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Class: BUS 412

Answer the following questions (single-space using a common style and font size - i.e. Times New Roman 12) on a Word doc and upload to the appropriate dropbox.

Short Answer (4 to 5 sentences)

1. Describe three advantages of of using activity networks for project scheduling.
2. Define the critical path in a project. Why is it important to understand what it is and what affects it?
3. Define the Critical Path Method (CPM). Both chapters might assist with this question.
4. Define Program Evaluation and Review Technique (PERT). Both chapters might assist with this question.
5. The two most common methods for constructing activity networks are Activity-on-Arrow (AOA) and Activity-on-Node (AON). Briefly compare and contrast the two. Both chapters might assist with this question.
6. The text describes four methods for reducing the critical path. Describe two of these.
7. What is a Gantt chart? Describe two benefits of using them for project management.
8. What do we mean by 'crashing a project'? What are two reasons for crashing a project?
9. The text describes six techniques for crashing a project/accelerating it. Describe two of them.

Short Answer:

1. Three advantages of using activity networks for project scheduling are: a) They provide a clear and visual representation of project tasks and their interdependencies, making it easier to identify critical tasks and potential delays. b) They allow project managers to estimate project durations more accurately by breaking down complex tasks into smaller, more manageable ones. c) They enable managers to identify the earliest start and finish times, as well as the latest start and finish times, for each activity in the project, helping to optimize resource utilization.
2. The critical path is the longest sequence of tasks in a project that must be completed on time in order for the project to finish on schedule. It is important to understand the critical path because any delay in any of the tasks on this path will cause the entire project to be delayed. Identifying the critical path allows project managers to focus their resources and attention on the most critical tasks and ensure that they are completed on time.
3. The Critical Path Method (CPM) is a project management technique that uses a network diagram to model the sequence of activities in a project and to determine the critical path. It helps managers to schedule, coordinate and control project activities,

and to identify the critical activities that must be completed on time to meet project deadlines.

4. The Program Evaluation and Review Technique (PERT) is a project management technique that uses a network diagram to model the sequence of activities in a project and to estimate the time required to complete each activity. PERT takes into account the inherent uncertainty in estimating activity durations and uses a probabilistic approach to determine the expected project duration.
5. The Activity-on-Arrow (AOA) method represents project activities as arrows and events as nodes, while the Activity-on-Node (AON) method represents project activities as nodes and uses arrows to show the dependencies between them. AOA is generally used for simpler projects with fewer dependencies, while AON is more commonly used for complex projects with many interdependencies.
6. Two methods for reducing the critical path are: a) Crashing, which involves reducing the duration of critical activities by adding more resources or changing the way they are executed. b) Fast tracking, which involves overlapping activities that would normally be done sequentially to reduce the overall project duration.
7. A Gantt chart is a visual representation of a project schedule that shows the start and end dates of each task in a timeline format. Two benefits of using Gantt charts for project management are that they provide a clear and easy-to-understand overview of project tasks and timelines, and that they allow managers to track progress and identify delays in real-time.
8. Crashing a project refers to the process of accelerating a project's completion time by adding more resources or increasing the amount of work being done. It is often done when a project is behind schedule, and there is a need to meet tight deadlines. Two reasons for crashing a project include minimizing the overall project duration and maximizing resource utilization.
9. One technique for crashing a project is to use overtime, where employees work beyond their regular hours to complete the project faster. Another technique is to fast-track certain activities or phases of the project, which involves overlapping activities that would typically be done sequentially.