Answer all the following questions

Question 1:

The aim is to draw wire rod made of 42 Cr Mo 4, R=1200 N/mm, from a diameter of d_0= 12 mm to d = 5 in a tandem drawing process A machine with eight drawing stations is available. Where:

V_{max}=10 m/s (drawing speed)

η_f=0. 6 deformation efficiency

η_M % m=0. 7 efficiency of the drawing machine

1- Total deformation

2- Deformation per draw

3- Intermediate diameter at 2 to 7 draws where deformation

Between draws in the same

4- Drawing force for the 1th draw

5- Driving power for the 1th draw [25 Marks]

Question 2:

Figure 1 gives the blanked dimensions of a linkage case cover of cold rolled steel, stock size 1/8 X 2 3/8 X 2 3/8 in . where shear strength is 58000 psi [25 Marks]

Question 3: [25 Marks]

Write shorts notes on:

A- Type of manufacturing process   B- Defects during deep drawing

C- What are the various types of dies used in presses   D- Fine blanking

e) Describe the various steps to be followed for   of manufacture of a solid die block
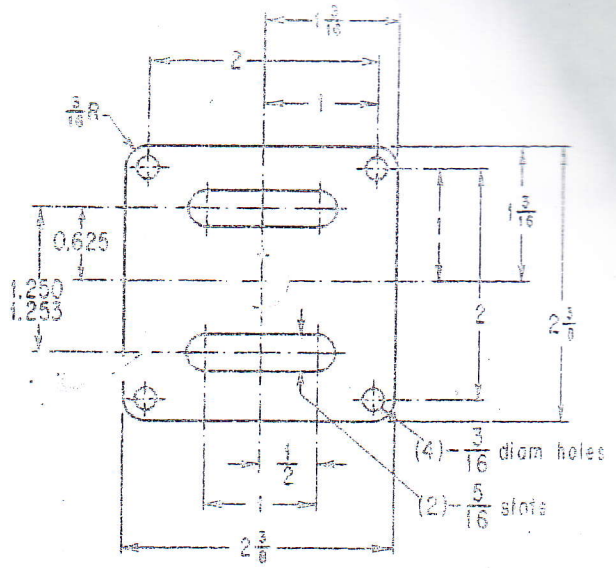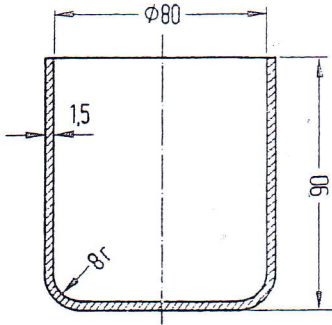

Question :- (4) [25 Marks]

The aim is to manufacture sheet shells as in figure (2) on a double-action drawing press where: material sty 1303

Find: blank diameter D, force, mechanical work (for the first draw)

Permissible draw = (2, 05) correction value n=1.1 and tensile strength =400N/mm

Field	National Academic Reference Standard(NARS			
	Knowledge & Understanding	Intellectual Skills	Professional Skills	
Program Academic Standards that the course contribute in achieving	A3,A4,	B5,B17	C2,C3	
Question No.	1	2	3	