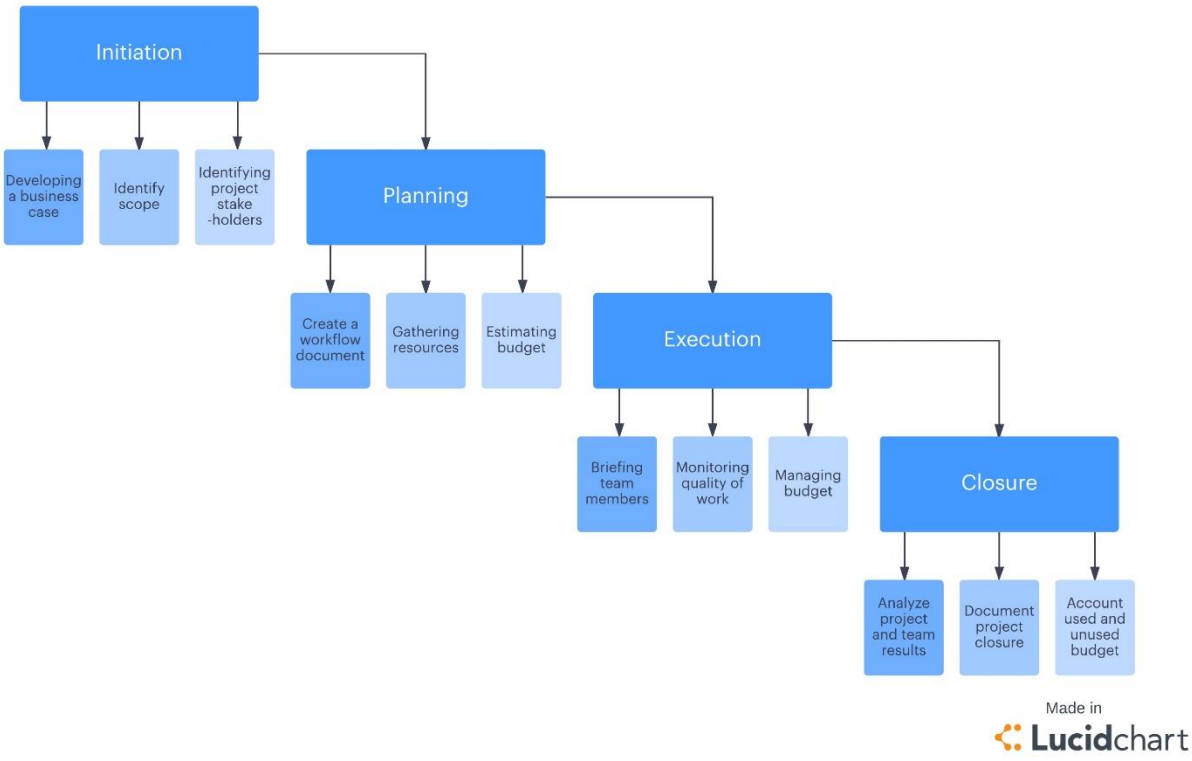
| Activity | Time (in days) |
|---|---|
| 1-2 | 2 |
| 1-4 | 2 |
| 1-7 | 1 |
| 2-3 | 4 |
| 3-6 | 1 |
| 4-5 | 5 |
| 4-8 | 8 |
| 5-6 | 4 |
| 6-9 | 3 |
| 7-8 | 3 |
| 8-9 | 5 |

   Construct the network and find the critical path and time duration of the project
6. Differences between PERT and CPM approaches in project management? ( L4, CO5)
7. List out the steps to be followed for crashing project completion time. ( L1, CO5)

# RCA-
# Research:

Project management is the practice of initiating, planning, executing, controlling, and closing the work of a team to achieve specific goals and meet specific success criteria at the specified time. The primary challenge of project management is to achieve all of the project goals within the given constraints.[1] This information is usually described in project documentation, created at the beginning of the development process. The primary constraints are scope, time, quality and budget.[2] The secondary – and more ambitious – challenge is to optimize the allocation of necessary inputs and apply them to meet pre-defined objectives. The object of project management is to produce a complete project which complies with the client's objectives. In many cases the object of project management is also to shape or reform the client's brief in order to feasibly be able to address the client's objectives. Once the client's objectives are clearly established they should influence all decisions made by other people involved in the project – for example project managers, designers, contractors and sub-contractors. Ill-defined or too tightly prescribed project management objectives are detrimental to decision making.

