**CENG 6101**

**Lab Assignment**

**Using MS Project 2010**

For the activities given below, create a project schedule using MS Project 2010 and answer the following questions:

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Activity ID | Activity Name | Duration | Predecessor | | | Resources |
| Activity ID | Relationship | Lead/Lag |  |
| RD-Road Work | | | | | | |
| RD10 | Bulk excavation | 7 |  |  |  | Dozer, Foreman |
| RD20 | Sub Base for Road | 4 | RD10 | FS | 0 | Dozer, Gravel, Foreman |
| RD30 | Base-course for Road | 4 | RD20 | SS | 2 | Grader, Lime, Foreman |
| RD40 | Prime Coat for Road | 1 | RD30 | FS | 0 | Spreader, Bitumen, Foreman |
| RD50 | 50 mm Asphalt for Road Layer I | 2 | RD40 | FS | 0 | Paver, AC, Foreman |
| RD60 | 50 mm Asphalt for Road Layer II | 2 | RD50 | FS | 0 | Paver, AC, Foreman |
| FW-Finishing Works | | | | | | |
| FW10 | Install Signs | 1 | RD60 | SS | 0 | Excavator, Signs Foreman |
| FW20 | Pavement Marking | 1 | RD60 | SS | 1 | Marker-machine, Paint, Foreman |
| FW10 | FF | 0 |
| LS-Land Scaping | | | | | | |
| LS20 | Seeding | 2 | RD60 | FS | 0 | Seeder, Seeds, Foreman |
| LS10 | Sidewalks | 4 | RD60 | FS | 0 | Concrete-paver, Concrete, Foreman |
| LS20 | FF | 0 |
| FW20 | FF | 0 |

1. The completion date of the project is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Number of critical activities is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Criticality ratio is defined as the number of critical activities divided by the total number of activities. Accordingly, the criticality ratio for the given exercise is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Complete the following table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Activity ID | Activity Name | Original Duration | Early Start | Early Finish | Late Start | Late Finish | Total Float |
| RD10 | Bulk excavation | 7 |  |  |  |  |  |
| RD20 | Sub Base for Road | 4 |  |  |  |  |  |
| RD30 | Base-course for Road | 4 |  |  |  |  |  |
| RD40 | Prime Coat for Road | 1 |  |  |  |  |  |
| RD50 | 50 mm Asphalt for Road Layer I | 2 |  |  |  |  |  |
| RD60 | 50 mm Asphalt for Road Layer II | 2 |  |  |  |  |  |
| FW10 | Install Signs | 1 |  |  |  |  |  |
| FW20 | Pavement Marking | 1 |  |  |  |  |  |
| LS20 | Seeding | 4 |  |  |  |  |  |
| LS10 | Sidewalks | 2 |  |  |  |  |  |

1. Assuming that earthwork for road will require a duration of 4 days instead of 7 days, then the new completion date for the project is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The designer decided to change the prime coat material type for the road; accordingly, 3 additional days were consumed in the process of procuring the new prime coat. Assuming all activities prior to that activity progressed as planned (where excavation is 7 days), examine the effect of this delay on the schedule by completing the following table:

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Activity ID | Activity Name | Original Duration | Early Start | Early Finish | Late Start | Late Finish | Total Float |
| RD10 | Bulk excavation | 7 |  |  |  |  |  |
| RD20 | Sub Base for Road | 4 |  |  |  |  |  |
| RD30 | Base-course for Road | 4 |  |  |  |  |  |
| RD40 | Prime Coat for Road | 1 |  |  |  |  |  |
| RD50 | 50 mm Asphalt for Road Layer I | 2 |  |  |  |  |  |
| RD60 | 50 mm Asphalt for Road Layer II | 2 |  |  |  |  |  |
| FW10 | Install Signs | 1 |  |  |  |  |  |
| FW20 | Pavement Marking | 1 |  |  |  |  |  |
| LS20 | Seeding | 4 |  |  |  |  |  |
| LS10 | Sidewalks | 2 |  |  |  |  |  |

1. The new project completion date is: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Please submit a softcopy of your schedule via e-mail to [abraham.aau@gmail.com](mailto:abraham.aau@gmail.com) with your name and “MS Project Lab” in the subject. Please complete and hand in the hard copy of the lab handout to the School office. The deadline for submitting the lab is **Friday, January 13, 2017 at 5:00pm**.