

Scheme-E

Sample Question Paper

Course Name : Mechanical Engineering Group

Course Code : ME/PT/PG/AE/MH

Semester : Fourth

Subject Title : Theory of Machines and Mechanisms

Marks : 100

**12089**

Time: 3 Hour

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Use of non-programmable calculator is permissible.
4. Illustrate your answer with neat sketches wherever necessary.
5. Preferably, write the answers in sequential order.

Q.1 A) Attempt Any SIX of the following:

12 Marks

- a) Define kinematic link and kinematic pair.
- b) List type of constrained motion.
- c) Define rolling pair with one example.
- d) Study the coupler rod of locomotive given in figure and identify the type of kinematic pairs.



- e) List four types of followers.
- f) Define the pressure angle as related to cam.
- g) State advantages of Rope drive.
- h) State causes of vibrations in machines.

Q.1 B) Attempt any TWO of the following:

08 Marks

- a) Draw a sketch and explain the working principle of Geneva mechanism.
- b) Draw labeled sketch of Oldhams Coupling.
- c) Distinguish between machine and structure on the basis of
  - i) Motion
  - ii) Type of entity transferred
  - iii) Mechanism
  - iv) Application

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