**PUNE INSTITUTE OF COMPUTER TECHNOLOGY,**

**Dhankawdi, PUNE – 43**

**LIST OF LAB EXPERIMENTS**

**ACADEMIC YEAR: 2019-20**

**Date: 16/ 12 / 2019**

**DEPARTMENT : INFORMATION TECHNOLOGY**

**Class : S.E. SEMESTER : II**

**Subject : PROCESSOR INTERFACE LABORATORY**

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| **LAB EXPT.NO** | **PROBLEM STATEMENT** |
| **1.** | **Mini Project** |
| **2.** | **Write Assembly Language Program (ALP) to add array of N numbers stored in the memory.** |
| **3.** | **Write menu driven ALP to convert 4-digit Hex number into its equivalent BCD number and 5-digit BCD number into its equivalent HEX number. Make your program user friendly to accept the choice from user for**  **i) HEX to BCD ii) BCD to HEX iii) EXIT.**  **Display proper strings to prompt the user while accepting the input and displaying the result. Write near procedure to complete the task.** |
| **4.** | **Write ALP to perform following operations on string:**   1. **Find and display length** 2. **Display reverse** 3. **Check whether string is palindrome or not.**   **Display proper strings to prompt the user while accepting the input and displaying the result. Write near procedures to complete the task.** |
| **5.** | **Write menu driven ALP to perform string manipulations. The strings to be accepted from the user is to be stored in code segment Module\_1 and write FAR PROCEDURES in code segment Module\_2 to perform any two of the following string operations:**  **i) Concatenation of two strings**  **ii) Comparison of two strings**  **iii) Finding Number of occurrences of a sub-string in the given string**  **iv) Finding number of alphabets, digits, special characters, lower & upper case alphabets, word and number of lines from the text.**  **Note: Use PUBLIC and EXTERN directives. Create .OBJ files of both the modules and link them to create an .EXE file.** |
| **6.** | **Write menu driven program in C using int86, int86x, intdos and intdosx functions for implementing following operations on file.**   1. **To delete a file** 2. **To create a directory** 3. **To copy a file** |
| **7.** | **Write 8051 ALP to add n, 8 bits numbers found in internal ram location 40H onwards and store results in R6 and R7.** |
| **8.** | **Write 8051 ALP for the block transfer for internal / external memory.** |
| **9.** | **Serial port programming: ISR based**  **Connect two 8051 microcontrollers using serial ports. Send FFh and 00h alternatively to receiver. Output received byte to port1, see port pin waveform on CRO.** |
| **10.** | **Write ALP to interface 8051 with: LCD to display message.** |
| **11.** | **Write ALP to interface 8051 with: Stepper motor to rotate motor with different step angles and speeds.** |

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