

Department of Mechanical Engineering

Academic Year 2021-2022

Semester V

Batch B

Subject Code ME18502

Subject Name: Dynamics of Machinery

Teaching Methods	Type of learning
Online resources, animations in ppt, digital pads	Experiential Learning
Assessment Methods	Type of learning
Online Quiz	Problem Solving Methodologies

Fluctuation in rail pressure ✓

We know that each balancing mass = 105 kg ✓

∴ Balancing mass for rotating masses,

$$D = \frac{m_1}{m} \times 105 = \frac{150}{270} \times 105 = 58.3 \text{ kg}$$

and balancing mass for reciprocating masses,

$$B = \frac{c \cdot m_2}{m} \times 105 = \frac{2}{3} \times \frac{180}{270} \times 105 = 46.6 \text{ kg}$$

This balancing mass of 46.6 kg for reciprocating masses gives rise to the centrifugal force,

∴ Fluctuation in rail pressure or hammer blow

$$= B \cdot \omega^2 \cdot b = 46.6 (31.42)^2 \cdot 0.6 = 27\,602 \text{ N. Ans.}$$

(∵ $b = r_p = r_D$)

27.6 kN

Animated PPT and usage of Digital pad

MCQ 1

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* Required

The net force acting on the crosshead pin is known as _____ *

a) Crank pin effort

b) Crank effort

c) Piston effort

d) Shaft effort

In a horizontal engine, reciprocating parts are accelerated when the piston moves from _____ *

a) TDC to BDC

b) BDC to TDC


c) Midway to TDC

d) BDC to midway

When the piston is accelerated, the piston effort is given by which of the

Assessment using online Quiz


Course Instructor


Head of the Department