Uva Wellassa University of Sri Lanka
Faculty of Science & Technology
Computer Science & Technology Degree Program
2nd Semester Examination Aug/September-2011
CST 131-2 Microcomputer Architecture and Logic Design
CST 231-2 Microcomputer Architecture and Logic Design&
Repeat(CST 104-2)

Uva Wellassa University

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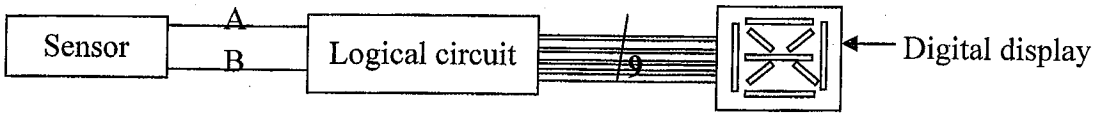
T... (03) h... This paper consist of three sections. Answer all Questions

Essay Questions. *This section carries 50 marks (Each question carries 25 marks).*

(1) a. "Modern computer technology has developed extensively since Von Neumann's time." Briefly discuss the above statement providing examples. (3m

b. Design 3 – to – 8 line Decoder using two 2 – to – 4 line Decoders with enable inputs. (4ma

c. The following figure shows a system designed for displaying the level of temperature. The sensor outputs two digit binary number (AB) according to the temperature and the digital display shows the level by using letters L (Low), M (Medium) & H (High). (10m



Temperature range, sensor output and display value are shown in the following table.

Temperature Range	Sensor Output		Display Value
	A	B	
No data	0	0	
Temperature ≤ 15 °C	0	1	
15 °C < Temperature ≤ 30 °C	1	0	
30 °C < Temperature	1	1	

Design a circuit for the above system by using logic gates.

d. Briefly explain why latches cannot be used to build registers and counters? (4ma

e. What is the difference between pulse triggered flip flops and edge triggered flip flops? (4ma