Assignment 3 Analysis

7) The earliest finish date for Project_3 if it is scheduled to start on 10/14/19 is 4/2/20.

8) No, This project cannot be completed in 2 months after the project is started because the resources are being shared among the 3 projects. As the tasks are simultaneously running in the 3 projects it is difficult to use the same resources which makes them over utilized. So making efficient resource utilization does not give any chance to complete this project with in 2 months after it is started on 10/14/19.

10)

Start date for Assignment#1 project: 9/9/19

Finish date for Assignment#1 project: 9/22/20

Start date for Assignment#2 project: 10/7/19

Finish date for Assignment#2 project: 9/4/20

Start date for Assignment#3 project: 10/14/19

Finish date for Assignment#3 project: 4/2/20.

Assumptions and Constraints:

- No two projects have same project managers.
- Every review or inspection "meeting" task shall be carried by 5 engineers including ONE of the author(s).
- Every review or inspection "preparation" task shall be carried by 4 engineers excluding the author(s).
- Any "Rework" task can be executed by one or all authors of the original task.
- Project Plan shall be reviewed by at least one engineer from every technical area, because of this constraint there are 5 engineer's assigned to project plan preparation task (DE, PE, TE, SE, RE) who are engineers from each technical area. "Documentation task is also considered as technical task"
- Design task is considered only for DD as this is the only common task in Assignment#1 project and Assignment#2 projects.
- Other than the project plan the writing task has been shared among the engineer's to reduce the duration.

Note: Corrected the calculation mistake in Assignment#2 project and used the updated the finish dates in this results.

WBS for Project 1 includes:	WBS for project 2 includes:	WBS for project 3 includes:
Task Name	Task Name	Task Name
Project 1	**Shared_Project**	**Baseline_Project**
Project Plan	**Project Plan**	**Project Plan**
Write Plan	Write Plan	Write Plan
Review Plan	**Review Plan**	**Review Plan**
Preparation for review	Preparation for review	Preparation for Review
Review Meeting	Review Meeting	Review Meeting
Rework	Rework	Rework
Risk Mitigation and Contingency Plan	**Requirement**	**Documented Software Development Process Updates**
Write Plan	Write Requirements	Process Changes
Review Plan	**Review Requirements**	**Review Changes**
Preparation for review	Preparation for review	Preparation for Review
Review Meeting	Review Meeting	Review Meeting
Rework	Rework	Rework
Requirement	**Lab and Environment Setup**	**Requirement**
Write Requirements	**Hardware**	Write Requirements
Write Use Case Model	Install Server	**Review Requirements**
Review Requirements/Use Case Model	Install Clients	Peparation for Review
Preparation for review-Requirements	**Software**	Review Meeting
Preparation for Review- Use Cases	Install Development Tools	Rework
Review Meeting-Requirements	Install Testing Tools	**Build the development and testing lab environment**
Review Meeting-Use Cases	**Analysis Document**	**Hardware Environment**
Rework	Write AD	Servers
Analysis	**Review AD**	Clients
Write Analysis Document	Preparation for AD	**Software Development Tools**
Review Analysis Document	Review Meeting	Build/Compile tools
Preparation for Analysis Document	Rework	**Software Testing Tools**
Review Meeting	**Design Document**	Test Cases Execution Tools
Rework	Write DD	Simulation tools
Design	**Review DD**	**Analysis**
Write DD	Preparation for DD	Write Analysis Document
Review DD	Review Meeting	**Review Analysis Document**
Preparation for DD	Rework	Preparation for Analysis Document
Review Meeting	**Coding and Unit Test**	Review Meeting
Rework	Write Code	Rework
Write Data Model(DM)	**Unit Testing**	**Design**
Review DM	Prepare/Execute Test Cases	Write DD
Preparation for DM	Fix Found Defects	**Review DD**
Review Meeting	Test Fixed Defects	Preparation for DD
	Code Inspection	Review Meeting
	Preparation for Code Inspection	
	Code Inspection Meeting	

Rework	Rework	Rework
Coding and Unit test	**Testing**	**Coding and unit test**
Write Code	Write Test Plan (TP)	Write Code
Unit Testing	**Review TP**	**Unit Testing**
Prepare/Execute Test Cases	Preparation for TP	Prepare/Execute Test Cases
Fix Found Defects	Review TP Meeting	Fix Found Defects
Test Fixed Defects	Rework	Test Fixed Defects
Code Inspection	Execute TP (test cases)	**Code Inspection**
Preparation for Code Inspection	Fix Found Defects	Preparation for Code Inspection
Code Inspection Meeting	**Documentation**	Code Inspection Meeting
Rework	User Documentation	Rework
Testing	**Review UD**	**Testing**
Write Test Plan (TP)	Preparation for UD	Write Test Plan(TP)
Review TP	Review UD Meeting	**Review TP**
Preparationn for TP	Rework	Preparation for TP
Review TP Meeting		Review TP Meeting
Rework		Rework
Execute TP(test cases)		Execute TP(test cases)
Fix Found Defects		Fix Found Defects
Test Fixed Defects		Test Fixed Defects
Documentation		**Documentation**
User Documentation		User Documentation
Review UD		**Review UD**
Preparation for UD Review		Preparation for UD
Review UD Meeting		Review UD Meeting
Rework		Rework

Comment on Network diagram:

This is representation of tasks/activities and its dependencies. Where boxes represents each task and lines connecting two boxes represents the dependencies of the tasks. In the MS project 2016 clicking on Network diagram view gives you the Network diagram for the respective WBS in Assignment#1 project, Assignment#2 project, Assignment#3 projects.

Comment on Resource pool utilizations:

Assignment#3 project is using the shared resources of project#1 and project#2 and along with these there are some additional resources added TE5001, TE75002, TE75003, SE75001, SE75002, SE75003, PE5001, PE5002, PE5003, PE5004. I am using the shared resources the pool takes precedence here and the conflicts are handled by using the strategy 2 in which we select the resource and level the resource by clicking level resource option.