BE/In Sem. - 42
B.E. (E & TC)
EMBEDDED SYSTEMS & RTOS
(2012 Course) (Semester -I) (Elective - I)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:
1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
2) *Neat diagrams must be drawn wherever necessary.*
3) *Figures to the right indicate full marks.*
4) *Assume suitable data, if necessary.*

Q1) a) Explain the following design metric. Time to market, Unit cost. **[5]**

b) Explain Embedded processor technology. **[5]**

OR

Q2) a) Explain V-shape model. **[5]**

b) Explain the following design metric NRE cost, size. **[5]**

Q3) a) Explain the following. **[5]**

  i) Non Preemptive kernel

  ii) Preemptive kernel

b) Explain Mutual Exclusion. **[5]**

OR

Q4) a) What is Deadlock? When it occurs? **[5]**

b) What is multitasking? Explain the advantages of multitasking. **[5]**

Q5) a) Explain any two task related functions. **[5]**

b) Explain the following time related functions. **[5]**

    i)   OSTime Dly ( )

    ii)   OSTime Dly HMSM ( )

<div align="center">OR</div>

Q6) a) What is semaphore? How does it help in resource sharing in RTOS kernel. **[5]**

b) Explain the following functions related to message Q. **[5]**

    i)   OSQ Create ( )

    ii)   OSQ Pend ( )

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