Maulana Abul Kalam Azad University of Technology, West Bengal

(Formerly West Bengal University of Technology)

Syllabus for B. Tech in Electrical Engineering

(Applicable from the academic session 2018-2019)

Name of the course	DIGITAL ELECTRONICS LABORATORY
Course Code:PC-EE492	Semester: 4th
Duration: 6 months	Maximum marks:100
Teaching Scheme	Examination scheme:
Theory: 0 hr/week	Continuous Internal Assessment:40
Tutorial: 0 hr/week	External Assessment: 60
Practical: 2 hrs/week	
Credit Points:1	

	Laboratory Experiments:
1.	Realization of basic gates using Universal logic gates.
2.	Code conversion circuits- BCD to Excess-3 & vice-versa.
3.	.4-bit parity generator & comparator circuits.
4.	Construction of simple Decoder & Multiplexer circuits using logic gates.
5.	Design of combinational circuit for BCD to decimal conversion to drive 7-segment display usingmultiplexer.
6.	Construction of simple arithmetic circuits-Adder, Subtractor.
7.	Realization of RS-JK & D flip-flops using Universal logic gates.
8.	Realization of Universal Register using JK flip-flops & logic gates.
9.	Realization of Universal Register using multiplexer & flip-flops.
10.	Construction of Adder circuit using Shift Register & full Adder.
11.	Realization of Asynchronous Up/Down counter
12.	Realization of Synchronous Up/Down counter
13.	Design of Sequential Counter with irregular sequences.

14.	Realization of Ring counter & Johnson's counter.
15.	Familiarization with A/D and D/A circuits

Course Outcome:

After completion of this course, the learners will be able to

1. identify appropriate equipment and instruments for the experiment
2. test the instruments for application to the experiment
3. construct decoder , multiplexer, adder and subtractor circuits with appropriate instruments and precaution
4. realize RS-JK and D flip flop, universal register with gates, multiplexer and flip-flops and asynchronous and synchronous up down counters
5. validate the operation of code conversion circuit –BCD to Excess 3 & vice versa, 4 bit parity generator & comparator circuits,
6. work effectively in a team

Special Remarks: The above-mentioned outcomes are not limited. Institute may redefine outcomes based their program educational objective.