Roll No. .....

22232

M.Tech 2nd Semester (Mechanical Engg.) (Machine Design) Examination–May, 2014

DESIGN OF MECHANISMS

Paper M-804-A

Time : 3 hours ***Max. Marks : 100***

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt any **five** questions. All questions carry equal marks.

1. What is DOF ? Explain the methods to determine DOF for planar and spatial mechanisms.

2. Define synthesis of mechanisms. Explain the methods to evaluate the dimensions of links of a mechanism.

3. Derive Freudenstein's equations for a four bar link mechanism.

4. Design a 4 link mechanism when the motions of the input and the output links are governed by a function $y = x^2$ and x varies from 0 to 2 with an interval of 1. Assume θ to vary from 50° to 150° and φ from 80° to 160°.

5. What are the methods to select optimum design of mechanism ?

6. Explain matrix methods of designing and indexing.

7. Explain design of functions, path and motion generators in detail.

8. What are manipulators ? Classify Robotic manipulators.

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