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**THE OPEN UNIVERSITY OF SRI LANKA
DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING**



BACHELOR OF SOFTWARE ENGINEERING

ECI5161/EEI5361- HUMAN COMPUTER INTERACTION

041

FINAL EXAMINATION – 2017/ 2018

Date: October 21st, 2018

Time: 9.30 – 12.30 hrs

READ THE FOLLOWING INSTRUCTIONS BEFORE ANSWER THE PAPER

Instructions:

Answer question 1 in Part A and any 2 questions from Part B

Part A (Compulsory question) 50 marks

Question 1

You have been assigned the responsibility of designing the user interface of a new version of the Open University web facility used by the students of the university. Students would be able to register with the web site using their registration number and email address. Once it is reviewed and approved by the system administrator, user name and password will be emailed to them. Students will be able to view their profile (which include personal details, registered course modules, completed course modules, update of completed credits, pending credits), search and register for course modules to follow. The web site should be designed to allow users to navigate the site and encourage them to use it effectively by building confidence.

- (a) Describe main tasks that user will perform. Draw a Task Hierarchy Diagram. (10 marks)
- (b) Create a persona for an example user: (10 marks)
- (c) Draw the prototype screen designs for the system. (10 marks)
- (d) Describe the colours, font details, and other controls used in the prototype and justify your choices. (10 marks)
- (e) What are the evaluation methods you can use to evaluate these prototypes? Explain how you evaluate using those methods. (10 marks)

Part B (Answer only 2 questions, each question carries '25' marks)

Question 2

- (a) Describe user centered design process. What are the drawbacks of system centered design process? (10 marks)
- (b) Briefly explain the term 'usability', 'usability testing' and five step process of usability testing. (10 marks)
- (c) What is the purpose of conducting User Acceptance Testing (UAT) by the end-users at completion of software implementation? List down five main difference in UAT testing and system testing. (5 marks)

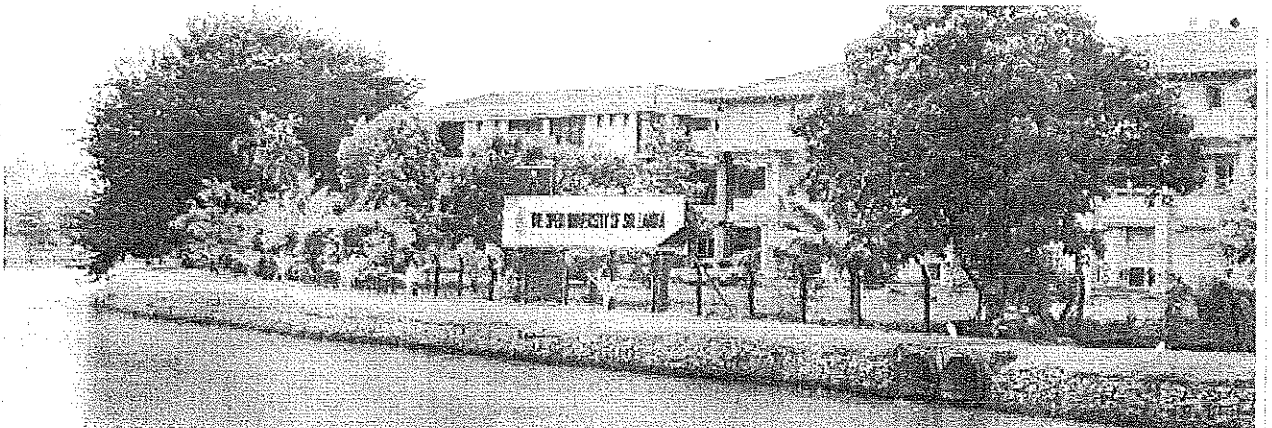
Question 3







Human processor model or Model Human Processor (MHP) is a cognitive modeling method developed by Stuart K. Card, Thomas P. Moran, & Allen Newell (1983) used to calculate how long it takes to perform a certain task.

- (a) Explain the main components of the Model Human processor. (15 marks)
- (b) Name two differences between short and long-term memory. (5 marks)
- (c) Briefly explain why MHP is useful? (5 marks)

Question 4

- (a) Explain the term interaction, interaction models and interaction design. (6 marks)
- (b) Image in Figure 1.0 shows the screen shot of home page of OUSL web site.
 - a. Identify the interaction styles used within the web site. (9 marks)
 - b. Identify good and bad features (write three features for each) of the above image with respect to the user interface design. (5 marks)
 - c. Explain how you plan to change those bad features you mentioned above. (5 marks)



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Figure 1.0 : Home Page for the Open University of Sri Lanka website

