



選擇題：() : What is a CORRECT function formulation? (下列何者為正確的功能模式?)

- A. Mary stares at a candy. (瑪莉凝視一個糖果)
- B. John wears a suit. (約翰穿著衣服)
- C. George reads a book. (喬治唸一本書)
- D. Harry sings a song. (哈利唱一首歌)
- E. All of the above. (以上皆是)
- F. None of the above. (以上皆非)

() : What is NOT CORRECT about of Interaction Analysis? (對於互動分析下列何者不正確?)

- A. Its outcome is an Interaction Matrix. (它的產出是互動矩陣)
- B. '+' means interaction between corresponding components. ('+'是代表兩個對應元件有互動)
- C. '-' means no parameter change of both corresponding components. ('-'代表對應元件沒有參數的改變)
- D. Interaction implies a possibility of existence of Function. (互動意味著功能的可能存在)
- E. None of the above. (以上皆非)

() : What is a Functional Disadvantage? (何者是不利的功能?)

- A. Harmful Function. (有害的功能)
- B. Insufficient Function. (不足的功能)
- C. Excessive Function. (過多的功能)
- D. All of the above. (以上皆是)
- E. None of the above. (以上皆非)

() : How to find the underlying Cause when modeling the Cause-Effect Chains? (如何由因果價值鏈找到底層的原因)

- A. Check the list of disadvantages from Function Analysis. (檢查功能分析後所產生的不利點清單)
- B. Check the list of disadvantages from Flow Analysis. (檢查流程分析所產出的不利點清單)
- C. Ask experts. (問專家)
- D. Use a scientific formula. (利用科學公式)
- E. All of the above. (以上皆是)
- F. None of the above. (以上皆非)



- () : What is NOT CORRECT about Inventive Principles?(發明原則的陳述何者不正確?)
- A. Inventive Principles are used for solving Engineering Contradiction.(發明原則被用來解決工程衝突)
 - B. Inventive Principles are used for solving Physical Contradiction.(發明原則被用來解決物理衝突)
 - C. Inventive Principles are abstracted from patents.(發明原則是從專利來的)
 - D. Ease of Manufacturing is one of the Inventive Principles.(製造容易性抽取出一種發明原則)
 - E. None of the above. (以上皆非)
- () : What is CORRECT about Physical Contradiction? (對物理衝突而言，下列何者正確?)
- A. Physical Contradiction has nothing to do with chemistry. (物理衝突與化學無關)
 - B. Physical Contradiction is almost impossible to resolve. (物理衝突幾乎無法解決)
 - C. Physical Contradiction can be solved using Inventive Principles. (物理衝突可用發明原則解決)
 - D. Physical Contradiction is easier to model than Engineering Contradiction. (物理衝突比工程衝突容易被模式化)
 - E. None of the above. (以上皆非)

簡答題：

請以摩托車為例作一個功能分析。其中至少包含下列元件:輪子、車體、引擎、握把、控制系統、油箱..等。

請作: 1)元件分析; 2) 互動分析; 3) 功能模式化 (表式或圖式擇一)，並標明: 標的物(Target), 主要功能(Main Function), 主要工具(Main Tool).