# Phases of Project Management phases:



**Role of Project manager in Project Management:**

A project manager is a person who is responsible for making decisions, both large and small. The project manager should make sure they control risk and minimise uncertainty. Every decision the project manager makes must directly benefit their project.

**Roles and Responsibilities**

The role of the project manager encompasses many activities including:

- Planning and Defining Scope
- Activity Planning and Sequencing
- Resource Planning
- Developing Schedules
- Time Estimating
- Cost Estimating
- Developing a Budget
- Documentation
- Creating Charts and Schedules
- Risk Analysis
- Managing Risks and Issues
- Monitoring and Reporting Progress
- Team Leadership
- Strategic Influencing
- Business Partnering
- Working with Vendors
- Scalability, Interoperability and Portability Analysis
- Controlling Quality
- Benefits Realisation

Finally, senior management must give a project manager support and authority if he or she is going to be successful.

## PROJECT PLANNING:

The project planning process is the main tool used to ensure that tasks are completed in timely manner. A project may best be defined as a venture taken to ensure that a deliverable is completed within a specific timeframe and that certain criteria or objectives are met. In order to make certain that a project has the best chance of success and risk of failure has been minimized, a plan is devised to determine the most effective strategy for completion. Simply put, project planning involves the processes used to ensure that tasks are completed in an efficient manner. Those in positions of leadership often need to understand various project planning process steps and tools in order to facilitate communication between team members and ensure that all responsibilities are handled.

Project planning involves a series of four steps or phases that help ensure that tasks are completed and the intended goal is reached. Projects are unique and vary, and there are no identical methods used when executing a plan. While the main steps of each project management planning process are similar, the way they are executed may differ. The four panning steps or phases are as follows: project initiation, project planning, project execution, and project closure.
The project initiation phase begins with an overview of the intended objective or goal to be completed. The next phase, the project plan process, helps ensure that your objectives move from a thought or idea to tangible form. Once a project's objectives and goals have been clearly defined, steps are then initiated to bring the project to the execution stage. After the project has been executed, tested, and delivered, the project is closed. The four stages complete what is referred to as the project management lifecycle process.

The project management planning process must complete specified tasks, objectives, and goals in order to be a success. During the initiation stage, the main problem or task must be identified and explained. All possible solutions should be considered and possible risks identified and addressed. This is the best way to determine possible strategies that would contribute to the project plan. Once the initial idea is settled upon, a project team is assembled and tools needed for the project's completion are selected. A successful project will include a resource plan that ensures that all resources needed to fulfill the plan are subsidized and accounted for. Resources, itemizations, budgets, and financial data all contribute to the resource plan. In addition to resource lists, budgets, and financial information, a well-developed project plan also includes a detailed timeline or schedule. It is imperative that a project plan has a project start and end date, with adequate time allotted throughout the project to ensure its completion.

Dividing complex projects to simpler and manageable tasks is the process identified as Work Breakdown Structure (WBS).

Usually, the project managers use this method for simplifying the project execution. In WBS, much larger tasks are broken down to manageable chunks of work. These chunks can be easily supervised and estimated.

WBS is not restricted to a specific field when it comes to application. This methodology can be used for any type of project management.

Following are a few reasons for creating a WBS in a project:

- Accurate and readable project organization.
- Accurate assignment of responsibilities to the project team.
- Indicates the project milestones and control points.
- Helps to estimate the cost, time and risk.
- Illustrate the project scope, so the stakeholders can have a better understanding of the same.

Construction of a WBS

Identifying the main deliverables of a project is the starting point for deriving a work breakdown structure.

This important step is usually done by the project managers and the subject matter experts (SMEs) involved in the project. Once this step is completed, the subject matter experts start breaking down the high-level tasks into smaller chunks of work.

In the process of breaking down the tasks, one can break them down into different levels of detail. One can detail a high-level task into ten sub-tasks while another can detail the same high-level task into 20 sub-tasks.

