Test Problems

a. **Description of instructions**
   Q1. Explain MUL AB and DIV AB instructions
   Q2. Explain two indirect indexed instructions
   Q3. Explain all flags in 8051
   Q4. Explain all Boolean instructions
   Q5. Explain all compare instructions
   Q6. Write a program to decrement the value of DPTR

b. **Assembly Directives**
   Q1. Explain 8051 assembler directives EQU, SET and BIT with one example each.
   Q2. Explain 8051 assembler directives DBIT and DS with one example each.

c. **Algorithms with 8051 assembly language programs**
   Q1. Write an 8051 assembly program to exchange the data using PUSH and POP instructions.
   Q2. Write an 8051 assembly program to convert two digit BCD number to hexadecimal number
   Q3. Write an 8051 assembly program to convert one byte Binary number to BCD.
   Q4. Write an 8051 assembly program to evaluate the factorial of an integer number \( N \) using recursive procedure.
   Q5. Write an 8051 assembly program to find GCD of two numbers.
   Q6. Write an 8051 assembly program to sort the number in an array using bubble sort method