

Code No: 136BF

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech III Year II Semester Examinations, November/December - 2020

DIGITAL SYSTEM DESIGN

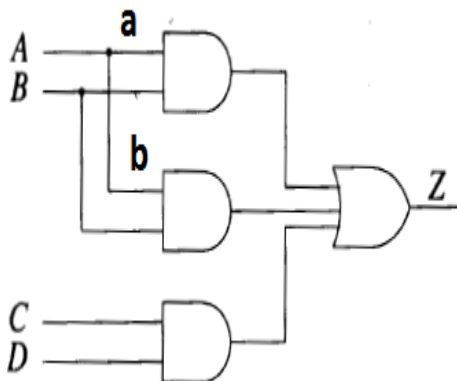
(Electronics and Communication Engineering)

Time: 2 hours

Max. Marks: 75

Answer any five questions
All questions carry equal marks

1. Explain the procedure how to minimization of switching function using tabular method with example. [15]
- 2.a) What is Hazard? Explain the design of SIC Hazard free circuit.
b) Compare Mealy and Moore models. [10+5]
3. Derive the ROM programming table for the combinational circuit that squares a 4-bit number. Minimize the number of product terms. [15]
4. Why control circuits are needed? Explain the operation of scoreboard controller. [15]
- 5.a) Develop an ASM chart of D flip flop and realize it using only NAND Gates.
b) Draw the principle components of an SM chart. [10+5]
6. What are the basic elements of an ASM chart? Explain each one clearly with an examples. [15]
7. For the circuit shown in figure below:
a) Find the set of all the tests that detect the fault a s-a-0
b) Find the set of all the tests that detect the fault b s-a-0
c) Find the set of all the tests that detect the multiple-fault {a s-a-0, b s-a-0} [15]



8. Explain the concept and procedure of Fault detection and location in Sequential circuits. [15]