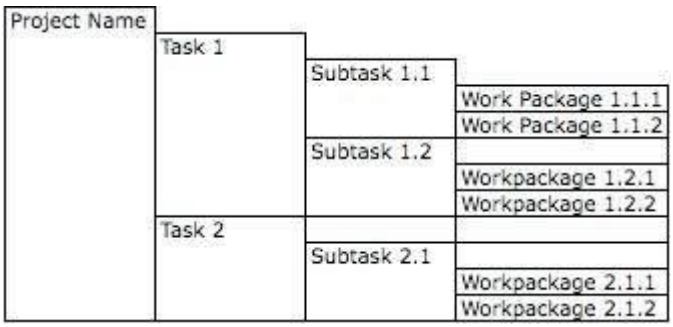
Therefore, there is no hard and fast rule on how you should breakdown a task in WBS. Rather, the level of breakdown is a matter of the project type and the management style followed for the project.

In general, there are a few "rules" used for determining the smallest task chunk. In "two weeks" rule, nothing is broken down smaller than two weeks worth of work.

This means, the smallest task of the WBS is at least two-week long. 8/80 is another rule used when creating a WBS. This rule implies that no task should be smaller than 8 hours of work and should not be larger than 80 hours of work.

One can use many forms to display their WBS. Some use tree structure to illustrate the WBS, while others use lists and tables. Outlining is one of the easiest ways of representing a WBS.

Following example is an outlined WBS:




There are many design goals for WBS. Some important goals are as follows:

- Giving visibility to important work efforts.
- Giving visibility to risky work efforts.
- Illustrate the correlation between the activities and deliverables.
- Show clear ownership by task leaders.

**WBS Diagram**

In a WBS diagram, the project scope is graphically expressed. Usually the diagram starts with a graphic object or a box at the top, which represents the entire project. Then, there are sub-components under the box.

These boxes represent the deliverables of the project. Under each deliverable, there are sub-elements listed. These sub-elements are the activities that should be performed in order to achieve the deliverables.

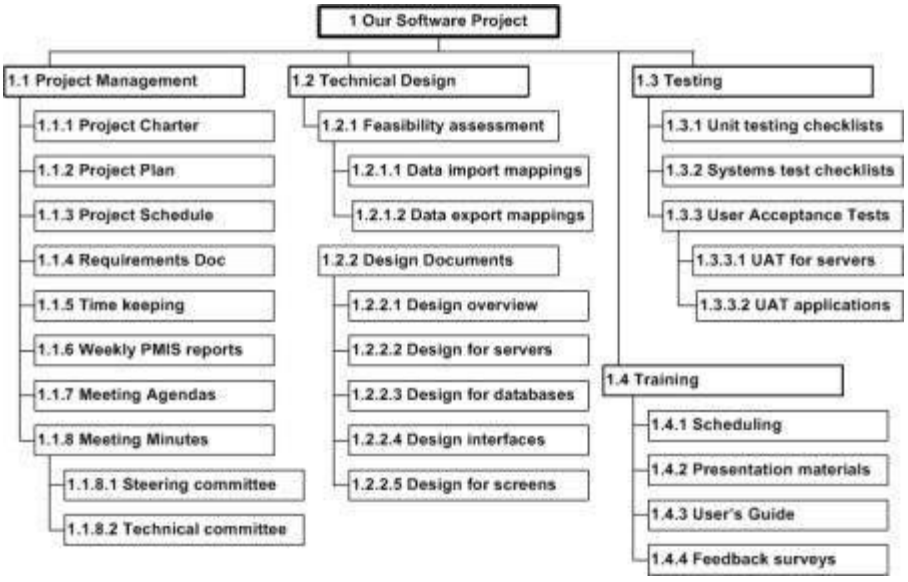
Although most of the WBS diagrams are designed based on the deliveries, some WBS are created based on the project phases. Usually, information technology projects are perfectly fit into WBS model.

Therefore, almost all information technology projects make use of WBS.

In addition to the general use of WBS, there is specific objective for deriving a WBS as well. WBS is the input for Gantt charts, a tool that is used for project management purpose.

Gantt chart is used for tracking the progression of the tasks derived by WBS.

