

PRINCE OF SONGKLA UNIVERSITY
FACULTY OF ENGINEERING

Midterm Examination: Semester 2

Academic Year: 2010

Date: 21 December 2010

Time: 09.00-11.30

Subject Number: 241-500

Room: A401

Subject Title: Research and Development Methodologies

Exam Duration: 2 hours 30 minutes (150 minutes)

This paper has 7 pages, 8 questions 60 marks (20%).

Authorised Materials:

- Writing instruments (e.g. pens, pencils).
- Textbooks, a notebook, handouts, and dictionaries are not permitted.

Instructions to Students:

- Scan all the questions before answering so that you can manage your time better.
- Write your answers in Thai only.
- Write your name and ID on every page.
- Any unreadable parts will be considered wrng.

Cheating in this examination

Lowest punishment: Failed in this subject and courses dropped for next semester.

Highest punishment: Expelled.

NO	Time (Min)	Marks	Collected	NO	Time (Min)	Marks	Collected
1	40	21		5	10	5	
2	10	4		6	10	5	
3	10	4		7	20	10	
4	5	3		8	10	8	
Total	115	Raw Marks (60)			Collected Marks (20%)		

g) Conclusion

(3 marks)

Question 2

(4 marks; 10 minutes)

From the following descriptions, tell what kind of publications they are.

a) It may include on-going research with some results.

b) It contains complete research report and original work.

c) It contains technical issues about how to set up or to build a system.

d) It gathers and summarises several works in the field.

Question 3

(4 marks; 10 minutes)

From the following descriptions, **identify** which is which popular quantitative way to judge how good a paper is.

a) Assessing a journal by measuring the number of its citations over the past two years.

b) Measuring a paper by counting the number of its citations.

Question 4

(3 marks; 5 minutes)

Why do we need to do research? Give at least 3 reasons.

Question 5

(5 marks; 10 minutes)

List 5 questions should be asked when starting a research.

Question 6

(5 marks; 10 minutes)

What questions do the examiners read your thesis to find the answers? Give at least 5 questions.

Question 7

(10 marks; 20 minutes)

a) List 10 items that should appear in a proposal.

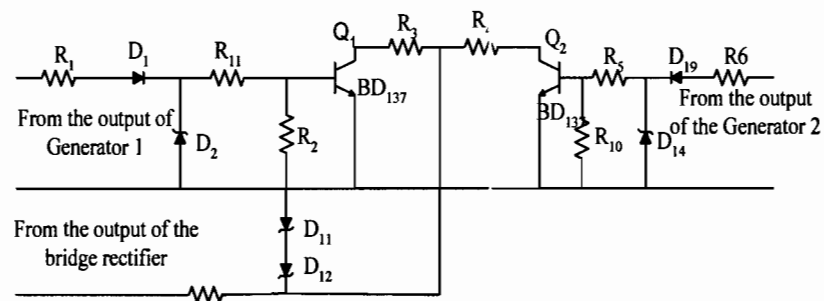
b) List 10 items that should appear in a thesis

Question 8

(8 marks; 20 minutes)

Spot what are wrong with the following data representations. Also inform what should be changed or added and where.

a)



Two Generator Output Comprising Portion

b)

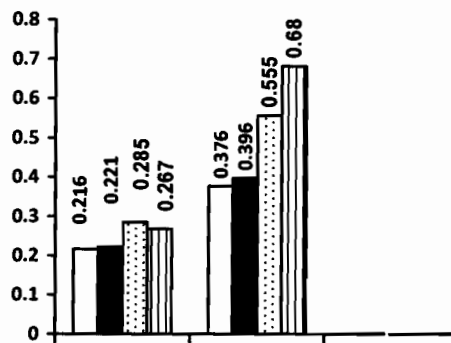
$$\begin{aligned} \text{Saturation current } I_{C(\text{sat})} &= \frac{V_{CC} - V_{CE(\text{sat})}}{R_C} \\ &= \frac{6.310 - 0.5}{1000} \\ &= 5.81 \text{ mA} \end{aligned}$$

c)

No of Replicates	Time Used
100	02.12
250	02.06
500	02.06
1,000	02.06
2,000	02.24
3,000	03.04
4,000	03.47
5,000	03.52
10,000	08.09
20,000	15.08
30,000	22.02
40,000	29.22
50,000	36.17

TABLE IV TESTING CASES AND RESULTS OF THE NEW WORKFLOW

d)



รูปที่ 8 การเปรียบเทียบความเร็วในการพิมพ์แต่ละรูปแบบ

----- End of Examination -----

Pichaya Tandayya
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