Total No. of Questions : 8]

SEAT No. :

P769

[Total No. of Pages : 2

[5870]-1075
T.E. (E&TC)
EMBEDDED PROCESSORS
(2019 Pattern) (Semester - II) (304195(D)) (Elective - II)

Time : 2½ Hours] ***[Max. Marks : 70***

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagrams must be drawn whenever necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Assume suitable data, if necessary.***

Q1) a) Write algorithm or flowchart to generate triangular waveform using DAC of LPC2148 **[4]**

b) List the features of ON chip ADC of LPC2148. **[6]**

c) Draw and Explain interfacing of EEPROM using I2C communication to LPC2148. Draw flowchart to read and write data in EEPROM. **[8]**

OR

Q2) a) Write features of DAC in LPC2148. **[6]**

b) Write down the features of VART of LPC2148 write algorithm to transmit character 'P' to PC. **[8]**

c) Compare ARM cortex M3 with ARM7TDMI. **[4]**

Q3) a) Explain CMSIS standard. **[8]**

b) Write features of STM32F4XX processor. **[5]**

c) Compare ARM Cortex A, M and R. **[5]**

OR

Q4) a) Explain different peripherals in STM32F4XX. **[8]**

b) Enlist different clocks of STM32F4XX. **[5]**

c) Compare ARM Cortex M3 with ARM cortex M4. **[5]**

P.T.O.

Q5) a) Enlist various registers required to configure serial communication of STM32F4XX Microcontroller. Explain any two registers with suitable example. **[9]**

b) Explain an algorithm to send "SPPU" serially via STM32F4XX controller to desktop PC with baudrate 9600. **[8]**

OR

Q6) a) Write note on a different types of registers of STM32F4XX. **[5]**

b) Draw an interfacing diagram and algorithm to interface push button and LED using STM32F4XX. **[7]**

c) Write an algorithm to display 0 to 9 on 7 segment display. **[5]**

Q7) a) Enlist the features of CAN bus. **[4]**

b) Draw an interfacing diagram of STM32F4XX with accelerometer MPV 6050. **[5]**

c) Interface 7 segment with STM32F4XX. Write algorithm to display ''3''. **[8]**

OR

Q8) a) Advantages & Disadvantages of ultrasonic proximity sensor. **[4]**

b) Explain how PWM is used to control speed and direction of DC motor. **[8]**

c) Explain CAN bus & its application. **[5]**

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