Total No.	of Questions : 8]	SEAT No. :
PD-430	4	[Total No. of Pages : 2
	[6403]-102	
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EMBEDDED PROCESSORS		
(2019 Pattern) (Semester - VI) (Elective- II) (304195)		
Time : 21/2		[Max. Marks : 70
	ns to the candidates:	[Wiax. Warks . 70
1)	Solve Q1 OR Q2, Q3 OR Q4, Q5 OR Q6, Q7 OR	Q8.
2)	Neat diagrams must be drawn wherever necessary	
3)	Figures to the right indicate full marks.	
4)	Assume suitable data, if necessary.	
Q1) a)	Draw an Interfacing diagram of GSM-UART write an initialization program to send a messa	
b) State features of ADC in LPC2 148, draw an interfacing diagram to display the sensed temp on LCD with initialization program. [9] OR		
Q2) a)	Explain UART module of LPC2148. Write a transmit character 'A' to PC.	an embedded C program to
b)	Draw an interfacing of DHT 11 with LPC2148 temperature and humidity.	
Q3) a) 4	Compare Cortex processors over ARM7 for	embedded system design.
	Enlist the features and applications of Corte	x processors. [9]
b)	Draw and explain the memory map of Corte	x M Processor [8]
\sim	OR	3, 100,
Q4) a)	State various Features of STM32F4xxx, Cor	nment on Peripheral Clock [9]
b)	Explain the programmer model-Register in Control of the control of	Cortex M Processor. [8]
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Explain timer structure of STM32F4XX. Which are the SFRs associated **Q5**) a) with timers? Write Embedded C program to generate delay of 5 msec.[9] Draw an interfacing diagram to interface LDR & MQ3 sensor with b) STM32F4xx microcontroller and write algorithm to display the light & the Gas percentage parameter on LCD. [9] OR What are the features of GPIO of STM32F4XX? Write a note on different **Q6**) a) types of GPIO registers available in STM32F4xx. Write a program to generate 100 ms time delay using timer. Assume external b) clock frequency of 16 MHz. State features of CAN Bus with CAN Bus frame. **Q7**) a) [9] b) Draw an interfacing diagram of STM32F4xx with accelerometer MPU 6050 with flowchart to display the parameters. [8] OR (08) a) Write detailed note on PWM. With interfacing diagram, show speed and direction of DC Motor can be changed using PWM in STM32F407XX. [9] State features of ultrasonic sensor-HC-SRO4, Draw an interfacing b) Solve State of the diagram.

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