

PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENGINEERING

Mid-term Examination: Semester II

Academic Year: 2012

Date: December 16, 2012

Time: 9:00-12:00

Subject: 225-503 Production Systems & Management

Room: A205

Instructions

- Answer all 5 questions in the **answer-book** provided
- Open-book exam. Any materials, books, papers, calculators and dictionaries are allowed.
- Total score is 90

Questions	Full Score	Assigned Score
Q1	15	
Q2	15	
Q3	25	
Q4	15	
Q5	20	
Total	90	

Assoc. Prof. Somchai Chuchom

ทูลจตุรติในการสอบ โทษขั้นต่ำคือ ปรับตกในรายวิชาที่ทูลจตุรติ และพักการเรียน 1 ภาคการศึกษา



Question 1 (15 marks)

Explain in detail the 3 kinds of flows supporting effective manufacturing.

Question 2 (15 marks)

There are three aspects of manufacturing systems, structural, transformation, and procedural aspects. Explain in detail what you understand on each aspect.

Question 3 (25 marks)

What is the main purpose of process selection? What are the major factors involved in process selection? Choose *only one* operation (production process) from the list below (a, b, c), and explain in detail on its principle technology, machine tools, applications, advantages and limitations, and etc.

- a) Forming operations
- b) Joining and assembly operations
- c) Material removal operations

Question 4 (15 marks)

According to Prof. Stanley B. Gershwin's opinion, what are the behaviors and problems of manufacturing system? Which problems/behaviors mostly lead to difficulty and inefficiency of production management? Explain and give a case study to support your answer.

Question 5 (20 marks)

5.1 Describe the major considerations involved in selecting materials for products.

5.2 Describe your understanding of the following terms:

- a) Life expectancy,
 - b) Life cycle engineering,
 - c) Sustainable manufacturing.
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