Total No. of Questions : 10]

SEAT No. :

P2268

[Total No. of Pages : 2

[5254]-605

B.E. (E & TC)

EMBEDDED SYSTEM & RTOS

(2012 Pattern) (Elective - I) (Semester - 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, Q. 9 or Q. 10.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
5) *Assume suitable data if necessary.*

Q1) a) Explain architecture of embedded system .Give classification of embedded system. **[5]**

b) Explain various processor technologies in design of embedded processors. **[5]**

OR

Q2) a) Explain difference between V model and spiral model of software design. **[5]**

b) Define the context Switching. What are the steps involved in μC/OS-II context. **[5]**

Q3) a) Explain kernel architecture & configuration. **[5]**

b) What do you mean by clock tick in RTOS. Explain the time management functions in μC/OS-II. **[5]**

OR

Q4) a) What do you mean by task communication &explain various IPC techniques. **[5]**

b) Explain OS MutexCreate() and OS MutexPost( )function. **[5]**

P.T.O.

Q5) a) Explain BIOS and the role of boot loader in embedded Linux concept. **[8]**

b) Explain tracing &profiling tools. **[8]**

OR

Q6) a) List and explain various file systems used in Embedded Linux. **[8]**

b) What is binary utilities? Discuss miscellaneous binary utilities. **[8]**

Q7) a) Define software testing .Explain various level of testing. **[8]**

b) Explain concept of loadable device driver for Linux kernel. **[8]**

OR

Q8) a) Draw and explain linux kernel architecture. **[8]**

b) Discuss different Linux file systems in short. **[8]**

Q9) a) Discuss challenges to kernel debugging. **[8]**

b) Explain mobile phone with its hardware & software requirements. **[10]**

OR

Q10)a) Explain embedded system application in automatic chocolate vending machine. **[8]**

b) Explain GNU debugger. What is hardware assisted debugging? **[10]**