

Total No. of Questions : 10]

SEAT No. :

P3960

[5561]-655

[Total No. of Pages : 2

B.E.(E&TC)

EMBEDDED SYSTEM & RTOS

(2015 Pattern) (Semester - I) (Elective - I) (End Sem.) (404184C)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Neat diagrams must be drawn wherever necessary.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data, if necessary.*

Q1) a) How waterfall model is helpful in design and development of Embedded System. **[5]**

b) Explain the following design metrics. Time to market, NRE cost, maintainability. **[5]**

OR

Q2) a) Explain Typical process for Embedded System development. **[5]**

b) Explain the characteristics of Embedded System. **[5]**

Q3) a) What are the types of Rest Time System? **[5]**

b) Compare Monolithic RTOS with Micro kernel RTOS. **[5]**

OR

Q4) a) Draw and explain μ cosII Kernel Structure. **[5]**

b) What is significance of Interprocess communication? **[5]**

Q5) a) Explain any four features of Cortex Architecture with advantage of each. **[8]**

b) How CMS is standards helps in development of cortex based Embedded System? **[8]**

OR

P.T.O.

- Q6)** a) How interrupt structure of cortex is different from ARM7? [8]
b) Draw interfacing diagram of motor control using PWM with LPC1768. Write down program or algorithm for the same. [8]

- Q7)** a) Explain linux file system. What is journaling flash file system? What are advantages of the same? [9]
b) Explain any three device driver utilities with an example. [9]

OR

- Q8)** a) Explain the role of boot loader in Embedded linux system? What are the characteristics of the same? [9]
b) Explain the following tool utilities Minicom, BusyBox, Red Boot. [9]

- Q9)** a) With the help of any case study, explain an application Development on Arduino platform w.r.t. [8]

- i) Algorithm
- ii) Library usage
- iii) Source code/algorithm

- b) Explain typical structure of Arduino program. [8]

OR

- Q10)**a) Write a program for Arduino board to read analog input and convert it into digital. [8]

- b) What is power Down and Sleep Mode of Power Management in embedded architecture? State it merit and Demerits. [8]

