

**B.E / B.Tech. PRACTICAL END SEMESTER EXAMINATIONS**

**Sixth/Seventh Semester**

**ME8781 MECHATRONICS LABORATORY**

**(Regulation 2017)**

Time : 3 Hours

Answer any one Question

Max. Marks 100

<b>Aim/Principle/Apparatus required/Procedure</b>	<b>Tabulation/Circuit/Program/Drawing</b>	<b>Calculation &amp; Results</b>	<b>Viva-Voce</b>	<b>Record</b>	<b>Total</b>
<b>20</b>	<b>40</b>	<b>20</b>	<b>10</b>	<b>10</b>	<b>100</b>

1.	Design a circuit for Extension and Retraction in a single acting cylinder using electro pneumatic trainer kit
2.	Design a circuit for Extension and Retraction in a double acting cylinder using electro pneumatic trainer kit
3.	Design an OR logic circuit for Logic function in a single acting spring return cylinder using pneumatic trainer kit
4.	Design an AND logic circuit for Logic function in a single acting spring return cylinder using pneumatic trainer kit
5.	Design and assemble a circuit for Extension and Retraction in a single acting cylinder using hand lever pneumatic trainer kit
6.	Design and assemble a circuit for Extension and Retraction in a double acting cylinder using hand lever pneumatic trainer kit
7.	Extension and Retraction of a hydraulic cylinder using Versapro
8.	Design and assemble a circuit for extension and retraction in a single acting cylinder using time relay valve pneumatic trainer kit
9.	Design and assemble a circuit for extension and retraction in a double acting cylinder using time relay valve pneumatic trainer kit

10.	Design and assemble a circuit for extension and retraction in a single acting cylinder using roller valve pneumatic trainer kit
11.	Design and assemble a circuit for extension and retraction in a double acting cylinder using roller valve pneumatic trainer kit
12.	Design and assemble an OR logic circuit in a single acting cylinder using electro pneumatic trainer kit with PLC
13.	Design and assemble an AND logic circuit in a single acting cylinder using electro pneumatic trainer kit with PLC
14.	Design and assemble a circuit for Extension and Retraction in a single acting cylinder using push button valve pneumatic trainer kit
15.	Design and assemble a circuit for Extension and Retraction in a double acting cylinder using push button valve pneumatic trainer kit
16.	Run a DC motor at the given speed using digital PID controller
17.	Run a stepper motor in clock-wise direction
18.	Run a stepper motor in Anti-clock-wise direction
19.	Run a stepper motor in clock-wise direction with different speed
20.	Run a stepper motor in Anti-clock-wise direction with different speed