USN | | | | | | | | | | | | 15MT64

Sixth Semester B.E. Degree Examination, June/July 2019
(Mechatronics Engineering)
COMPUTER AIDED MACHINE DRAWING

Time: 3 Hours   Max. Marks: 80

Note: 1. Answer any ONE question from each of the parts A, B and C.
  2. Use **First angle** projections only.
  3. If any data is missing it may be suitably assumed and mentioned.
  4. All the calculations should be on the answer sheet supplied.
  5. All the dimensions are in mm.
  6. Drawing instruments may or may not be used for sketching.
  7. Part C assembly view should be in 3-D and other views in 2-D.

Part – A

1. A square pyramid of base side 45mm and axis length 70mm rests on its base on the HP in such way that all of its base edges are equally inclined to the VP. It is cut by a section plane perpendicular to the VP, inclined at 45° to the HP and bisecting the axis. Draw its sectional top view, sectional side view and true shape of section.   **(20 Marks)**

2. Draw the two view of a square headed bolt and nut assembly for a diameter and length of bolt is 30mm and 100mm respectively.   **(20 Marks)**

Part – B

3. Draw the following view of a SOCKET and SPIGOT COTTER JOINT used to joining two rods of diameter 20mm (a) Sectional front view (b) A view looking from socket end.
                                                                                              (20 Marks)

4. Draw sectional front view and side view of a Protected Type Flange Coupling to connect two rods of diameter 20mm, indicate all dimensions.   **(20 Marks)**

Part - C

5. Figure 1 shows the details of a screw jack. Assemble the parts of the screw jack and show the following views.
     a. Half sectional front view showing the right half in section
     b. Top view   **(40 Marks)**

