The table below shows the activities required to complete a new product development project with their durations and immediate predecessors.

|  |  |  |
| --- | --- | --- |
| **Activity** | **Preceding Activities** | **Duration (weeks)** |
| A | - | 4 |
| B | - | 10 |
| C | - | 7 |
| D | A | 5 |
| E | B | 3 |
| F | B | 6 |
| G | C | 2 |
| H | F | 8 |
| I | F,G | 11 |
| J | D,E | 8 |

For the project-

1. Draw AON type network diagram and determine the completion time. Identify all possible paths, critical path and slack.
2. Prepare Gantt chart.
3. If $1000 can be saved for each delayed week of activity H, then how much dollar can be saved keeping the project completion time unchanged?
4. Activity G needs a delayed time of two weeks and extra time of five week, is it possible by keeping the project completion time unchanged?
5. The PM wants to shorten the duration of the activity I from 11 weeks to 9 weeks. What will be the impact of this change on project completion time?