**KING SAUD UNIVERSITY**

**COLLEGE OF ARCHITCTURE AND PLANNING**

**Department of Architecutre and Building Sciences**

**ARCH 435: Project Management**

**First Semester 1433/1434H**

**Homework No. 1**

**Bar Chart Technique**

A small one-story commercial buildingis to be constructed on the site of an existing small frame sturcter. It is 10 m by 20 m in plan. The exterior and interior walls are of concrete blocks. The roof is comprised of bar joists on long-span bar joists convered with steel roof deck, rigid insulation, and built-up roofing. The ceiling is a suspended acoustical tile. The florr is a concrete slabe on grade with a ceramic tile finish. Interior finish on all walls is paint. The project has been broken dowin into 18 steps (activities),construction time estimate has been make for each, and dependencies has been provieded bleow. Check the dependence reduntancies and draw a Bar chart for this project.

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| --- | --- | --- | --- |
| **No** | **Activity** | **Dependency** | **Duration****(Days)** |
| 1 | Demolition | - | 2 |
| 2 | Foundations | - | 3 |
| 3 | Underground Services | 1, 2, 10 | 1 |
| 4 | Exterior Walls | 1, 2, 3 | 6 |
| 5 | Interior Walls | 4 | 3 |
| 6 | Roof Steel | 4, 5 | 2 |
| 7 | Roof Finish | 6 | 2 |
| 8 | Floor Slab | 4 | 3 |
| 9 | Floor Finish | 5,8 | 2 |
| 10 | Rough Plulmbing and Heating | 3, 8, 4, 5, 6, 7 | 3 |
| 11 | Finish Plumbing and Heating | 10 | 4 |
| 12 | Rough Electrical  | 4, 5 | 3 |
| 13 | Finish Electrical  | 12 | 3 |
| 14 | Rough Carpentry | 4, 5, 6, 7, 8, 9 | 2 |
| 15 | Finish Carpenrty | 14 | 4 |
| 16 | Ceiling | 4, 5, 6, 7, 8, 9 | 3 |
| 17 | Display Windows | 4, 5, 6, 7, 9 | 1 |
| 18 | Paint | 16, 17, 13, 11 | 3 |