



Sirindhorn International Institute of Technology Thammasat University

Final Examination: Semester 2 / 2016

Course Title: ECS452 Digital Communication Systems

Instructor: Asst. Prof. Dr.Prapun Suksompong

Date/Time: June 8, 2017 / 09:00-12:00

Instructions:

- This examination has.....10.....pages (including this cover page).
- Conditions of Examination:
 - (No dictionary, No calculator Calculator (e.g. FX-991MS) allowed)
 - **Semi-Closed book** (.....1.....sheet(s) both sides of A4 paper note)
 - This sheet must be hand-written.
 - Do not modify (e.g., add/underline/highlight) content on the sheet inside the exam room.
 - It should be **submitted with the exam**. (-10 pt if missing)
 - Other requirements were posted on the course web site.
- **Read these instructions and the questions carefully.**
- Students are not allowed to be out of the examination room during examination. Going to the restroom may result in score deduction.
- Turn off all communication devices (mobile phone, etc.) and place them with other personal belongings in the area designated by the proctors or outside the test room.
- Write your name, student ID, section, and seat number clearly in the spaces provided on the top of this sheet. Then, write your **first name and the last three digits of your ID** in the spaces provided on the top of each page of your examination paper, starting from page 2.
- The back of each page will **not** be graded. If necessary, it can be used for calculations of problems that do not require explanation.
- The examination paper is not allowed to be taken out of the examination room. Also, **do not remove the staple**. Violation may result in score deduction.
- Unless instructed otherwise, **write down all the steps** that you have done to obtain your answers.
 - When applying formula(s), state clearly which formula(s) you are applying before plugging-in numerical values.
 - You may not get any credit even when your final answer is correct without showing how you get your answer.
 - Formula(s) not discussed in class can be used. However, derivation must also be provided.
 - **Exceptions:**
 - Problems that are labeled with “ENRPr” (Explanation is not required for this problem.)
 - Parts that are labeled with “ENRPa” (Explanation is not required for this part.)These problems/parts are graded solely on your answers. There is no partial credit and it is not necessary to write down your explanation. Usually, spaces (boxes or cells in a table or rows of dashes) will be provided for your answers. “WACSP” stands for “write your answer(s) in the corresponding space(s) provided”.
- When not explicitly stated/defined, all notations and definitions follow ones given in lecture.
 - For example, the sinc function is defined by $\text{sinc}(x) = (\sin x)/x$; time is denoted by t and frequency is denoted by f . The unit of t is in seconds and the unit of f is in Hz.
- Some points are reserved for *accuracy* of the answers and also for reducing answers into their *simplest* forms. Watch out for roundoff error.
- Points marked with * indicate challenging problems.
- Do not cheat. Do not panic. **Allocate your time wisely.**
- Don't forget to submit your second online self-evaluation form by the end of today.