Total No. of Questions : 10]

SEAT No. :

P2022

[Total No. of Pages : 2

[5059] - 625

B.E. (E&TC)

EMBEDDED SYSTEM AND RTOS

(2012 Pattern) (Semester - II)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer any one Question out of Q. No. 1 or 2, Q. No. 3 or 4, Q. No. 5 or 6, Q No. 7 or 8, Q No.9 or 10.***
2) ***Neat diagrams must be drawn wherever necessary.***
3) ***Figures to the right side indicate full marks.***
4) ***Use of logarithmic tahles, slide mollics charts, electronic pocket calculator and steam tables is alloud.***
5) ***Assume suitable data, if necessary.***

Q1) a) Design the medium scale embedded system. **[6]**

b) With example explain how design metrics are depend on each other **[4]**

OR

Q2) a) Compare foreground/Background system with RTOS. **[5]**

b) What is difference between Spiral and V model? **[5]**

Q3) a) What is the need of semaphore? How do you create counting semaphore? **[4]**

b) Write algorithm/ program for reading ADC data using Q services of RTOS. **[6]**

OR

Q4) a) Why mutual exclusion is necessary while using shared resources ? **[4]**

b) Write algorithm / program to use semaphore for shared resources. **[6]**

P.T.O

Q5) a) Compare Bootloader and BIOS. **[6]**

b) What are storage consideration in case of embedded linux? **[5]**

c) What are the features of embedded linux? **[5]**

OR

Q6) a) Explain cross development tools for Embedded linux target. **[4]**

b) What does the root file system contain? **[2]**

c) Compare NOR and NAND flash memories for embedded linux environment. **[4]**

d) What are processor and memory requirement of embedded linux. **[6]**

Q7) a) Explain Linux kernel configuration steps. **[6]**

b) Explain different file system used in linux. **[5]**

c) Explain features of Universal bootloaders. **[5]**

OR

Q8) a) Draw and explain linux kernel architecture. **[5]**

b) What are the bootloader challenges. **[5]**

c) What is device driver ? What is use of device driver in embedded linux system? Explain different types of device driver used in embedded system. **[6]**

Q9) a) Explain software and hardware codesign in embedded system. **[4]**

b) Compare simple IDE with sophisticated IDE. **[4]**

c) Explain mobile phone as embedded system with software and hardware requirements. **[10]**

OR

Q10)a) Explain software development tools for embedded system. **[8]**

b) What are hardware and software requirement of Automatic chocolate vending machine ? **[6]**

c) What are the features of IDE? **[4]**