1996 Paper 8 Question 5

Business Studies

In a project plan what is meant by a *critical path*, and why is the concept useful?

[5 marks]

A certain software project has two phases. Each phase has three tasks (analysis, coding and testing) which must be performed sequentially. Analysis for phase 2 cannot be started until analysis for phase 1 is complete. The effort in person-weeks, as estimated by the programmers, in each task is given in the table below.

Task	Phase 1	Phase 2
Analysis	4	8
Coding	4	4
Testing	4	8

Two staff are assigned to the project. Tasks may be performed by either member of staff. Analysis and coding tasks can have only one person usefully working at a time whereas, for testing, the time to completion is inversely proportional to the effort expended.

Draw PERT and GANTT charts for the project, and indicate the critical path.

[5 marks]

Staff are each paid £24,000 per annum. The company allows for overheads of 100% of salary. Equipment worth £50,000 will be needed, depreciated over 5 years. Payment is proposed as 25% on start, 25% on delivery of the first phase, and 50% on completion. Draw up a rough budget and cash flow for the project. How much working capital (excluding equipment purchase, but including depreciation) is required?

[5 marks]

What price and delivery would you quote for this project? Explain the additional factors you have considered in formulating your quotation.

[5 marks]