

Total No. of Questions : 6]

SEAT No. :

**P3657**

[Total No. of Pages : 2

**APR - 15 / Engg. - 142**

**T.E. (Computer Engg.) (In Sem - Semester - II)**

**EMBEDDED OPERATING SYSTEMS**

**(2012 Pattern) (Theory)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume Suitable data if necessary.*

- Q1)** a) Differentiate Hard, soft and firm real time systems. State one example of each. [4]
- b) What are the layers of an operating system. Explain with diagram. [3]
- c) Differentiate periodic, aperiodic and sporadic tasks. [3]

OR

- Q2)** a) What are the qualities of good RTOS? [4]
- b) Explain with example deadline scheduling and rate monotonic scheduling. [6]

- Q3)** a) What are the seven operating modes of ARM? Describe each one of them in short. [4]
- b) Differentiate RISC Vs CISC. [2]
- c) Explain ARM- SOC core with peripherals. [4]

OR

- Q4)** a) Explain bit configuration of CPSR of ARM [3]
- b) Explain the features of BBB revision C with the help of neat diagram. [4]
- c) Explain multiple Load/Store instructions with example. [3]

**P.T.O.**

- Q5)** a) Differentiate between BIOS and Boot loader. [2]  
b) What is Embedded System? Draw and explain anatomy of embedded system. [4]  
c) Give the steps involved in composite kernel image construction. [4]

OR

- Q6)** a) Define following terms with reference to RTOS. [3]  
i) Release Time  
ii) Completion Time  
iii) Dead line  
b) Compare Standalone processor with Integrated Processor. [3]  
c) Write any four features of ARM Cortex-M3. [4]