Following is a sample WBS diagram:




Conclusion

The efficiency of a work breakdown structure can determine the success of a project.

The WBS provides the foundation for all project management work, including, planning, cost and effort estimation, resource allocation, and scheduling.

Therefore, one should take creating WBS as a critical step in the process of project management.

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## Conflict Resolution:

Conflict in project management is inevitable. The potential for conflict in information systems development projects is usually high because it involves individuals from different backgrounds and orientations working together to complete a complex task. The cause of conflict in team projects can be related to differences in values, attitudes, needs, expectations, perceptions, resources, and personalities. Proper skills in dealing with conflict can assist project managers and other organization members to handle and effectively resolve conflicts, which can lead to a more productive organization as a whole.

Conflict is "a situation of competition in which the parties are aware of the incompatibility of potential future positions and in which each party wishes to occupy a position which is incompatible with the wishes of the other." Conflict is viewed as a cycle: "As with any social process, there are causes; also, there is a core process, which has results or effects. These effects feed back to effect the cause." To understand conflict further, the situation must include elements of interdependence, emotions, perceptions, and behaviors. For example, conflict occurs between parties whose tasks are interdependent, who are angry with each other, who perceive the other party as being at fault, and whose actions cause a business problem.

# Case studies:

## Unit 1- Case: Manufacturing Case Study

### Project Description

The manufacturing company is the global leader in the manufacture, marketing and distribution of spices, seasonings and flavors to the entire food industry. Customers range from retail outlets and food service providers to food processing businesses. The manufacturing spice company has approximately 8,000 employees. The manufacturing spice company's Information Technology department needs help institutionalizing project management. The manufacturing spice company decided to implement project management procedures and a training program that would enable their staff to institutionalize project management.

### Company Challenge:

Challenge Number 1:
There was no standard methodology written down to help employees understand how to manage projects and consistently report on their progress. Project Masters was hired to help develop standard project management procedures to fill this need with a project manager mentor.
Challenge Number 2:
Most of the work in the spice company's IT department is project based but, these projects include managing new initiatives. The current Project Managers each had their own way of managing projects that was inconsistent. Project Masters was hired to develop a Project Management training program, to be delivered by Project Masters' instructors. Initially, the training was intended to reflect the "The Spice Company's Way" and use the PMBOK® as a guide line in managing projects.

### Challenges:

Project Masters addressed the following challenges:

- No formal methodology in managing IT projects
- No formal reporting methodology in reporting on the IT projects
- Differing inputs, opinions, needs from the various levels of the organization as well as from the various locations
- No formal training program in project management

### Solution(s) Provided:

Over a period of more than 8 years, Project Masters' consultants met with key spice company's IT personnel from all levels to develop the Project Management procedures as well as the Project Management training program and help mentor one of their key managers in project management.

Over the contract Project Masters tailored our courses to the spice company's IT Personnel, flavor scientists, marketing personnel and provided general project management training. The courses we tailored and taught at The Spice Company's were:

- Project Management Overview
- Planning the Project
- Monitoring and Controlling the Project
- Project Closeout
- Project Management Basics
- Managing the Project's Scope
- Managing the Project's Time
- Team Management for a Project
- Managing the Project's Risk
- Managing the Project's Budget
- Managing the Project's Quality
- MS Project

In order to help the spice company's employee's advance in their knowledge in MS Project we held two-hour lunch-n-learns. They could bring their challenging questions to our MS Project expert for him to answer. This was very successful and helped their project managers create more accurate project schedules.

Project Masters provided the manufacturing spice company with a Project Management Mentor / Coach who would work with a key person to assist them in reaching their goals and objectives concerning project management. The primary goal of the Mentor / Coach is to assist the manufacturing spice company in acquiring the additional knowledge and skills necessary for them to manage projects in a manner that meets the standards to be developed.

Following, is a list of the key activities that the Mentor / Coach helped the key person at the manufacturing spice company achieve:

1. Help conduct a thorough " Review of Ongoing Projects "
    - Ascertain the current Status of all ongoing projects with respect to Scope, Schedule, and Budget.
    - Ascertain the current level and methods used for project reporting.
    - Ascertain the status of all project deliverables and milestones.
2. Assist in the development of an efficient, formalized Project Reporting System
    - Help implement a system that allows for efficient and effective reporting on project timeframes.

