



ANURAG GROUP OF INSTITUTIONS

Autonomous

School of Engineering

II – B.Tech – II – Semester – II – Assignment Test 2016 -2017

Subject: Kinematics Of Machinery

1. Give the classification of cams and followers with neat figures?
2. a) Write the advantages of involute profile over cycloidal profile of teeth?
b) What do you understand by the term interference as applied to gears?
3. Two involute gears of 20° pressure angle are in mesh. The number of teeth on pinion is 20 and the gear ratio is 2. If the pitch expressed in module is 5mm and the pitch line speed is 1.2m/s, assuming addendum as standard and equal to one module, find: 1) the angle turned through by pinion when one pair of teeth is in mesh 2) the maximum velocity of sliding.
4. What is a gear train and give its classification with neat sketch?
5. An open belt drive is required to transmit 10KW of power from a motor running at 600 rpm. Diameter of the driving pulley is 250mm. The speed of the driven pulley is 220rpm. The belt is 12 mm thick and has a mass density of 0.001g/mm^2 . Safe stress in the belt is not exceed 2.5N/mm^2 . The two shafts are 1.25m apart. Take coefficient friction as 0.25. Determine the width of the belt?
6. Determine the maximum power transmitted by a V-belt drive having the included V-groove angle of 35° . The belt used is 18 mm deep with 18 mm maximum width and weighs 300 g/m length. The angle of lap is 145° and the maximum permissible stress is 1.5 N/mm^2 . Take coefficient friction as 0.2.