**ASSIGNMENT-3**

**Issue Date: Submission Date:**

1. Explain the purpose and characteristics of the flash memory in the LPC2148.
2. How is RAM organized in the LPC2148 microcontroller?
3. What is the purpose of the Vectored Interrupt Controller (VIC) in the LPC2148?
4. Describe the General-Purpose Input/Output (GPIO) pins in the LPC2148.
5. How can you configure a GPIO pin as an input in the LPC2148?
6. Provide an example code to set a GPIO pin as an output in the LPC2148.
7. Explain the concept of GPIO interrupts and their importance in embedded systems.
8. What are the available timer/counters in the LPC2148?
9. Discuss the uses of timers in the LPC2148 microcontroller.
10. Explain the concept of Pulse Width Modulation (PWM) and how it can be generated using timers in the LPC2148.
11. Provide an example code to configure a timer and generate PWM signals in the LPC2148.
12. What is the UART module in the LPC2148 used for?
13. Describe the steps involved in initializing the UART module in the LPC2148.
14. How can you send data using the UART module in the LPC2148?
15. Explain the process of receiving data using the UART module in the LPC2148.
16. What is the Analog-to-Digital Converter (ADC) in the LPC2148 used for?
17. Discuss the different modes of operation in the ADC of the LPC2148.
18. How can you configure the ADC module in the LPC2148?
19. Provide an example code to read values from the ADC in the LPC2148.
20. What is the purpose of interrupts in the LPC2148 microcontroller?
21. Explain the interrupt system and its significance in real-time applications.
22. Discuss the different types of interrupts available in the LPC2148.
23. How can you prioritize interrupts in the LPC2148?
24. Provide an example code to handle interrupts using Interrupt Service Routines (ISRs) in the LPC2148.
25. Propose a project idea that utilizes the LPC2148 microcontroller and incorporates GPIO, timers, and UART.
26. How does the LPC2148 handle power-saving modes?
27. Discuss the I2C interface and its uses in the LPC2148.
28. Explain the Serial Peripheral Interface (SPI) and its applications in the LPC2148.
29. Describe the Real-Time Clock (RTC) module in the LPC2148.
30. How can you implement a software delay in the LPC2148 without using timers?
31. What are the available communication interfaces in the LPC2148 microcontroller?
32. Discuss the features and uses of the CAN (Controller Area Network) interface in the LPC2148.
33. Explain the Ethernet MAC (Media Access Controller) in the LPC2148.
34. Describe the USB (Universal Serial Bus) interface and its functionalities in the LPC2148.
35. What are the different oscillator options available in the LPC2148?