- Help implement an "Issues Management" System.
- Help implement a system that facilitates escalation of project issues and concerns

3. Provide Ongoing Training and Reinforcement with respect to agreed-upon performance objectives.
4. Assist the manufacturing spice company with the development and institutionalization of a standardized, tailored, Project Management Process
5. Help develop a procedures manual for small, medium and large projects.

**Benefit:**

Project Masters provided consulting services and training programs that enabled the spice company to:

- Begin to modify behavior in the Project Management arena to better meet the needs of its customers.
- Understand the Project Management model that is currently used by the Project Management Institute.
- Have a standard way to do project management that was consistent through all of IT and in several other departments.
- Have a clear requirement of how to handle small, medium and large projects.
- Save large amounts of money on projects by doing the pre-job planning and evaluating risk before accepting a project

## Unit 2-Case: Enhance Hospital Operation Using Lean & Six Sigma

**Project Description**

Project Masters was hired to help with an improvement initiative within a hospital. Results included increasing patient satisfaction, decreasing the time it takes to see an Emergency Department doctor, and lowering Out-Patient Length of Stay (LOS) in the Emergency Department. All of this was done without increasing the number of doctors, staff or rooms!

**Hospital Challenge:**

A hospital was getting some of the lowest emergency department patient satisfaction scores of any hospital in the country. Gallup Patient Satisfaction scores were in the range of 1 to 10%. Although the emergency department was helping patients and saving lives, their patients were not happy

with their experience in the emergency department. The hospital had tried training its staff to show more concern for the patients. They tried to do more things to make the patients more comfortable (warm blankets, ice chips, meal coupons, etc.) However, nothing seemed to have a positive impact on the scores.

**Challenges & Solution(s) Provided:**

Using the DMAIC (Define, Measure, Analyze, Improve, and Control) Process, the first step was to identify the scope of the process: who are the Customers and what do the Customers expect? From looking at the hospital's data, it became very apparent that over 80% of the emergency room's Customers were outpatient. They expected only the best possible treatment and they wanted it quickly. However, it was taking an average of over 3 hours to see a doctor and they could expect to be in the emergency department for four to five hours once they arrived. Even with warm blankets and meal coupons, the three hour wait to see a doctor was never pleasant as the patients were already not feeling well and they had to sit next to people that seemed even more ill. Patients would regularly call an ambulance to take them to the emergency department thinking it would get them to see a doctor sooner. Or they would present with "chest pains" hoping to get treatment faster. When none of this worked, they became increasingly dissatisfied.

The hospital assembled a cross-functional team to work with our consultants. The team used several Lean tools including Patient Process Flow, Value Stream Mapping, and Full Work Analysis. Once the current state of the process was understood, the team collected data on the cycle times, change over times, defect rates, patient volumes, and other pertinent data. Many great suggestions and ideas were discovered during this stage and were recorded for later use.

An analysis was performed using all the data. Ideas were collected which resulted in a consensus on the best improvements to make. To determine whether the ideas were really going to be improvements, a pilot was run to prove the benefits. Since the team was made up of a good cross-section of the emergency department, they had enough staff with the right skills to run their own track for a few hours. As some of the team worked the pilot, other team members would take data on the proposed process. The consultant then led the team through data analysis and discussion to make even more improvements, given their new knowledge from the pilot.

All of the improvements were then documented in an "Education Packet" to help educate the rest of the Emergency Department staff or any new hire. Every person in the department and some of the ancillary people were educated in their new role including doctors, nurses, technicians, and administrative staff. Communication sessions were held with other departments in the hospital to explain what the team had found, how they would be changing their process, and what results they expected. Since change is not easy, the team was used to "coach" the rest of the staff for the first 3-weeks to ensure that the new changes would stay in place and to catch and correct any issues that were created by the new process.

Sustaining the new process was accomplished by creating a "Lean Committee" that would advise the Emergency Department Director on what issues were being encountered and to make suggestions on how to overcome these issues. In addition, the consultants devised an audit that could be done by the Emergency Department on a regular basis to see if they were sustaining the gains made by the implementation team and to define a path for further improving the process.

