

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST-2 EXAMINATIONS-2023

B. Tech-VI Semester

COURSE CODE (CREDITS): 18B1WCI735 (3)

MAX. MARKS: 25

COURSE NAME: ARM Based Embedded System Design

COURSE INSTRUCTOR: Dr. Naveen Jaglan

MAX. TIME: 1 Hour 30 Min

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

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- Q1. How ARM 7 implements pipelining by overlapping various stages of an instruction cycle to improve the performance of processor. [CO-3,4: 2 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-1,4: 3 Marks]
- Q3. Interface an 8-digit 7-segment multiplexed LED to microcontroller and then write an assembly program to display 30052022. [CO-1,2: 3 Marks]
- Q4. Draw the pin diagram of 8-Bit ADC 0809, interface this ADC with microcontroller and then WAP to sense temperature when LM-35 temperature sensor is connected to Vin (0) of ADC 0809. [CO-4: 3 Marks]
- Q5. Explain idle mode and power down modes of 8051 and the ways to terminate these modes. [CO-1,2: 2 Marks]
- Q6. Write an assembly language program to generate triangular waveform using DAC interfacing with microcontrollers. [CO-3,4: 2 Marks]
- Q7. Draw interfacing of 4×4 matrix keyboard with microcontroller and then WAP to identify the key pressed and display the key on 7-segment display. [CO-2,3: 3 Marks]
- Q8. Write an assembly language program to sort an array of 5 elements in ascending order. [CO-3,4: 4 Marks]
- Q9. With the help of a block diagram explain the architecture of ARM. Write the advantages of RISC over CISC. [CO-3,4: 2+1=3 Marks]