

PRINCE OF SONGKLA UNIVERSITY

FACULTY OF ENGINEERING

Midterm Examination : Semester I

Academic Year : 2006

Date : August 3, 2006

Time : 09:00 - 12:00

Subject : 225 - 344 Work Study and Industrial Plant

Room : A401

ทุจริตในการสอบ โทษขั้นต่ำปรับตกในรายวิชานั้น และพักการเรียน 1 ภาคการศึกษา

Directions:

1. The following materials can be led into examination room :
 - Lecture notes, handouts, or textbooks.
 - Electronic handheld calculator and Electronic dictionary.
2. Communication equipment such as PDA phone, cellular phone, and laptop (notebook) computer are not permitted.
3. You have to answers ALL questions.
4. You have to fill your name and ID on this page and fill only your name on the top-right corner of the other pages.
5. There are seven pages (this page included), six questions with 35 points.

First name Mr./Miss Last name

Student ID

Score (filled by lecturer)

Question	points	Your points
1	5	
2	5	
3	5	
4	10	
5	5	
6	5	
	35	

*** This material is prepared by Asst. Prof. Charoen Jaitwijitra ***

37^m

Name

1. Due to the global business competition, education service in Thailand is also one of the businesses that are being challenged (ท้าทาย) by foreign competitors.

a. (2.5 points) Describe how the Prince of Songkla University is threatened by both Thai and foreign universities?

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b. (2.5 points) How does the *PSU staff productivity* (การเพิ่มผลผลิตของบุคลากร มอ.) concern (เกี่ยวข้อง) with this issue (ประเด็น)?

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Name

2. (5 points) Who were the pioneers of “the motion study”? *Your answer should be included some examples of their well-known works.*

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3. (5 points) One of the three factors that should be considered when selecting a job to be studied is the economic or cost-effective considerations. What types (or characteristics) of jobs should be selected to be studied correspondingly to the economic factor?

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Name

4. (10 points) Draw a multiple activity chart showing one worker operating two semiautomatic lathes. The cycle consists of following operations:

Load machine per lathe	0.50	minute
Machine (กลึง) part	1.00	minute (the machine stops at the end of cut)
Unload machine	0.25	minute

The two machines are alike (ทำงานเหมือนกัน), and each completes the machining operation and stops automatically. The multiple activity chart is to show the worker starting the machine in the morning with both machines empty, and continues until each machine has completed two cycles; that is, until it has machined two pieces **without unload them**.

The chart is on next page.

Name

6. (5 points) Draw an outline process chart of production of cans (กระป๋องเปล่า ไม้ฝา) with the following data:

The manufacturing process for Body and lid

Body (Tin free steel sheet, gage no. 28)	Lid (Tin free steel sheet, gage no. 28)
Cut to rectangular size by slitting machine (1.20 second)	Cut to round size by punch press machine (1.0 sec.)
Roll to cylindrical shape by automatic rolling machine (2.0 sec.)	Form to required shape (1.0 sec.)
Weld by automatic welding machine (2.10 sec.)	Fill synthetic rubber around the edge for leakage protection (1.5 sec.)
Flange both ends by flanging machine (1.0 sec)	-

After that, the body and lid are fed into seaming machine (เครื่องปิดฝา). The machine then engages the two parts and rolls the lid in order to assemble them. Finally the assembly part will be move to stack on a pallet. Draw chart at the bottom of this page.

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