JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-3 EXAMINATIONS-2022

B. Tech-VI Semester (ECE)

COURSE CODE (CREDITS): 19B1WEC635(3) MAX. MARKS: 35

COURSE NAME: Embedded System Design

COURSE INSTRUCTOR: Dr. Naveen Jaglan MAX. TIME: 2 Hours

Note: *All questions are compulsory. Marks are indicated against each question in square brackets.*

Q1. Explain the architecture of 8051 microcontroller and describe the PSW register and RAM memory organization. [CO-1,2: 4 Marks]

Q2. WAP to read 20 bytes from Port 1 and send each byte serially at 2400 bauds with 8 data bits,1 start bit (0) and 1 stop bit (1). [CO-2,3: 4 Marks]

Q3. Draw interfacing of 8×8 matrix keyboard with 8051 and then WAP to identify the key pressed and display the key on 7-segment display. [CO-2,3: 4 Marks]

Q4. Interface an 8-digit 7-segment multiplexed LED to 8051 and then write an assembly program to display 30052022. [CO-2,4: 4 Marks]

Q5. Draw the pin diagram of 8-Bit ADC 0809, interface this ADC with 8051 and then WAP to sense temperature when LM-35 temperature sensor is connected to Vin (0) 0f ADC 0809. [CO-4,5: 4 Marks]

Q6. Explain idle mode and power down modes of 8051 and the ways to terminate these modes. [CO-4: 3 Marks]

Q7. Interface a 16×2 line LCD unit to 8051 and write a program to display "Happy New Year". [CO-4,5: 4 Marks]

Q8. Write an assembly language program to generate triangular waveform using DAC interfacing with 8051 microcontrollers. [CO-3,5: 4 Marks]

Q9. Write an assembly language program to sort an array of 5 elements in ascending order. [CO-4,5: 4 Marks]