



**K S RANGASAMY COLLEGE OF TECHNOLOGY**  
Tiruchengode – 637215  
(An Autonomous Institution, Affiliated to Anna University, Chennai)  
**DEPARTMENT OF MECHANICAL ENGINEERING**



**FLIPPED CLASS - CIRCULAR**

Programme & Branch	B.E & MECHANICAL ENGINEERING	Semester	VII
Course Code & Name	50 ME 702 – OPERATIONS RESEARCH		
Maximum Marks	20	Date	05.11.2022

The video link for the topic “**Critical Path Method (CPM) and Project Evaluation and Review Technique (PERT)**” is <https://www.youtube.com/watch?v=rjDNecDKFrU>. All the students are requested to listen the video and come with preparation. Evaluation to be held on 06.11.2022 (Third Hour) in our classroom Hall Number A 205 in Mechanical Block.

Course Instructor

  
Mr. Ramesh C



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Module: Management


Topic: - Critical Path Method (CPM) and Project Evaluation and Review Technique (PERT)

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Q.NO	Questions	Blooms Level	CO	Marks
1	List out the difference between an event and an activity.	Re	CO 3	2
2	Define nodes.	Re	CO 3	2
3	Discuss various steps involved in the applications of PERT and CPM.	Re	CO 3	2
4	Define network techniques.	Re	CO 3	2
5	List out the rules for network diagram.	Re	CO 3	2
6	Distinguish between PERT and CPM.	Kn	CO 3	10

Blooms Level	Marks
Remember	10
Knowledge	10

Q.No	CO	Marks
1,2,3,4,5,6	CO3: Construct Networks and find optimum solution.	20

  
Course Instructor  
Mr. Ramesh C  
5/11/22

## Page - A.

2. Dummy activity in Network model: Dummy activity in network model is an imaginary line (or) dotted line made when it is needed in network model (or) when the network model is more complex.

3. Critical activity: The activity in the process done between two nodes. The critical activity is that the longest activity that takes place in the network model.

5. EOQ Formula: Economic Order Quantity.

$$Q^* = \sqrt{\frac{2CO D}{iP}} \quad \text{where } C = \text{Ordering cost}$$

$D = \text{Demand}$

$i = \text{Inventory cost}$

$P = \text{Price per unit}$

Assumption in EOQ formula is

$$Q_1^* = \sqrt{\frac{2CO D}{iP_1}}$$

$$Q_2^* = \sqrt{\frac{2CO D}{iP_2}}$$

4. The necessity of maintaining inventory.

Inventory: The process of storing stocks, commodities and other economic related things for efficient function of business is known as inventory.

The main necessity for maintaining inventory is that for efficient function of business.

When the inventory is maintained properly the company can run without any lack of raw materials, goods etc and function effectively.

6. Buffer stock: The stock that is stored in an store room for an emergency purpose is known as buffer stock.

For example if the company is running out of stock they can able to take the stock from buffer stock area.

1. Differentiate CPM and PERT.

CPM stands for critical path method. In critical path method we use network diagrams.

## Part B

8. a) Monte Carlo simulation: Monte Carlo simulation is a technique used to understand the <sup>input</sup>  $y$ -axis and uncertainty in operations, project management, cost and other forecasting model. A management help one visualize that an all the potential outcome to have a better idea regarding the merits of a decision.

A part from the Monte Carlo simulation it has many application in understanding complex dynamic system and for maximum important part.

8. b). The types of simulation:

- \* Identify simulation
- \* Queue identify simulation
- \* Laboratory simulation
- \* Computer simulation

Identify simulation: Identify simulation is a simulation technique type mainly used in identifying the input and output models and showing as identifying the problems that occur in the system.

Queue identify simulation: Queue identify simulation is a simulation type mainly used in identifying queue



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MECH

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**Impact Analysis of Flipped Class Activity**

1. From the above flipped class activity, the students can understand the operation of the Critical Path Method and Project Evaluation and Review Technique method.
2. Students can solve problems related CPM and PERT, also real time problems like pipe line, underground cable and Transportations techniques.

Course Instructor

Mr. Ramesh C