

May June 2012 ✓

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[4162]-119

S.E. (Mechanical) EXAMINATION, 2012

(Common to Mech. S/W Sem. I and Mech. Branch Sem. II)

STRENGTH OF MACHINE ELEMENTS

(2008 PATTERN)

Time : Three Hours

Maximum Marks : 100

- N.B. :—
- (i) Answer *three* questions from Section I and *three* questions from Section II.
 - (ii) Answers to the two Sections should be written in separate answer-books.
 - (iii) Neat diagrams must be drawn wherever necessary.
 - (iv) Figures to the right indicate full marks.
 - (v) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam table is allowed.
 - (vi) Assume suitable data, if necessary.

SECTION I

UNIT I

1. (a) A uniform rod of cross-sectional area 'A', length 'L' is held vertically and fixed at top. Derive expression for strain energy due to self-weight. Assume Young's modulus of elasticity 'E' and mass density ' ρ '. [6]

P.T.O.



