

Total No. of Questions : 8]

SEAT No. :

PC-1784

[Total No. of Pages :2

[6353]-103

T.E. (E & TC)

Embedded Processors (Elective - II)

(2019 Pattern) (Semester - II) (304195 D)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Solve Q.1 or Q.2, Q.3 or Q.4, Q5 or Q.6, Q7 or Q8.
- 2) Neat diagram must be drawn wherever necessary.
- 3) Figures to the right indicate full marks.
- 4) Assume suitable data, if necessary.

Q1) a) Interface of LPC 2148 with PC using UART. Draw interfacing diagram and explain it. [9]

b) What is interfacing? What are the advantages of using LPC2 148 instead of other processors in embedded system? [9]

OR

Q2) a) Write down the characteristic features of UART of LPC2148. [5]

b) Write an embedded C program to transmit character 'A' to PC. [8]

c) List the features of LPC2148. [5]

Q3) a) What are the features and advantages of ARM CORTEX M3 in embedded system. [8]

b) Compare CORTEX A, CORTEX M. CORTEX R processors. [5]

c) Write a note on ARM processor development. [5]

OR

Q4) a) Write down the specifications of ARM CORTEX M4. [5]

b) Draw detailed architecture of ARM CORTEX M4. [8]

c) Compare between ARM Cortex-M3 and ARM Cortex-M4. [5]

P.T.O.

Q5) a) Explain programmer model of ARM CORTEX M4 with neat labelled diagram. [9]

b) Explain an algorithm to send “SPPU” serially via STM32F4xx controller to Desktop PC on HyperTerminal. Assume (UART, 9600 Baud Rate) [8]

OR

Q6) a) Write a note on different types of timers and counters of STM32F4xx.[9]

b) Draw an interfacing diagram and flowchart to interface Seven segments LED with STM32F4xx microcontroller. [8]

Q7) a) Draw an interfacing diagram of STM32F4xx Interfacing with accelerometer MPU 6050. [8]

b) Enlist the features of’ CAN Bus. [4]

c) Draw an interfacing diagram to interface DC motor with STM32F4xx controller. [5]

OR

Q8) a) Write detailed note on PWM. Explain how PWM is used to control speed and direction of DC Motor. [9]

b) Explain the steps of transmitting and receiving data using CAN Bus. [8]

