THE OPEN UNIVERSITY OF SRI LANKA

FACULTY OF ENGINEERING TECHNOLOGY

BACHELOR OF TECHNOLOGY – LEVEL 2
FINAL EXAMINATION – 2006/2007

035

MEX2132 – DESIGN PHILOSOPHY

DATE: MARCH 7, 2007 TIME: FROM 01.30 PM TO 4.30 PM
DURATION: THREE HOURS

ANSWER ANY FIVE (05) QUESTIONS. ALL QUESTIONS CARRY EQUAL MARKS

Question 1

a) What is the French's model of the design process? Present your answer with a flow chart. [7 marks]

b) Explain the activities of each stage of the design process. [7 marks]

c) In designing a building, discuss the different roles to be played by an architect and an engineer. [6 marks]

Question 2

a) History shows that human beings, from time to time, have created, developed and made new artifacts. Development of the gun is one of the typical examples for it. Select an item that has evolved over the last two decades, and identify and discuss the possible reasons for such an evolution. [8 marks]

b) The administration of a leading supermarket wants to replace its hand-operated customer-trolley to be replaced by a battery-operated trolley.

Question 5

a) What is meant by setting specifications for a product? [5 marks]

b) Explain the consequences of over specifying and under specifying a product at the design stage. [8 marks]

c) Any marketable product has two basic values. Name and briefly explain them. [7 marks]

Question 6

a) What is the "function analysis" in the design process? State and describe any method that you are aware of in function analysis. [8 marks]

b) Use the above method to analyse the function of a foot operated cycle. [12 marks]

Question 7

A firm wishes to design and manufacture speedboats for recreation and it identifies that the leisure sector (example, holiday resorts) is the main customers for speedboats.

a) List the objectives of the customers provided that there is a need. [8 marks]

b) List the objectives in the hierarchical order and identify the requirements (extended objectives) under each objective. [12 marks]