**Benefit:**

The Emergency Department has held their gains. They reduced the average Door-To-Physician time from 182 minutes to 143 minutes. Outpatient LOS dropped from 336 minutes to 288 minutes. Patient Overall Satisfaction increased substantially. No new staff was added. The team expects even better results, as they are able to implement some of the longer-term improvement opportunities in the next month. Their goal is Door-to-Physician time of 45 minutes, Out-patient LOS of 120 minutes, and Patient Satisfaction greater than 80%.

The biggest benefit the hospital gained is they now have people trained in improvement techniques that can be applied to any process in the hospital. Improving the Emergency Department helped to expose other opportunities. Admission Holds can clog the Emergency Department and cause extensive wait times. As a result, this hospital has chartered a new team to use some of the same techniques on the admission process. In addition, patients who leave without seeing a doctor are a defect to the Emergency Department. This has been a great opportunity to apply the Six Sigma tool set.

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## Unit 3 Case: Non-Profit IT Project Case Study

### Project Description

Manages multiple, complex projects related to the upgrade of the infrastructure and support systems of the Radio satellite System ("PRS"). The projects involve a multi-disciplinary approach to a complete replacement of the infrastructure of the PRS hardware and software delivery systems in order to support future producer and station operations. Participates with other staff, consultants, and vendors in the NPR's Distribution Division ("Distribution") and elsewhere in PRS project in the creation of project plans, specifications, designs, testing plans, and oversees implementations of technology acquisition and system/web development projects. Creates and maintains documentation, training, and records associated with the projects.

**Radio Satellite System Project's Challenges:**

The PRS project was running behind schedule and they needed a Senior Project Manager who would be responsible for the entire project. They needed a Project Manager to:

- Assign tasks related to multiple, concurrent projects in support of the program to self and others across organizations within Distribution
- Evaluate project status, analyze resource requirements, and determine need for outside resources
- Manage project tasks requiring awareness of multiple technical and business disciplines
- Manage and escalate project issues to Distribution management

- Negotiate and oversee consultant, contractor, and vendor contracts in consultation with other management and PRS's Legal staff
- Prepare project budgets
- Coordinate staff assignments with PRS department heads
- Prepare and present project status and budget reports to the Distribution Deputy Director of Projects and other Distribution management. Serves as principal project liaison with Distribution executives and managers
- Prepare and present informational sessions to program producers and stations
- Coordinate execution of program communication plan with Division members and external customer committees
- Manage multiple project teams in support of the program by developing clear objectives aligned with the program goals
- Institute technical delivery procedures and methodologies across software and broadcast engineering disciplines.

**Challenges:**

The Senior Project Manager had to interface with many different software and hardware vendors to get the project back on track.

**Solution(s) Provided:**

Project Masters provided a Senior Project Manager to:

- Get the project back on schedule
- Provide a detailed implementation project plan – all the activities PRS needs to complete to successfully deliver the PRS project, including critical path and external dependencies.
- Provide an action item list – manage the list of issues or action items to keep the plan on target. Include PRS risk issue to be worked and responsibilities assigned.
- Provide weekly status reporting – communicate internally and externally the status of the program progress
- Provide standard operating procedures – standard operating procedures for Distribution Information Systems staff.

**Benefit:**

Project Masters working together with PRS managed the test phase and user acceptance of the PRS project that:

- Managed the infrastructure of the PRS hardware and software delivery systems to help support future producer and station operations.
- Managed and controlled the upgrade of the infrastructure and support systems for the Radio Satellite System.
- Developed a workable project plan to get the integrator back on schedule
- Negotiated and oversaw consultants, contractor, and vendor contracts in consultation with other management

