Practical Examination

You are working on a project to develop Lab Management application. This application is to help students to improve their programming skills. It would include the following capabilities:

- Allow students to register for university-sponsored Lab classes such as C++ programming, Java Programming, Java Desktop Programming, Java Web Programming, .NET Programming, Python programming classes.
- Allow students to submit their work in the Lab class and to track their progress.
- Allow teacher to manage his classes and to evaluate his students submitted work, to approve or to reject the work.
- Allow teacher to generate the final report of his classes at the end of the semester.

Request 1 - Work Breakdown Structure

Develop a WBS for the project. Break down the work to Level 3 or Level 4, as appropriate.

Assume that the Level 1 category is called Software Project, and that the Level 2 categories are Initiating, Planning, Executing, Monitoring and Controlling, and Closing. Under the Executing section, include Level 3 categories of Analysis, Design, Prototyping, Testing, Implementation, and Support. The Support category includes Level 4 items for Training, Documentation, User Support, and Enhancements

Request 2 - Deliverables

Identify at least five milestones mapped to the main deliverables for the project. For each milestone, write a short explanation of how to measure its status completed or not.

Request 3 – Project Scheduling

Assume that you have defined and estimated project schedule with activities as below

Activity	Preceding Activity	Duration in Weeks
Start	None	0
A	Start	3
B	A	2
C	A	3
D	A	2
E	C, B	9
F	B	10
G	D	3
H	E, F, G	6
I	G	2
J	H, I	8
End	J	0

Draw a network diagram and identify the project duration by applying critical path analysis

Request 4 – Schedule Updating & Tracking

From the schedule on request 3, after 5 weeks, your manager/sponsor inform you that he would like to receive the product of your project earlier than your planned schedule for 2 weeks. Therefore, you have to find the solutions so that your project could finish 2 weeks sooner.

Define at least two solutions ordered by the choosing priority and include relevant explanation how it will help your project to be developed faster to accomplish on time.

Request 5 – Cost Evaluation

Your project is scheduled for 5 years. There are six different teams working on five major functional areas. Some teams are ahead of schedule while others are falling behind. There are cost overruns in some areas but you've also saved costs in others. Due to all this, it is difficult to understand whether you are over or under budget. At the end of the month fifteenth of the project, while the total project budget is $8,400,000, you've already spent $2,650,000. CPI is 0.95. Can you perform Earn Value Management technique to analyze and determine the status of your project and give some prediction about schedule and cost of the project at accomplishment date. Assume that, in your baseline, you assigned the value of work to be completed each month in equal.