

國立中央大學97學年度碩士班考試入學試題卷

所別：工業管理研究所碩士班 乙組 科目：生產作業與管理 共二頁 第一頁

\*請在試卷答案卷(卡)內作答

一、選擇題(84分) 每小題三分。請注意！回答時請標明題號，並以大寫 A、B、C、D、E 回答。

- Which of the following is not characteristic of preventive maintenance in JIT systems?  
A) maintaining equipment in good operating condition B) replacing parts when they are worn but before they fail C) workers maintaining their own equipment D) eliminating supplies of spare parts to reduce capital investment E) perceiving breakdowns as an opportunity for improvement
- The term that refers to the automatic detection of defects is:  
A) kaizen B) kanban C) autonomation D) automation E) 100% inspection
- The MRP input stating which end items are to be produced, when they are needed, and what quantities are needed, is the:  
A) master schedule B) bill-of-materials C) inventory-records  
D) assembly-time chart E) net-requirements chart
- In MRP, under lot-for-lot ordering, "planned-order receipts" are:  
A) identical to "scheduled receipts" B) identical to "planned-order releases"  
C) open orders (that is, ordered before the first time bucket, but not delivered yet)  
D) "gross requirements" E) available to promise inventory
- Which of the following would *not* indicate an out-of-control process?  
A) values consistently above the center line B) values which move in an upward trend  
C) values which "bounce around" above and below the center line  
D) values which move in a downward trend E) none of the above
- A point which is outside of the lower control limit on an R-chart:  
A) is an indication that no cause of variation is present  
B) should be ignored because it signifies better than average quality  
C) should be investigated because an assignable cause of variation might be present  
D) should be ignored unless another point is outside that limit  
E) is impossible since the lower limit is always zero
- Which of the following is not a strategy to manage service capacity?  
A) hiring extra workers B) backordering C) pricing and promotion  
D) part time workers E) subcontracting
- Aggregate planners attempt to balance:  
A) demand and inventories B) demand and costs C) capacity and inventories  
D) capacity and costs E) capacity and demand
- In general, work-in-process inventory is \_\_\_\_\_ for a process layout, and \_\_\_\_\_ for a product layout.  
A) small, large B) large, small C) large, large D) small, small E) none of the above
- Which of the following statements concerning cellular layouts is *not* true?  
A) The layout of machines within each cell resembles a small assembly line.  
B) Cellular layouts attempt to combine the flexibility of a product layout with the efficiency of a process layout.  
C) Cellular layouts group dissimilar machines into work centers.  
D) Cellular layouts process families of parts with similar shapes or processing requirements.  
E) none of the above
- The cost of achieving good quality falls into which of the following categories?  
A) prevention and internal failure costs B) prevention and external failure costs  
C) prevention and appraisal costs D) appraisal and internal failure costs E) none of the above
- Which of the following processes is *not* in the Deming four stage process?  
A) be responsive B) plan C) act D) study/check E) none of the above
- In "crashing" a project, a manager will generally focus on activities which:  
A) are not on the critical path B) are the least costly to crash  
C) are costly to crash and are on the critical path D) are on the critical path and are the least costly to crash  
E) are the easiest to crash
- 請問下列何者與 "效率(Efficiency)" 相關 (1) do the right things to create the most value for the company (2) do something at the lowest possible cost (3) 我們公司必須賣對的產品給每一個市場 (4) 我們公司必須將這一件工作以最低的成本完成它?  
A) 12 B) 34 C) 13 D) 24 E) 1234
- 下列何預測模型僅需決定一參數即可 (1) 指數平滑法 (2) 簡單移動平均法 (3) 指數平滑法(含趨勢因子) (4) 市場研究法 (5) 複回歸(Multiple regression)?  
A) 12 B) 45 C) 125 D) 24 E) 34

參考用

注意：背面有試題

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所別：工業管理研究所碩士班 乙組 科目：生產作業與管理 共二頁 第二頁

