[5670]-205
B.E. (E & TC)
EMBEDDED SYSTEMS & 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, electronics pocket calculator and steam tables is allowed.

Q1) a) Explain the spiral model and state its merits and demerits. **[5]**

b) Explain how design metrics are depending on each other with examples.**[5]**

OR

Q2) a) Define the context Switching. What are the steps involved in μCOS-II context switching. **[5]**

b) Explain the resource and shared resource in μCOS-II. **[5]**

Q3) a) Explain μCOS- II features. (Any five) **[5]**

b) Explain following function in COS-II. **[5]**

   i) OSINIT().

   ii) OSSTART().

OR

Q4) a) Explain the waterfall model in detail. **[5]**

b) Explain different sates of task with services as an example. **[5]**

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

b) What are storage considerations in case of embedded Linux? **[8]**

Q6) a) Explain the cross development environment used for embedded Linux.**[8]**

b) Explain the host and target system and its requirements. **[8]**

Q7) a) List and explain various file systems used in Embedded Linux. **[8]**

b) Explain the features of Universal boot loaders and porting U-boot. **[8]**

OR

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

b) Explain the following file system in linux. **[8]**

    i) ext2

    ii) ext4

    iii) ext3

    iv) JFFS2

Q9) a) Explain mobile phone as embedded system with software and hardware requirements. **[10]**

b) Explain the different lab tools required for embedded system design.**[8]**

OR

*Q10)*a) What are the hardware and software requirement of Automatic Chocolate vending machine? **[10]**

b) Why linux is preferred choice for development of embedded system application. **[8]**

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