```
#include <xc.h>

#define _XTAL_FREQ 32000000

#define    RS         LATCbits.LATC0
#define    EN         LATCbits.LATC1
#define    LCD_DATA   LATD

void LCD_command(unsigned char cmd) {
    RS = 0;
    LCD_DATA = cmd;
    EN = 1;
    __delay_ms(1);
    EN = 0;
    __delay_ms(2);
}

 void LCD_data(unsigned char data) {
    RS = 1;
    LCD_DATA = data;
    EN = 1;
    __delay_ms(1);
    EN = 0;
    __delay_ms(1);
}

void LCD_init() {
    TRISCbits.TRISC0 = 0;
    TRISCbits.TRISC1 = 0;
    TRISD = 0;

    __delay_ms(15);
    LCD_command(0x30); // reset command
  __delay_ms(5);
  LCD_command(0x30); // reset command
  __delay_us(160);
  LCD_command(0x30); // reset command
  __delay_us(160);

  LCD_command(0x38); // 8 bit mode, 2 line, 5x8 font
  LCD_command(0x0C);
  LCD_command(0x06); // Entry Mode
  LCD_command(0x01); // Clear Screen
   __delay_ms(2);
}
```

```
int main() {
    unsigned char f1[] = "ELECTRICAL";
    unsigned char f2[] = "ENGINEERING";
    unsigned char s1[] = "EEE407";
    unsigned char s2[] = "LABORATORY";

   LCD_init();

  while(1) {
    LCD_command(0x01); // clear screen
    LCD_command(0x80); // first row first column

    // f1[i] != '0'
   // LCD_command(0x14); // shift cursor right

    for(int i = 0; i < 10; i++)  { LCD_data(f1[i]); }

    LCD_command(0xC0); // second row, first column

    //LCD_command(0x10); // shift cursor left

    for(int i=0; i<11; i++) { LCD_data(f2[i]); }

    __delay_ms(3000);

    /* for(int i=0; i<5; i++){
      LCD_command(0x1C);
      __delay_ms(500); }

    for(int i=0; i<5; i++){
      LCD_command(0x18);
       __delay_ms(500); }
    */


    /// ****** Second Screen *****
    LCD_command(0x01); // clear screen
    LCD_command(0x80);  // first row first column

    for(int j=0; j<6; j++) { LCD_data(s1[j]); }

   LCD_command(0xC0);
   for(int j=0; j<10; j++){
       LCD_data(s2[j]); }
```

```
        __delay_ms(3000);
    }
}
```