

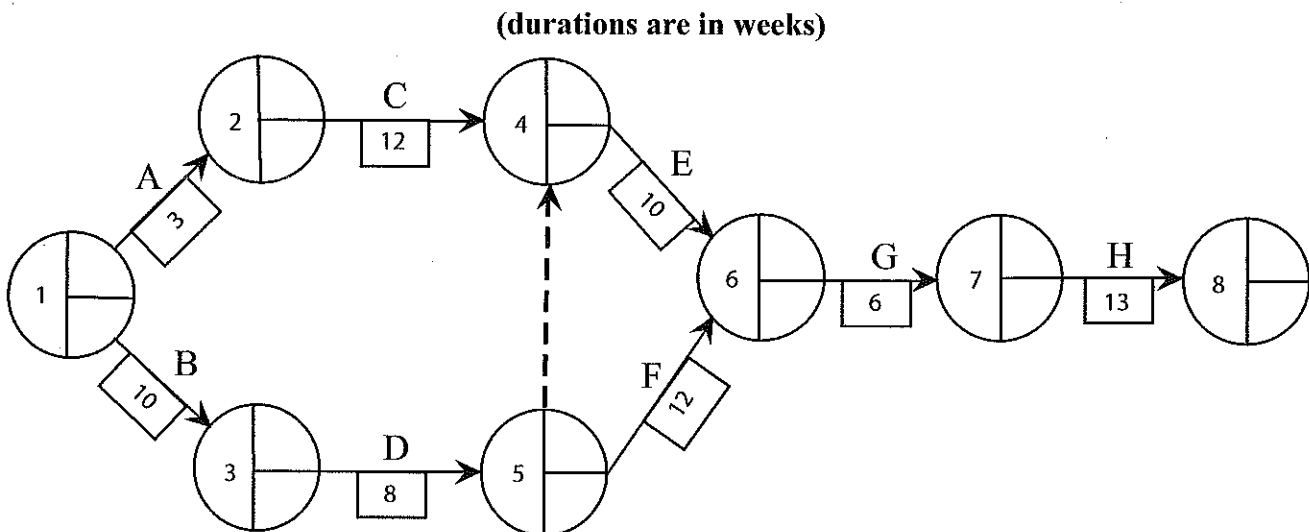
4. PMG

PMG is a traditional family engineering firm recently taken over by a major multinational organization. The new operations manager, Susie Chen, recently graduated from a business school in Taiwan. She is determined to update the organizational structure of PMG and to introduce new patterns of production, such as moving from batch to flow production. In particular, Susie is focusing on:

- the development of flexible project teams
- introducing a total quality management culture, including benchmarking and continuous improvement
- computerization of production, administration and communication systems.

Susie has taken over the planning of a building project. The previous project manager had begun to prepare a network diagram for the project shown below.

Susie believes that the new production system will reduce the time taken to complete the project as well as its cost. In particular, she plans to reduce the time taken to complete activity B by two weeks and activity F by three weeks.



- (a) Define the term *batch production*. [2 marks]
- (b) (i) **In your answer booklet**, construct a completed network diagram for the building project using the information provided in the figure above. Show the earliest start time (EST) and latest finish time (LFT) for each activity and identify the critical path. [6 marks]
- (ii) Calculate any changes to the duration of the project **and** to the critical path if Susie Chen reduces the time taken to complete activities B and F as she planned. [2 marks]
- (c) Discuss how Susie Chen should introduce **and** manage her proposed changes to ensure their successful implementation. [10 marks]