Microprocessors & Interfacing

EEE/CS/INSTR F241

Design Assignment Report

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**Problem Statement**

**IC TESTER**

Design a Microprocessor based Tester to test the logical functioning of the following chips:

1. 7400
2. 7408
3. 7432
4. 7486
5. 747266

The IC to be tested will be inserted in a 14-pin ZIF socket. The IC number is to be entered via a keyboard. The keyboard has keys 0-9, backspace, enter and test. The user places the IC in the ZIF socket closes it – then enters the IC No, followed by enter key. The IC No. is displayed on the 7-segment display. The testing will start once the user presses test key.

After Test, the result PASS/FAIL must be displayed on the 7-segment display.

**Assumptions**

* The user connects the IC before flipping the switch.
* IC will be one of the ICs listed in the question.
* User enters the number, then presses enter to validate IC number, then test to test connected IC.

**List of ICs used**

|  |  |  |
| --- | --- | --- |
| **IC No.** | **Count** | **Purpose** |
| 8086 | 1 | CPU |
| 74LS373 | 3 | Address bus |
| 74LS245 | 2 | Data bus |
| 2732 | 2 | ROM |
| 6116 | 2 | RAM |
| 8255A | 3 | I/O Interfacing |