

ANURAG GROUP OF INSTITUTIONS

(Autonomous)

II-B.Tech-II-Semester

Assignment Questions

Subject: KOM

(Only for MECH)

Assignment Test I

Subject: KOM

1. Define Kinematic pair and give its classification?
2. Give the types of Constrained motion?
3. Obtain the ratio of lengths to be maintained in Tchebicheff mechanism?
4. In a four bar chain ABCD, AD is fixed and is 150mm long. The crank AB is 40 mm long and rotates at 120 r.p.m. clockwise, while the link CD=80mm oscillates about D. BC and AD are of equal length. Find the angular velocity of link CD when angle BAD= 60°?
5. What is law of gearing and compare Davi's and Ackerman's steering gear mechanisms?
6. How we can maintain constant velocity ratio in Double Hooke's joint?

ANURAG GROUP OF INSTITUTIONS

(Autonomous)

II-B.Tech-II-Semester

Assignment Questions

Subject: MFHM

(Only for MECH)

Assignment Test I

1. The left limb of a U-tube mercury manometer is connected to a pipe line conveying water, the level of mercury in the limb being 60cm below the centre of the pipe. The right limb is open to atmosphere. The level of mercury in the right limb is 45cm and above that in the left limb contains Benzene (Specific gravity = 0.8) to a height of 30cm. Find the pressure in the pipe.
2. Derive Continuity equation in 3 dimensions for a fluid flow.
3. Derive Euler's equation of motion. Using it also derive Bernoulli's equation.
4. A 20cm *10cm venturimeter is provided in a vertical pipe line carrying oil of sp. gr. 0.8, the flow being upwards. The difference in elevation of throat section & entrance section of venturimeter is 50cm. The differential U-tube manometer shows a gauge deflection of 30cm. Calculate (i) the discharge of oil (ii) the pressure difference b/n entrance section & throat section. Take $C_d = 0.98$.
5. An orificemeter with with orifice dia 25cm is inserted in a pipe of 45cm dia. The pressure gauges fitted upstream & downstream of the orificemeter give readings of 29.87 N/cm^2 & 17.62 N/cm^2 respectively. Find the rate of flow od water through the pipe in lit/sec. Take $C_d = 0.6$.

ANURAG GROUP OF INSTITUTIONS

(Autonomous)

II-B.Tech-II-Semester

Assignment Questions

Subject: PRODUCTION TECHNOLOGY

(Only for MECH)

Assignment Test I

1. Describe the steps involved in casting process. (CO-1,L-2,U-1)
2. List out the types of pattern allowances and Explain any one allowance in detail. (CO-1,L-2,U-1)
3. Identify the types of risers used in the sand casting ? Explain with neat sketches. (CO-1,L-2,U-1)
4. Distinguish between true centrifugal casting and semi centrifugal casting with neat sketches. (CO-1,L-2,U-2)
5. Explain the procedure of Investment casting. (CO-1,L-2,U-2)
6. Describe Welding and list out the classification of welding process. (CO-1,L-2,U-3)

Anurag Group of Institutions

Department of Mechanical Engineering

SUB: THERMAL ENGINEERING –I

ASSIGNMENT TEST-1

1. Explain the working of 4 stroke diesel engine with a neat sketch.
2. Describe the valve timing & port timing diagrams of SI engine.
3. Explain the working of battery ignition system with a neat sketch.
4. List out the different stage of combustion in SI engine along with P- θ diagram.
5. Write the performance parameters of IC engine.