S.B. Roll. No.....

THEORY OF MACHINES
5th Exam/Mech./5317/Jun'2021
(For 2018 Batch Onwards)

Duration: 1.15Hrs. **M.Marks:25**

SECTION-A

Q1. Attempt any three questions. **3x5=15**

i. Draw and explain turning moment diagram for multi cylinder 4-stroke engine?
ii. Differentiate between kinematic pair and kinematic chain.
iii. Write a short note on limiting angle of friction.
iv. Explain the Co-efficient of fluctuation of speed.
v. Differentiate between Structure and Machine.
vi. What do you mean by hunting of governor?
vii. What are the causes of vibration in machines?

SECTION-B

Note: Attempt any one question. **1x10=10**

Q2. Derive the expression to find out the force required to move the body down in an inclined plane.

Q3. Differentiate between flywheel and governor.

Q4. The four masses m_1, m_2, m_3, m_4 having their radii of rotation as 200 mm, 150 mm, 250 mm and 300 mm are 200 kg, 300 kg, 240 kg, 260 kg in magnitude respectively. The angles between the successive masses are 45^o, 75^o, 135^o respectively. Find the position and magnitude of the balance mass required if its radius of rotation is 200 mm.

Q5. Draw a neat diagram of Oldham's coupling and explain its working.