



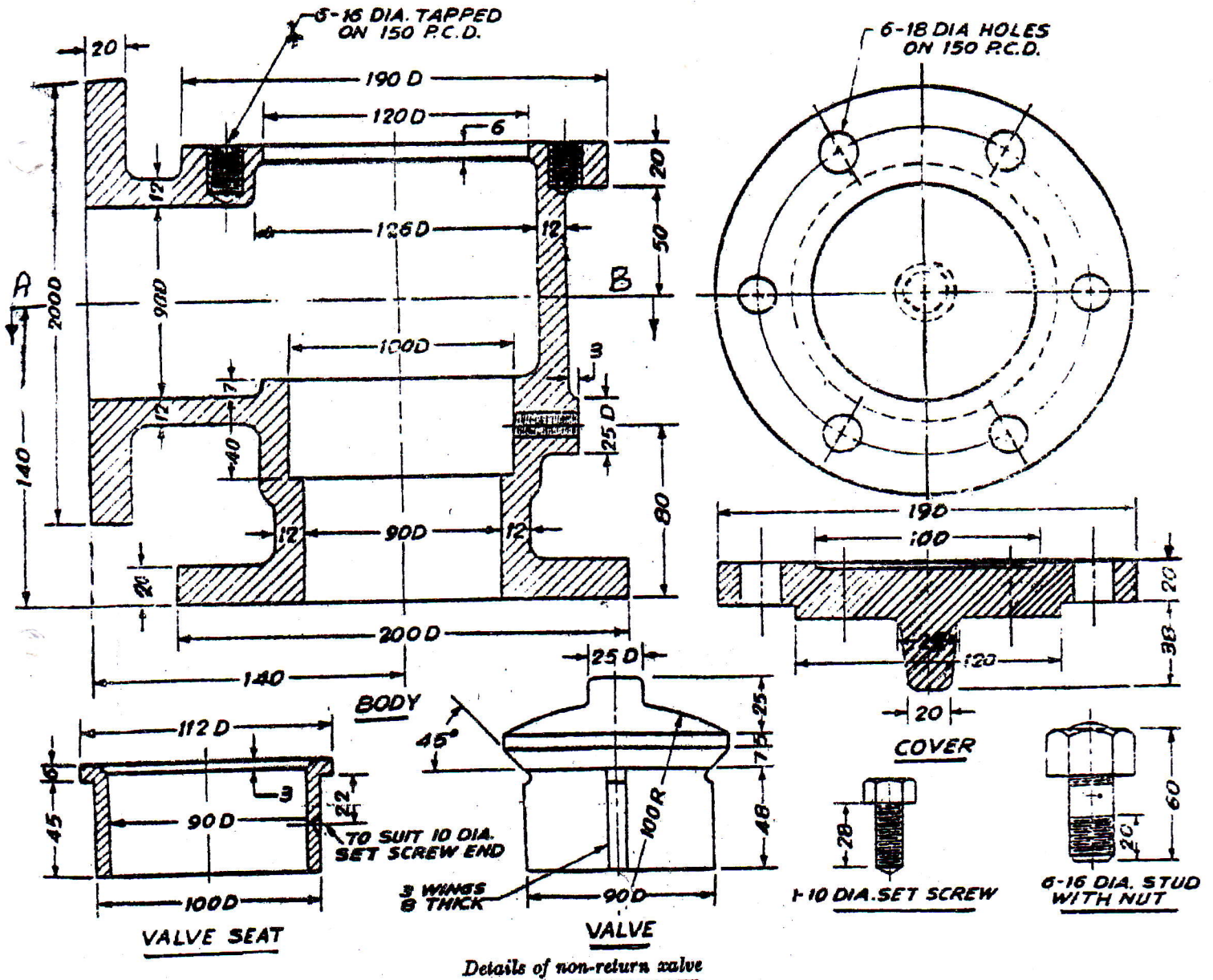
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الرسم يبين مفردات كرسي صمام عدم رجوع (non-return Valve) رسمه مجمعاً بمقياس رسم مناسب على النحو التالي: "رسم الصمام في موضعه بدون قطاع"

- ٤٥ - ١- قطاع رأسى كامل
٣٥ - ٢- مسقط جانبى
٤٠ - ٣- مسقطاً أفقى نصفه الاسفل قطاع ناراً بالمحور AB

الأبعاد بالمليمترات

تصرف فيما ينقص من أبعاد



Details of non-return valve

Question No. 3 :-

(20)

A – Two gear wheels of module pitch 5 mm have 40 and 60 teeth respectively. The pressure angle is 20° and each wheel has a standard addendum of one module . Find the length of the path of contact and the maximum sliding velocity, if the angular velocity of the smaller wheel is 150 rpm. (8)

B - In the epicyclic gear train shown in Fig.2, The wheel D is held stationary by the shaft A and the arm B is rotated at 120 rpm. The wheel E (20 teeth) and F (40 teeth) are fixed together and rotate freely on the pin carried by the arm. The wheel G (30 teeth) is rigidly attached to the shaft C. The planet wheel F mesh with the annular gear H that rotate freely independently on the shaft C. Find the speed of the shaft C and the speed of the annular gear H when the shaft A is held stationary. (12)

Question No. 4 :-

(20)

A - Explain with sketches the follower configurations ? (5)

B - The following data is provided for a disk cam rotating clockwise at uniform speed:-

- . The rise, upper dwell, and return angles are 120° , 60° and 120° degree respectively.
 - . The base circle radius is 30 mm.
 - . The motion during the rise and during the return are both simple harmonic motion.
- Draw the cam profile for translating flate-faced follower during 40 mm height.

Also determine the maximum acceleration of the follower when the cam rotates at 150 rpm, and draw the displacement, velocity and acceleration diagrams for one complete revolution of the cam. (15)

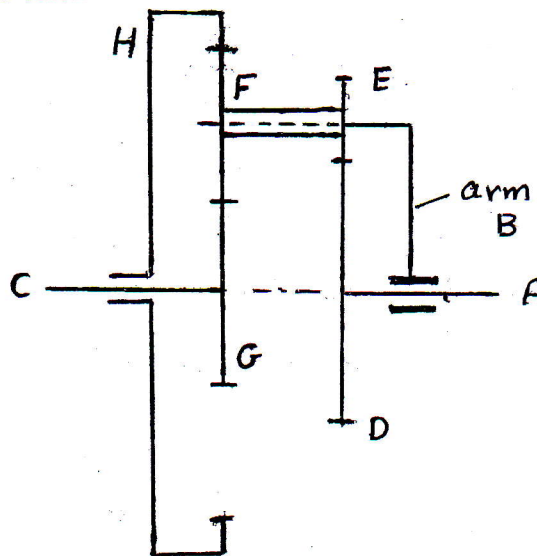


Fig. 2

Pr.Dr. S. Ghoem

GOOD LUCK

Dr.R. Aouelnasr

With our best wishes

This exam measures the following ILOs									
Question Number									
Skills									
	Knowledge & Understanding Skills			Intellectual Skills			Professional Skills		