# Unit-4:

## A Case Study on Conflict Management

Shirley and Abdul both work for a software development company. The manager of the new product division was originally the leader of the project team for which she interviewed and hired Abdul. Shirley, another project team member, also interviewed Abdul, but strongly opposed hiring him for the project because she thought he was not competent to do the job.
Seven months after Abdul was hired, the manager left the project to start her own company and recommended that Abdul and Shirley serve as joint project leaders. Shirley agreed reluctantly? with the stipulation that it be made clear she was not working for Abdul. The General Manager consented; Shirley and Abdul were to share the project leadership.
Within a month Shirley was angry because Abdul was representing himself to others as the leader of the entire project and giving the impression that Shirley was working for him. Now Shirley and Abdul are meeting with you to see if you can resolve the conflict between them.
Shirley says: "Right after the joint leadership arrangement was reached with the General Manager, Abdul called a meeting of the project team without even consulting me about the time or content. He just told me when it was being held and said I should be there. At the meeting, Abdul reviewed everyone's duties line by line, including mine, treating me as just another team member working for him. He sends out letters and signs himself as project director, which obviously implies to others that I am working for him."
Abdul says: "Shirley is all hung up with feelings of power and titles. Just because I sign myself as project director doesn't mean she is working for me. I don't see anything to get excited about. What difference does it make? She is too sensitive about everything. I call a meeting and right away she thinks I'm trying to run everything. Shirley has other things to do?other projects to run?so she doesn't pay too much attention to this one. She mostly lets things slide. But when I take the initiative to set up a meeting, she starts jumping up and down about how I am trying to make her work for me."

**Question** Regarding This Conflict

1. Abdul and Shirley seem to have several conflicts occurring simultaneously. Identify as many of these individual conflicts as possible.

2. What are the possible ways to deal with the conflict between Abdul and Shirley (not just the ones that you would recommend, but all of the options)? 3. Given all the benefits of retrospection, what could or should have been done to avoid this conflict in the first place?

**ACTIVITIES:**

1. **(Unit-1 )Project Management Phases**: Divide the students into different groups and ask them to select any industry based on that they have to prepare the 4 phases of project life cycle when they received any project or initiated any project they themselves related to their core area. Later each team have to explain their plans in terms of human power, finance, what kind of technology they are going to use to reach the project, what kind of material they need to utilize in their project and identification of suppliers too.
2. (**Unit-2) Project Identification and Selection:** A group of students are involved in a project among them one student have to take the initiation to act as a project leader and they need to assess the project by the overall analysis they have to identify and select the project. Here how they are assessing and involving in their respective roles need to identify
3. **(Unit-3) Greeting card activity**: students are divided into small groups and they have to prepare the greeting card and they have fix the price for that and it should be more effective than the other teams in the class room.
4. (**Unit-4) Organizational issues**: In this activity students are divided into different teams in each team one has to act as a project leader/manager. The facilitator has to give different crisis situations to different teams each team has to analyze the situation and with the support of the leader how they are trying to overcome from the crisis they need to enact it.

# ANURAG GROUP OF INSTITUIONS

(Formerly CVSR college of Engineering)
Venkatapur (v), Ghatkesar (M), R.R. Dist.

**Sub: PROJECT MANAGEMENT**

**Model Question paper**

**Section A**

**Answer all the following:**

1. List out project management principles.
2. Identify the business case
3. Explain the concept of Conflict management.
4. List out the responsibilities of line manager
5. Explain the importance of Critical path method.

**Section B**

**Answer the following**

6. a) What are the important phases of a project life cycle? Discuss each phase briefly with key issues involved in it.

(OR)

b) What is the role of project manager in creating the culture of Project?

7. a) List out the various steps involved in project identification process.

(OR)

b). Illustrate the steps in feasibility study

8. a) Every project has risk associated with it. Do you agree? Discuss.

(OR)

b) Discuss in detail about work break down structure.

9. a) Discuss in detail about the 10 characteristics of successful project teams.

(OR)

b) Elaborate the Framework for the Determinants of Cross-Functional Cooperation

10. a) illustrate the guidelines for network construction

(OR)

b)Explain the significance of critical path in project management

Tutorial Sheet

| Unit-I Topics Revised |
| --- |
| Topic Name |
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| Unit-I Topics Revised |
| Topic Name |
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| Unit-III Topics Revised |
| Topic Name |
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| Unit-IV Topics Revised |
| Topic Name |
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| Unit-V Topics Revised |
| Topic Name |
| |
| |
| |

# Course Assessment Report

Batch:

Academic Year/Sem:

Course Name:

Course Number:

Course Attainment (75% of Direct + 25% of Indirect) on a scale of 1 to 3.

