

Programme Name & Branch: B.Tech (School of Computer Science Engineering)
Course Name & Code: Microprocessors and Microcontrollers BECE204L
Exam Duration: 90 Min.

SLOT: C2+TC2

Maximum Marks: 50

Q. No.	Questions	Max Marks																				
1.	Develop a program to receive data until the received data is “N”, means if 8051 receives “N” then it should stop receiving the character and save it in a safe location. Baud rate of 9600.	10																				
2.	Develop an ALP to Implement $Y=X'Y'+XY'Z+Y'Z$ in 8051 Microcontroller	10																				
3.	An 8051 microcontroller based system is designed to count the students entering into a class room of capacity 60, where an enable switch is connected to the microcontroller port which helps the faculty to start the counting process. After 3 minutes of the counting process, a motor which is connected to the P2.1 should be turned ‘ON’ to close the door by sending ‘HIGH’ value to P2.1. Also the final count value after 3 minutes should be sent to P1. Develop an ALP for the above scenario.	15																				
4.	Let an input device is connected to P1 of 8051 Microcontroller. Develop an ALP that continuously monitors the MSB and LSB pins of P1 and based on the binary combinations generate square waveforms as given in table 1. <div style="text-align: center;"> <p>Table1</p> <table border="1" style="margin: auto; border-collapse: collapse;"> <thead> <tr> <th>S.No</th> <th>MSB</th> <th>LSB</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">0</td> <td style="text-align: center;">500 Hz</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">0</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1.6 KHz</td> </tr> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">1</td> <td style="text-align: center;">0</td> <td style="text-align: center;">750Hz</td> </tr> <tr> <td style="text-align: center;">4</td> <td style="text-align: center;">1</td> <td style="text-align: center;">1</td> <td style="text-align: center;">2KHz</td> </tr> </tbody> </table> </div>	S.No	MSB	LSB	Frequency	1	0	0	500 Hz	2	0	1	1.6 KHz	3	1	0	750Hz	4	1	1	2KHz	15
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