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Exam.Code:0931
Sub. Code: 6927

1128

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. I 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 are the principal features of ARM architecture?

b) Discuss ARM CPSR in detail

c) Classify Stack addressing in ARM

d) Define Count leading zeros Architecture.

e) Explain the process for Status register to general register transfer (5x2)

UNIT – I

II. a) Explain ARM programmer's model in detail.

b) Implement the statement x= (a+b)-c, using ARM instructions. (5,5)

III. Which features does ARM have in common with many other RISC architectures? Also discuss features of the ARM architecture which are not shared by most other RISCs. (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. Draw a pipeline flow diagram along the lines of the one above to illustrate the timing of an ARM branch instruction. (The branch target is computed in the first execute cycle of the instruction and issued to memory in the following cycle. (10)

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

VII. a) What are the signals used during bus transactions in AMBA architecture.

b) Explain ARM7TDMI core interface signals and its different types of cycles. (5,5)

x-x-x