00592

No. of Printed Pages : 3

BME-056

DIPLOMA IN MECHANICAL ENGINEERING (DME)/ ADVANCED LEVEL CERTIFICATE COURSE IN MECHANICAL ENGINEERING

(DMEVI/ACMEVI)

Term-End Examination, 2019

BME-056 : THEORY OF MACHINES

Time : 2 Hours] **[Maximum Marks : 70**

Note : Answer **any five** questions. All questions carry equal marks. Assume any missing data suitably. Use of scientific calculator is allowed.

1. Explain **any four** of the following terms : [4x3½=14]

   (a) Pressure Angle (gears)

   (b) Cross belt drive

   (c) Mushroom followes

   (d) Mechanism

   (e) Film friction

2. Explain the working of Paucellier straight line mechanism with a neat sketch. [14]

3. Describe the four inversions of slidercrank chain mechanism with sketches and examples of each inversion. [14]

4. Discuss the classification of followers in terms of shape, movement and location of line of movement. [14]

5. Derive the expression for total friction forque in a flat collar using uniform wear theory. [14]

6. Two 20° in volute spur gears have a module of 10mm. The addendum is one module. The larger gear has 50 teeth and the pinion has 13 teeth. Does the interference occur. If it occurs, to what value should the pressure angle be changed to eliminate interference ? [14]

7. Write short notes on **any two** of the following : [7+7=14]

   (a) Hartnell gorunor

   (b) Whirling of shafss

(c) Flywheel

(d) Balancing of reciprocating mass

----- x -----