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IV Semester Diploma Examination, May 2011

MECHANICAL ENGINEERING BOARD

## MACHINE DESIGN &amp; THEORY OF MACHINES

Time : 3 Hours ]

[ Max. Marks : 100

- Notes : (1) Question No. – 1 is compulsory.  
 (2) Answer any two full questions from Sections – II, III & IV.  
 (3) Missing data may be suitably assumed.

## SECTION – I

1. (a) Fill in the blanks : 5 × 1 = 5
- (i) Shaft with collars at both ends fitted in a circular hole is \_\_\_\_\_ pair.
- (ii) Two shafts A and B are of the same material. Diameter of A is twice as that of B. The power transmitted by the shaft A will be \_\_\_\_\_ times that of by Shaft B.
- (iii) The frictional torque transmitted in a flat pivot bearing considering uniform pressure is \_\_\_\_\_.
- (iv) The size of the cam depends upon \_\_\_\_\_.
- (v) The power transmitted by a belt is maximum when the maximum tension is equal to \_\_\_\_\_ times the centrifugal tension.
- (b) Sketch and explain elliptical trammel. 5

## SECTION – II

2. (a) Define the following : 4
- (i) Kinematic pair
- (ii) Structure
- (b) Differentiate machine and structure. 4
- (c) Explain with neat sketch, the Oldham's coupling. 7

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**Rachel Sandford**



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