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16. 下列何模型(或方法)會計算出經濟訂購量 (1) MRP (2) 再訂購點模型 (3) 固定期間模型 (4) 兩箱法 ?  
A) 12 B) 34 C) 23 D) 13 E) 24
17. 能快速反應的供應鏈應該使用於下列何種產品 (1) 功能性產品 (2) 創新性產品 (3) 供應前置時間較短的產品 (4) 具可預測性的產品 (5) 流行服飾?  
A) 145 B) 234 C) 135 D) 14 E) 235
18. "Weeks of supply"是用來描寫  
A) 週期長度 B) 交貨日期 C) 供應商的天數 D) 生產量 E) 庫存量
19. Johnson's rule 是應用於下列何環境之排程問題?  
A) Single machine B) two-stage flow shop C) three-stage flow shop D) Job shop E) open shop
20. 請依先後順序將下列作業管理有關的歷史事件排序 (1) McDonald's restaurants (2) Moving assembly line (3) Business process reengineering (4) Simplex method of linear programming  
A) 1234 B) 2413 C) 4213 D) 1423 E) 1324
21. 為了能達到"大量客製化(Mass customization)",則須具備下列何者 (1) 產品由獨立的模組組成 (2) 有許多資金 (3) 裝配的作業可被延遲 (4) 供應網路須具有彈性  
A) 1234 B) 13 C) 12 D) 34 E) 134
22. 下列何者不是平衡計分卡的構面?  
A) 內部流程 B) 財務 C) 顧客 D) 學習與成長 E) 工程與製造
23. 下列何者為不好的工業設計(Industrial design) (1) complicated operation (2) sharp metal edge (3) worse logic to controlling the unit  
A) 12 B) 23 C) 13 D) 123 E) 2
24. Cycle counting 使用於下列何時 (1) 當每年年終大盤點 (2) 當每半年之小盤點 (3) 當記錄顯示手上庫存量低或零時 (4) 當記錄顯示尚有庫存,但卻須發出待補訂單時  
A) 1234 B) 12 C) 34 D) 1 E) 2
25. The "newsboy" problem 具有下列何特性 (1) 單期 (2) 多期 (3) 單次補貨 (4) 多次補貨?  
A) 12 B) 13 C) 14 D) 23 E) 24
26. NPI 指標用來表示一公司之下列何種能力?  
A) 品質 B) 價格 C) 交貨速度 D) 彈性 E) 研發
27. Little's Law 表示那三者間之關係 (1) throughput rate (2) throughput time (3) the amount of work-in-process (4) utilization (5) the amount of operations  
A) 123 B) 135 C) 234 D) 345 E) 245
28. 如果我們將一個餐廳當成是一個 System, 以 Input-Transformation-Output 的關係來描寫這個餐廳, 則此餐廳的 Transformation 為何? (1) Locational (2) Redistribution (3) Informational (4) Exchange (5) Physical  
A) 12 B) 24 C) 23 D) 34 E) 45

參考用

## 二、(5 分)

The data in the table below represent the number of defects detected in a series of 15 samples. Each sample contained 4 units.

Sample	# Defective	Sample	# Defective
1	26	9	6
2	23	10	2
3	32	11	5
4	35	12	16
5	25	13	5
6	32	14	9
7	20	15	12
8	0		

- a. Using 3-sigma limits, what are the UCL (Upper Control Limit) and LCL (Lower Control Limit) for the c-chart? (3 分) (請寫出計算過程)
- b. For this c-chart, what conclusion can be drawn? (2 分)

## 三、(6 分)

East Texas Seasonings is preparing to build one processing center to serve its four sources of seasonings. The four source locations are at coordinates shown below. Also, the volume from each source is provided.

- a. What is the center of gravity? (3 分) (請寫出計算過程)
- b. What is the rectilinear distance from center to Athens? (3 分) (請寫出計算過程)

	X-coordinate	Y-coordinate	Volume
Athens, Texas	30	40	100
Beaumont, Texas	20	15	400
Carthage, Texas	55	60	150
Denton, Texas	20	70	250

## 四、(5 分)

請列舉五項我們所面對的現代作業管理問題(issues)? (請務必分五項條列作答, 若全部寫成一段, 以一項計分) (5 分)

注意: 背面有試題