

Roll No.

22232

**M. Tech. 2nd Semester (Mach. Engg.)
(Machine Design)**

Examination – May, 2016

DESIGN OF MECHANISMS

Paper : M-804-A

Time : Three Hours] [Maximum 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 examination.

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

1. Discuss and explain the degree of freedom mixed mobility with suitable example. 20
2. What is structural analysis ? Explain with neat sketches if any. 20
3. Describe type synthesis and number synthesis with the help of suitable example. 20

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4. Explain how the design of mechanisms is done. And also explain the use of coding, evaluation and selection is done to optimize the mechanism. 20
5. Discuss the mechanical error in detail. How it is important in the design of mechanism? 20
6. Explain the software (ADAMS) used in the design and analysis of mechanism. 20
7. Explain manipulator dynamics from Lagrange and Newtonian point or view with suitable sketch. 20
8. Write short notes on the following : 20
- (a) Open chain systems
 - (b) Actuation and transmission systems
 - (c) Inverse kinematics
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