Registration no: | | | | | | | | | | |

Total Number of Pages: 1

B.TECH
PECS5408

8th Semester Regular / Back Examination 2015-16
EMBEDDED SYSTEM DEVELOPMENT
BRANCH: CSE, IT, ITE
Time: 3 Hours
Max Marks: 70
Q.CODE: W160

Answer Question No.1 which is compulsory and any five from the rest.
The figures in the right hand margin indicate marks.

Q1 Answer the following questions: **(2 x 10)**

a) What is NVRAM?
b) Explain PLD.
c) What are the steps r executing of Instructions?
d) What do you mean by Superscalar?
e) Whether PSRAM and DRAM are equal or not? Justify your answer.
f) How does the RTOS know which semaphore protects which data?
g) What happens if all the tasks of the RTOS are blocked?
h) Explain the concept of pipelining.
i) Why Embedded System is called as Real-Time?
j) How does a scheduler know how a task has become blocked or unblocked?

Q2 a) Explain briefly Cross-Compilers. **(5)**
b) Explain with diagram how a Tool Chain Works. **(5)**

Q3 a) Explain Watchdog Timers. Write the pseudo-code of how watchdog timer works in case of ATM. **(5)**
b) Explain briefly about the mailbox. **(5)**

Q4 What is Semaphore? Explain the execution process of RTOS by using the Semaphores. **(10)**

Q5 a) What is Task? Explain the different states. **(5)**
b) Explain Hard Real-Time Scheduling. **(5)**

Q6 a) Explain the term Reentrancy with example. **(5)**
b) Differentiate Soft and Hard Real-Time Operating System. **(5)**

Q7 a) Explain briefly about Instruction Set Simulators. **(5)**
b) Discuss Different problems of Semaphore. **(5)**

Q8 Write short notes on any **two** from the following. **(5 x 2)**

a) OTP ROM
b) ISR
c) UART
d) Message Queue