

ME251 Engineering Design and Graphics- Laboratory exercise 3

Friday, August 12, 2016

- 1) Draw the top and front views of a standard metric hexagonal nut having a major diameter of 30 mm in 1:1 scale.
- 2) Draw the half sectioned front view and right side view of the assembled spigot and socket joint as per the details given below. After assembly, the straight side of the cotter is in contact with the slot in the spigot and the taper side of the cotter is in contact with the slot in the socket which also has the same taper as the cotter. The clearance on both spigot and socket is to be at least 3 mm. The width of the key at the centerline after assembly is  $1.2D$ . The taper on the key is 1 in 30. The key thickness is  $0.3D$ . After assembly, there is 8 mm clearance between the end of the spigot and inner surface of the socket. L in figure is 500 mm, therefore do not show the entire length of the rod. (Use 1:1 scale).

