銘傳大學 103 學年度研究所碩士班招生考試

企業管理學系碩士班

第二節

「生產與作業管理」試題

（限用答案本作答） ☑可使用計算機 ☐不可使用計算機

考試時可以使用計算機。 計算題請列出詳細計算過程。

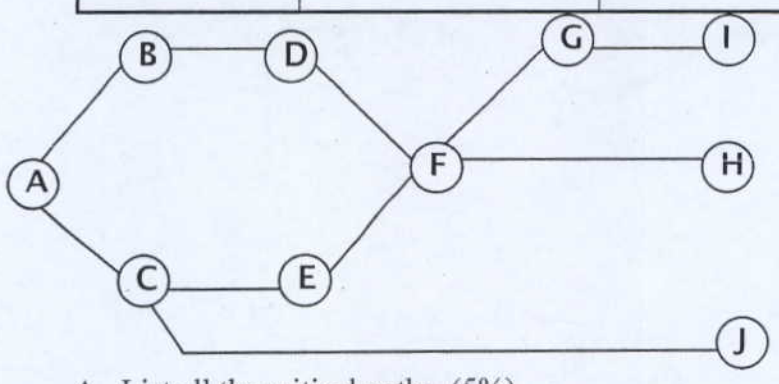
1. Explain the following terms: (5% each)

   A. Inventory ABC classification
   B. Enterprise Resource Planning
   C. Failsafe procedures (include an example)
   D. Reorder point
   E. Pareto Analysis

2. What is DMAIC in Six Sigma Management? Please explain in details. (15%)

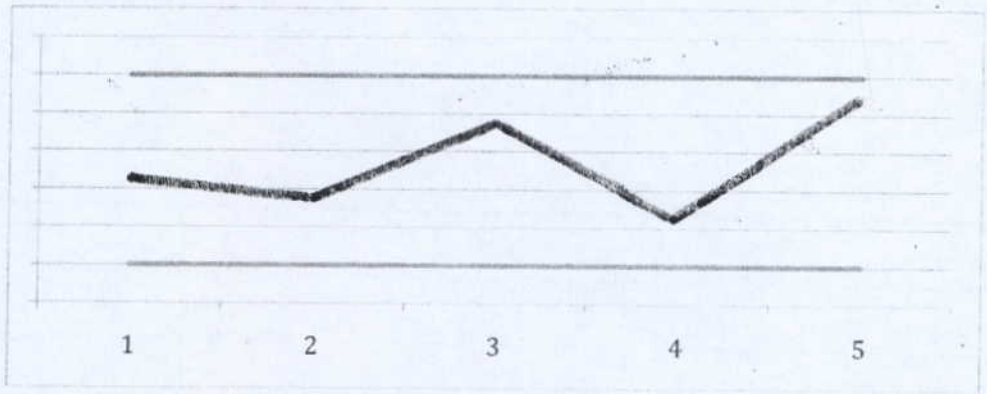
3. The following table shows information for a project which involves the building of an add-on to the school's library.

Activity	Normal Duration	Minimum Duration	Cost per Week to Expedite ($)
A	9	7	4100
B	7	6	1250
C	5	3	450
D	4	2	3000
E	6	5	500
F	5	3	2000
G	8	8	Cannot expedite
H	7	5	850
I	6	5	900
J	7	7	Cannot expedite

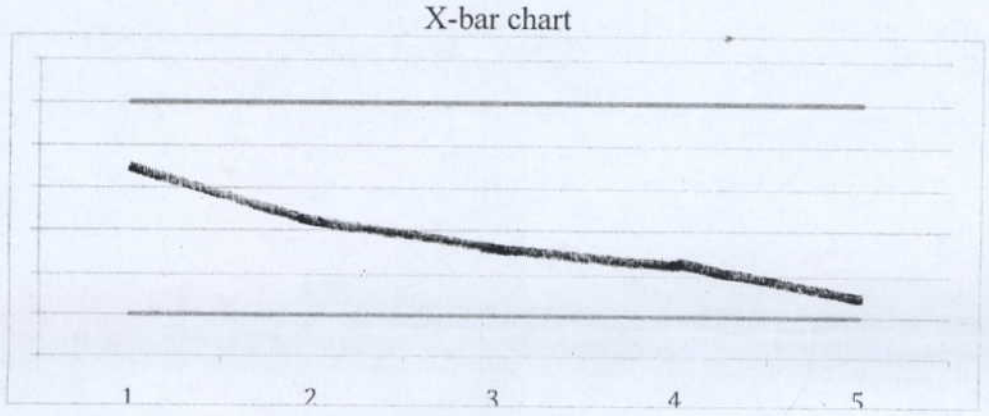


   A. List all the critical paths. (5%)
   B. What is the earliest time the project can be completed if a budget of $2600 is available? Show your analysis in details. (10%)

4. A factory observed the following control charts in its production process last week. The quality engineer claims that the process shows great improvement since the R-chart shows a declining trend. Do you agree with him? Why or why not? Please explain your answer in details. (10%)



X-bar chart



R-chart

5. Explain the difference of a pull vs. a push system. What are required for each system to work? For example, do they require different skill levels of workers, planning tools, factory layout, relationship with suppliers? If so, why? (15%)

6. A popular forecasting tool is Exponential Smoothing ($F_t = F_{t-1} + a\,(A_{t-1} - F_{t-1})$, F_t being the forecast in period t, and A_t the actual sales in period t). Explain the use of the smoothing coefficient a in the model. How does it affect the forecast if you increase or decrease its value? (10%)

7. Use the EOQ model ($Q_{opt} = \sqrt{\frac{2DS}{H}}$) to explain the change in inventory if you supply products from one warehouse (centralized) vs. from several warehouses (decentralized). Show your analysis in details. (10%)

本試題共...
Exam Printed on 2 sides.

試題完
End of exam