2031
B.E. (Electronics and Communication Engineering)
Seventh Semester
EC-701: Embedded System Design

Time allowed: 3 Hours

Max. Marks: 50

NOTE: *Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit. Use of scientific calculator is allowed.*

x-x-x

I. Attempt the following:-

a) What is run time environment in ARM processor?

b) How the data instructions are processed in ARM?

c) Classify the Privileged Mode in ARM processor

d) What is supervisory call in ARM Processor?

e) What are the operating modes of ARM?   (5x2)

UNIT - I

II. a) Describe ARM register set? Also specify the flags in ARM-7 processor?   (3)

b) List the various data transfer instruction supported for serial and parallel communication in ARM processor?   (4)

c) Implement the statement x= (a+b)-c, using ARM instructions.   (3)

III. While writing the assembly language source code, which care has to be taken? Explain the special function of ARM processor.   (10)

IV. ARM processors has many invisible registers involved in executing an instruction, the values of these registers before and after the instruction is executed are not significant why? Explain in detail   (10)

UNIT - II

V. How should the ARM7TDMI address bus be retimed to interface to static RAM or ROM devices?   (10)

P.T.O.

VI. Sketch a system development plan for an embedded system chip showing at which stage the ARMulator, AMBA, the reference peripheral specification. Embedded ICE and JTAG are (i) designed into the chip, and/or (ii) used to assist in the development process. (10)

VII. Write a code to set the N, Z, C and V flags. (10)

x-x-x