Department of Electronics & Communication Engineering
M.M.M. University of Technology, Gorakhpur
Microprocessors and Microcontroller (BEC-305)
Odd Semester 2025-26
Assignment No.3

1. Differentiate between a microprocessor and a microcontroller.
2. Draw and explain the architecture of the 8051 microcontrollers.
3. Explain the memory organization of the 8051 with a neat diagram.
4. What are SFRs (Special Function Registers) in 8051? Explain in detail.
5. How many IO lines are available in 8051. Explain the role of port 0, port 1 and port 2.
6. Discuss the Program Status Word (PSW) of 8051 microcontroller in details.
7. Explain the pin used in 8051 microcontroller XTAL1 and XTAL2, RST, $\overline{EA}$, $\overline{PSEN}$, and ALE.
8. What does use of data pointer register? Why is it 16 bits. What is the role of stack pointer? Why is it 8- bit only?
9. What is maximum size of stack possible for 8051? Discuss the role of stack and stack pointer in 8051 microcontrollers.
10. Explain function of Port 3 of 8051 microcontroller in detail.
11. Explain 8051 microcontroller Register Bank Structure in detail. And explain how you select bank by using PSW?
12. Explain bit addressable location and byte addressable location in internal RAM of 8085 microcontroller in detail.