6. Figure 2 shows the part drawing of a tail stock. Assemble the tail stock and show the following views.
     a. Sectional front view showing the top spindle portion in section
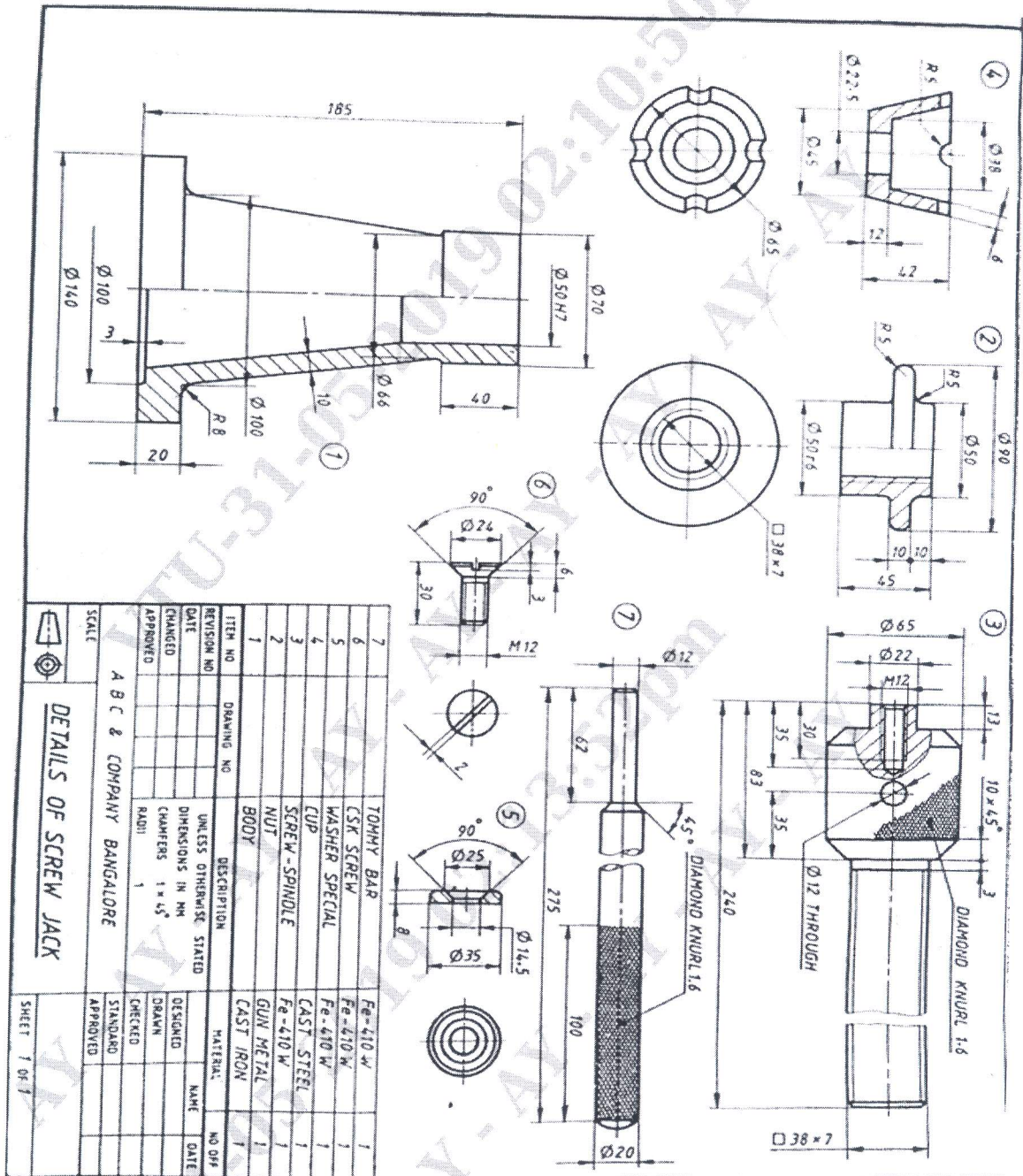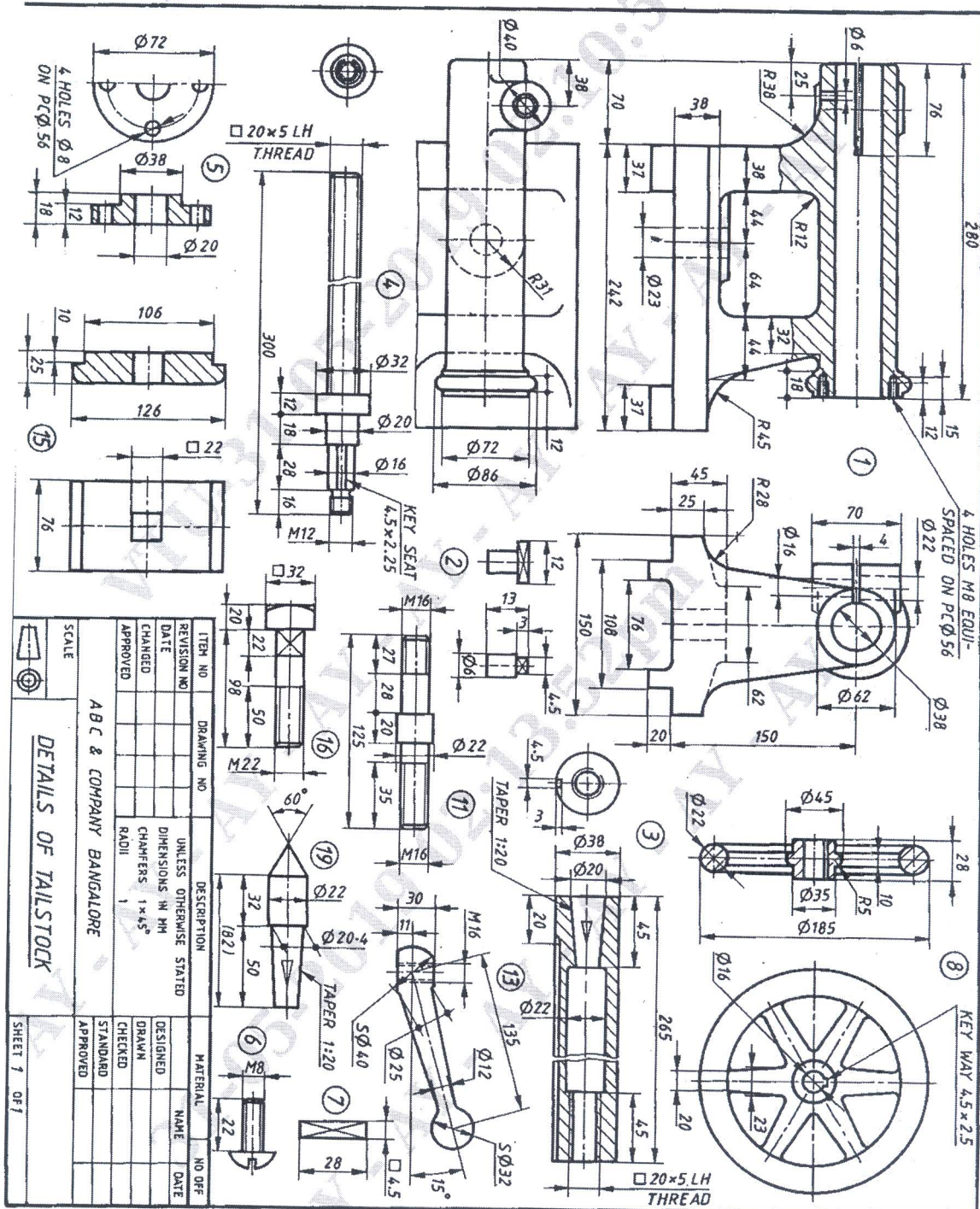   b. Left profile view   **(40 Marks)**

Figure 1: Details of screw jack

Figure 2: Details of tailstock