Remarks and suggestions:

Course Coordinator

Direct Course Assessment Sheet (As per IonCudos)

a) Internal Examination

Course assessment sheet Ass1

| Hall Ticket No | S1 | S2 | TOT |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |

Course assessment sheet Mid1

| Hall Ticket No | S1 | S2 | S3 | S4 | S5 | L1 | L2 | L3 | L4 | L5 | TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |

Course assessment sheet Ass2

| Hall Ticket No | S1 | S2 | TOT |
|---|---|---|---|
| 1 | | | |
| 2 | | | |
| 3 | | | |

Course assessment sheet Mid2

| Hall Ticket No | S1 | S2 | S3 | S4 | S5 | L1 | L2 | L3 | L4 | L5 | TOT |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | |
| 2 | | | | | | | | | | | |
| 3 | | | | | | | | | | | |

b) External Examination

| Hall Ticket No | Total Marks |
|---|---|
| | |
| | |
| | |

| CSP Rubric | | | |
|---|---|---|---|
| S.No. | Criteria | LEVEL ( Level: 3-Excellent Level: 2-Good Level: 1-Poor) | |
| 1 | Oral Communication | 3 | Student speaks in phase with the given topic confidently using Audio-Visual aids. Vocabulary is good |
| | | 2 | Student speaking without proper planning, fair usage of Audio-Visual aids. Vocabulary is not good |
| | | 1 | Student speaks vaguely not in phase with the given topic. No synchronization among the talk and Visual Aids |
| 2 | Writing Skills | 3 | Proper structuring of the document with relevant subtitles, readability of document is high with correct use of grammar. Work is genuine and not published anywhere else |
| | | 2 | Information is gathered without continuity of topic, sentences were not framed properly. Few topics are copied from other documents |
| | | 1 | Information gathered was not relevant to the given task, vague collection of sentences. Content is copied from other documents |
| 3 | Social and Ethical Awareness | 3 | Student identifies most potential ethical or societal issues and tries to provide solutions for them discussing with peers |
| | | 2 | Student identifies the societal and ethical issues but fails to provide any solutions discussing with peers |
| | | 1 | Student makes no attempt in identifying the societal and ethical issues |
| 4 | Content Knowledge | 3 | Student uses appropriate methods, techniques to model and solve the problem accurately |
| | | 2 | Student tries to model the problem but fails to solve the problem |
| | | 1 | Student fails to model the problem and also fails to solve the problem |
| 5 | Student Participation | 3 | Listens carefully to the class and tries to answer questions confidently |
| | | 2 | Listens carefully to the lecture but doesn't attempt to answer the questions |
| | | 1 | Student neither listens to the class nor attempts to answer the questions |
| 6 | Managerial skills | 3 | The program structure is well organized with appropriate use of technologies and methodology. Code is easy to read and well documented. Student is able to implement the algorithm producing accurate results |
| | | 2 | Program structure is well organized with appropriate use of technologies and methodology. Code is quite difficult to read and not properly documented. Student is able to implement the algorithm providing accurate results. |
| | | 1 | Program structure is not well organized with mistakes in usage of appropriate technologies and methodology. Code is difficult to read and student is not able to execute the program |
| 7 | Practical | 3 | Independently able to write programs to strengthen the concepts covered in theory |

| | | | |
|---|---|---|---|
| | | 2 | Independently able to write programs but not able to strengthen the concepts learned in theory |
| | | 1 | Not able to write programs and not able to strengthen the concepts learned in theory |
| 8 | Understanding of Engineering core | 3 | Student uses appropriate methods, techniques to model and solve the problem accurately in the context of multidisciplinary projects |
| | | 2 | Student tries to model the problem but fails to solve the problem in the context of multidisciplinary projects |
| | | 1 | Student fails to model the problem and also fails to solve the problem in the context of multidisciplinary projects |

Indirect Course Assessment Sheet

Tools:

a) Case Study

| S.No. | Hall Ticket Number | Rubric Assessment |
|---|---|---|
| 1 | | |
| 2 | | |
| 3 | | |

b) Course End Survey Report

Add-ons (Guest Lecture/Video Lecture/Certification/Training Program/Poster Presentation…. etc. )

1. Poster Presentation
2. Rank Sheet Certification

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