Total No. of Questions : 10]

SEAT No. : ____

PA-266

[Total No. of Pages : 2

[5927]-150

B.E. (E & TC) (Semester - I)

EMBEDDED SYSTEM & RTOS

(2015 Pattern) (404184C) (Elective - I)

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 and Q.9 or 10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right indicates full marks.***
4) ***Assume suitable data if necessary.***

Q1) a) Explain Typical process for Embedded System development. **[5]**

b) Explain waterfall model. **[5]**

OR

Q2) a) Explain the following design metrics. Time to market, NRE cost, maintainability. **[5]**

b) Explain characteristics of embedded system. **[5]**

Q3) a) What is significance of Interprocess communication? **[5]**

b) Draw and explain µcosII Kernel Structure. **[5]**

OR

Q4) a) What do you mean by clock tick in RTOS. Explain the time management functions in µ COS - II. **[5]**

b) What is need of semaphore? How do you create counting semaphore? **[5]**

Q5) a) How CMS is standards helps in development of cortex based Embedded System? **[8]**

b) Compare BIOS with boot loader in embedded system. **[8]**

OR

P.T.O.

Q6) a) Draw interfacing diagram of motor control using PWM with LPC1768. Write down program or algorithm for the same. **[8]**

b) List and explain various file systems used in embedded linux. **[8]**

Q7) a) Explain the following tool utilities Minicomp, Busy Box, Red Boot. **[9]**

b) Explain the role of boot loader in Embedded linux system? What are the characteristics of the same? **[9]**

OR

Q8) a) Explain any three device driver utilities with an example. **[9]**

b) What is device driver? What is use of device driver in embedded linux system? Explain different types of device driver used in embedded system. **[9]**

Q9) a) What is power Down and Sleep Mode of Power Management in embedded architecture? State it merit and Demerits. **[8]**

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

OR

Q10)a) Explain Automatic chocolate vending mechine with suitable block diagram and state its hardware requirements. **[8]**

b) Explain software development tools for embedded system. **[8]**

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