Reg. No.:

Name :

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Mid-Term Examinations – March 2022					
Programme	:	**B.Tech.**	Semester	:	**Winter 2021-22**
Course	:	**Embedded Systems**	Code	:	**ECE4010**
Faculty	:	**Dr. Abhishek Joshi**	Slot/ Class No.	:	**B11+B12+B13/0477**
Time	:	**1 ½ hours**	Max. Marks	:	**50**

Answer all the Questions

Q.No.	Sub. Sec.	Question Description	Marks
1		Differentiate between general purpose system and embedded system.	**10**
2		Draw a generic embedded system hardware block diagram and describe the importance of individual hardware block.	**10**
3		An 8-bit binary weighted DAC needs to be interfaced to the microcontroller of an embedded system to convert digital signal to its analogue equivalent. Consider the value of 8-bit digital signal to be 10011001. Find the analogue equivalent value of the signal. Also, consider the value of Vdc = 10 volts and Rf = R ohms.	**10**
4		A part of embedded system needs to be developed which should blink an LED connected to port 1, pin 1 of AT89C51 microcontroller every 100 ms. Write an embedded C code using software delay. Consider the crystal frequency = 12 MHz.	**10**
5		Generate the packet for UART communication between two systems when the system has to send the letter "J". The hex equivalent of ascii char "J" = 4Ah. Consider even parity and single stop bit. Also, provide significance of individual bit in the packet generated for UART communication.	**10**

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