



Dnyaneshwar Vidyapeeth (Trust)

CENTRAL EXAMINATION BOARD

ASSIGNMENT OF THEORY OF MACHINES-T

SUB -CODE- (COM-G631)

COURSE: ADVANCED TECH-QUIC PROGRAM

SESSION - WINTER

ASSIGNMENT NO. 1 (Assignment Based on Topic No. 1,2)

BRANCH – Mech

Q.1 Answer the following (Questions for 4 marks)

- 1) State the different system of units & compare their relative advantages & disadvantages.
- 2) Differentiate between journal bearing and ball bearing.
- 3) Draw neat sketches of centrifugal clutch.
- 4) What are essential requirements of a friction lining material for a clutch?
- 5) Draw neat sketches of flat pivot, conical pivot bearing.
- 6) Differentiate between single plate clutch and multiplate clutch.
- 7) Describe any four types of friction lining material

Q.2 Answer the following (Questions for 8 marks)

- 1) Explain multiplate clutch with the help of neat sketch.
- 2) Derive the relation for torque transmitted by single plate clutch under uniform wear condition.
- 3) A plate clutch has three discs on the driving shafts & two discs on driven shaft providing four pair of contact surface. The outer diameter is 240 mm & inside diameter is 120 mm. Assuming uniform pressure & coefficient of friction 0.3. Find total force pressing the plates together to transmit 25 KW at 1575 rpm.
- 4) A single plate clutch is required to transmit 26.5 KW at 1600 rpm. The outer diameter of the plate is limited to 300 mm and intensity of pressure between the plates is not to exceed 68.5 KN/m^2 . Assuming uniform wear and a coefficient of friction 0.3, show that the inner diameter of the plates is approximately 90 mm.
- 5) A multiplate clutch has three discs on driving shaft & two on the drive shaft. The outer diameter of the contact surface is 240 mm & inside diameter 120 mm. Assume uniform wear & coefficient of friction is 0.3. Find the maximum intensity of pressure, if it transmits 25 kw at 1575 rpm.
- 6) Describe the working of cone clutch with the help of neat sketch.
- 7) A single plate clutch with the both sides effective has outer and inner diameters 300 mm & 200 mm respectively. If maximum intensity of pressure is 0.1 N/mm^2 . If coefficient of friction is 0.3, determine power transmitted by a clutch at speed of 2500 rpm.