

Lab Manual

Microprocessors an Interfacing (Pr) CSPC-22

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Practical exam: 50
Sessional: 50

Experiment 1 (Printing)

1. Write a program to print the alphabets (A-Z).
2. Write a program to print the alphabets (a-z).
3. Write a program to print the numbers from 0-9.
4. Write a program to print ASCII table.
5. Write a program to print AaBbCc.....Zz.
6. Write a program to print AaaBbbCcc.....Zzz.
7. Write a program to print AbCd.....Z.
8. Write a program to print the alphabets (a-z).

Experiment 2 (Strings)

1. Write a program to print the string using 09h function.
2. Write a program to print the string character wise.
3. Repeat the program 1 for 16-bit string.
4. Repeat the program 2 for 16-bit string.
5. Write a program to convert the given string into reverse form.
6. Repeat the program for 16-bit string.
7. Write a program to check that given string is palindrome or not.
8. Repeat the program for 16-bit string.

Experiment 3 (Arithmetic)

1. Write a program to sum two 8-bit single digit numbers.
2. Write a program to sum two 16-bit single digit numbers.
3. Write a program to sum two 8-bit multi digits numbers.
4. Write a program to subtract two 8-bit single digit numbers.
5. Write a program to subtract two 16-bit single digit numbers.
6. Write a program to subtract two 8-bit multi digits numbers.
7. Write a program to multiply two 8-bit single digit numbers.
8. Write a program to multiply two 16-bit single digit numbers.
9. Write a program to divide two 8-bit single digit numbers.

Experiment 4 (Conversion)

1. Write a program to convert single digit decimal number into hexadecimal.
2. Repeat the same exercise for multi digits number.
3. Write a program to convert binary input number into hexadecimal.
4. Repeat the same exercise for 16-bit number.
5. Write a program to convert binary input number into octal.
6. Repeat the same exercise for 16-bit number.
7. Write a program to convert single digit hexadecimal number into octal.
8. Repeat the same exercise for multi digits number.

Experiment 5 (Positive/negative, odd/even)

1. Write a program to find that 8-bit number is positive or negative.
2. Repeat the same exercise for 16-bit number.
3. Write a program to find that 8-bit number is odd or even.
4. Repeat the same exercise for 16-bit number.

Experiment 6 (Gray code conversion)

1. Write a program to convert binary code into gray code.
2. Repeat the same exercise for 16-bit number.
3. Write a program to convert gray code into binary code.
4. Repeat the same exercise for 16-bit number.

Experiment 7 (Factorial)

1. Write a program to find the factorial of a given number.
2. Repeat the exercise for different type of numbers (i.e. multi-digit 8-bit, 16-bit etc.).

Experiment 8 (Fibonacci series)

1. Write a program to print the Fibonacci series up to 233.

Experiment 9 (Sorting)

1. Write a program to sort n 8-bit numbers.
2. Repeat the same exercise for 16-bit number.
3. Repeat the same exercise using modular programming.

Experiment 10 (INT 10h)

1. Write a program to change the size of the cursor, position as per user's choice using INT 10h.
2. Write a program to draw the line using INT 10h.
3. Write a program to change the mode of monitor and also draw the single pixel INT 10h.

Experiment 11 (INT 33h)

1. Use INT 33h, write a program to create a textual mouse "button".
2. Use INT 33h, write a program to check the mouse driver is present or not.
3. Use INT 33h, write a program, which turns on your mouse cursor, and pause the computer until a mouse button is pressed.

Experiment 12 (Application)

1. Write a program to rotate the stepper motor in clock as well as anti-clock wise direction as per given the number of rotations.
2. Repeat the same exercise for different number of rotation and delays.
3. Write a program to implement the traffic light system.
4. Repeat the same exercise for different delays.
5. Write a program to implement thermometer application with different delays and temperatures.

