6E3018

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B.Tech VI Sem. (Main/Back) Exam. April-May, 2012
Computer Engg.
6CS5 Theory of Computation

Time : 3 Hours   **Maximum Marks : 80**
                                                   Min. Passing Marks : 24

Instructions to Candidates:

> *Attempt any **five questions**. Selecting **one question** from **each unit**.*
> *All Question carry **equal** marks. Schematic diagrams must be shown*
> *wherever necessary. Any data you feel missing suitably be assumed*
> *and stated clearly.*
>
> *Units of quantities used/ calculated must be stated clerly.*

Use of following supporting material is permitted during examination.

1._____Nil_____   2.____IV_____Nil_____

Unit - I

1. (a)   Give the non-deterministic finite Automation to accept the following
          language : " The set of strings over alphabet {0,1,2,3,.......,9} Such
          that final digit has never appeared before".   8

    (b)   Construct a Mealy Machine which is equivalent to Moore Machine
          given in Table (i)   8

Present State	Next State		O/P
	a=0	a=1	
q_0	q_3	q_1	0
q_1	q_1	q_2	1
q_2	q_2	q_3	0
q_3	q_3	q_0	0

Table - 1