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APJ Abdul Kalam Technological University

First Semester M.Tech Degree Examination February 2016

Ernakulam II Cluster

ELECTRONICS AND COMMUNICATION ENGINEERING

Time : 3 hrs. **05EC 6007–EMBEDDED PROCESSORS** Max. Marks:60

1) a. Sketch the functional overview of DSP processor and list out the features of functional blocks. (7 Marks)

b. Explain the multiplexing scheme of interrupts in TMS320F28335 DSP processor. (5 Marks)

2) a. Design and implement an FIR filter with band stop at 2700Hz using C Program. A coefficient file which contains 89 coefficients, represents an FIR bandstop (notch) filter centered at 2700Hz is included. (8 Marks)

b. Find the z transform of $x(n) = 0.3^n u(n)$ (4 Marks)

3) a. Which are the different modes in ARM processor (6 Marks)

b. Discuss about ARM core data flow model (8 Marks)

c. Draw and Explain the pipelined structure of ARM microcontroller and by using branch pipeline, LDR pipeline, STR-STR pipeline examples. (4 marks)

OR

4) a. In ARM7 processor show the instruction execution and PC status. (4 Marks)

b. How the watch dog timer is configured in ARM LPC1769? Explain with neat sketch. (8 Marks)

c. Explain the PWM module in ARM LPC1769 (6 Marks)

5) a. Draw and explain the ARM floating point architecture. (9 Marks)

b. Explain ARM memory system (9 Marks)

OR

6) a. Draw and explain the JTAG boundary scan test architecture. (9 Marks)

b. Draw and explain the architecture of FPA10 (9 Marks)