Infrastructure University
Kuala Lumpur

FINAL EXAMINATION
SEPTEMBER/OCTOBER SEMESTER 2016

BACHELOR OF COMPUTER SCIENCE (HONS)
BACHELOR OF INFORMATION SYSTEMS (HONS)

HUMAN COMPUTER INTERACTION
(CSC 2200)

(TIME : 3 HOURS)

MATRIC NO.   :

IC. / PASSPORT NO. :

LECTURER   : PUAN HASNANI HASSAN

GENERAL INSTRUCTIONS

1. This question booklet consists of **5** printed pages including this page.
2. Answer **ALL** questions in **Section A**.
3. Answer **ALL** questions in **Section B**.
4. Answer **ANY ONE (1)** question in **Section C**.
5. Answer the chosen questions in the **Answer Booklet**.

SECTION A   (40 MARKS)

There are THREE (3) questions in this section. Answer ALL questions in the Answer Booklet.

1. Differentiate in between Human Computer Interaction and Usability Engineering.
                                                                                        (10 marks)

2. Discuss with examples the FIVE (5) design principles by applying the principles to any application of your choice.
                                                                                        (10 marks)

3. Usability is a quality attribute that assesses how easy user interfaces are to use. The word "usability" also refers to methods for improving ease-of-use during the design process. Differentiate in between Hybrid and Shackel's model of usability.
                                                                                        (10 marks)

4. List the TEN (10) heuristics that can be used by the evaluators in discovering usability problems.
                                                                                        (10 marks)

SECTION B   (40 MARKS)

There are FOUR (4) questions in this section. Answer ALL questions in the Answer Booklet.

1. Draw a use case for the following hospital scenario:

When the patient arrived at the hospital, he/she is required to register via a medical receptionist. The medical receptionist can view the personal info of the patient, so does the manager. The hospital manager can generate report and export statistics data from various functions. A nurse can view and edit patient's record, so does the doctor. A doctor can setup consultation with the patient and generate reports related to his work function.

(10 marks)

2. Consider the following textual representation of a Hierarchical Task Analysis (HTA) description of vacuum cleaning a house. Present the same information in a diagrammatic form.

0. in order to clean the house
1.   Get the vacuum cleaner out
2.   Fix the appropriate attachment
3.   Clean the rooms
3.1. Clean the hall
3.2. Clean the living rooms
3.3. Clean the bedrooms
4.   Empty the dust bag
5.   Put the vacuum cleaner and attachments away

Plan 0: do 1-2-3-5 in that order
         When the dust bag gets full do 4

Plan 3: do any of 3.1, 3.2 or 3.3 in any order
         Depending on which rooms need cleaning

(10 marks)

3. Based on your experience with a clinic, draw an Activity Diagram that model the data processing involved when a patient would like to make appointment with the doctor. The patient will walk in or call the clinic. Their details will be collected by the reception. If it is a new patient, then the "create new patient" must be done prior to the appointment. If it is existing patient then the appointment details will be collected and the "make payment arrangement" will be done before the patient can either "create", "cancel" or "change" the appointment. Finally the appointment will be created or updated.

(10 marks)

4. You are to design an e-commerce system that allows online purchase. The user has to go through THREE (3) steps processes prior to purchase. Sketch the User Interface for the online purchase that you think necessary for an e-commerce website like 11 Street as Figure 1 below.
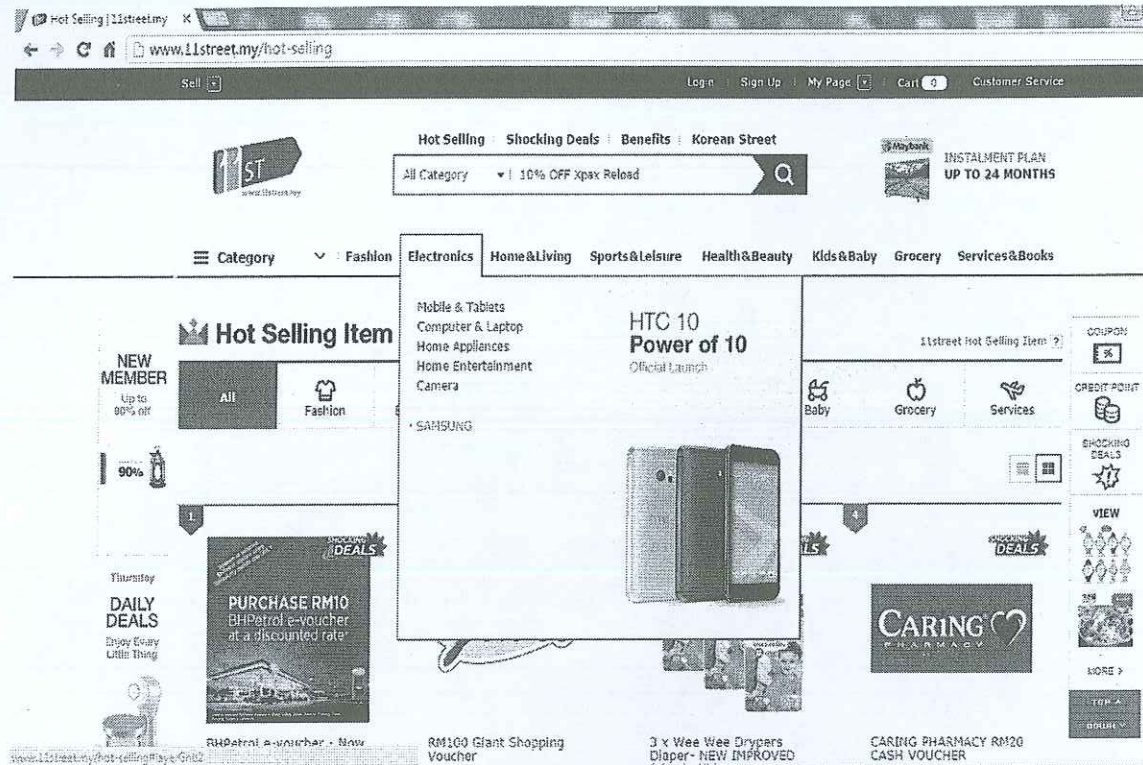

Figure 1: 11 Street Website

(10 marks)

SECTION C   **(20 MARKS)**

There are TWO (2) questions in this section. Answer ONE (1) question in the Answer Booklet.

1. Any kind of evaluation is guided explicitly or implicitly by a set of beliefs, which are often under-pined by theory. These beliefs and the methods associated with them are known as an evaluation paradigm and framework.

      a) According to DECIDE Framework in evaluation, propose a plan for evaluation on an application of your choice.

                                                          (15 marks)

      b) As evaluator, describe any TWO (2) evaluation paradigms that will be applied to your evaluation undertakings. Justify your answer on the selection of those evaluation paradigms.

                                                            (5 marks)

2. Imagine that you are designing a smart house in the year 2017.

      a) Discuss the user interface (UI) features and the user experience (UX) of the smart house system that you think must be considered in 2017.

                                                           (12 marks)

      b) Discuss the type of interactions that you think must be considered for the user especially the elderly and resident with health issues while interacting with the smart home system.

                                                           (8 marks)

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***   END OF QUESTIONS   ***

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