M.E. Extc Sem I (CBGS).
Embedded Systems – 5/6/14.

(REVISED COURSE)
(3 Hours)

QP Code : BB-19469
[Total Marks: 80

N.B. (1) Question No. **1** is **compulsory**.
(2) Attempt any **three** questions out of remaining **five** questions.
(3) Assume **suitable** data wherever required with justification.
(4) **Figures** to the **right** indicate full marks.

1) For a Network router draw the system diagram (minimum system) and data flow diagram Explain the need of following system requirements to make it Real-time: a. Hardware Requirements b. Software requirements c. Task partition d. Need and type of scheduler e. Release time, deadline & execution time of tasks. **20**

2) A. Explain the interrupt structure of Mixed Signal Processors. **10**

B. Explain the pipeline performance issues of an ARM processor. **10**

3) A. Compare non Real Time Operating System versus RTOS. **10**

B. What is mail box? How it passes message during inter process communication? List theldifference between mail box and pipe. **10**

4) A. Draw and explain the operating modes and states of ARM Processor. **10**

B. List various internal bus interfaces of ARM Processor and explain their Performance issues. **10**

5) A. Write a program and explain ARM and THUMB interworking. **10**

B. Explain THUMB architecture. **10**

6) Explain any **four** of the following: **20**

A. Sensor interface I2C bus
B. ICE Debugging features
C. Write equivalent ARM code : **if** (a==0) func(1);
D. Saturation Arithmetic
E. RMA algorithm

Con. 13213-14.