078

THE OPEN UNIVERSITY OF SRI LANKA

DIPLOMA IN TECHNOLOGY (LEVEL 03)

FINAL EXAMINATION - 2006
IN
ENGINEERING DRAWING - MEX 3234

DATE	:	15th March 2007 (Thursday)
TIME	:	1330 hrs to 1730 hrs
DURATION	:	Four (04) hours

CAREFULLY READ THE FOLLOWING INSTRUCTIONS BEFORE ATTEMPTING TO ANSWER THE QUESTION PAPER.

1. Read carefully and understand the questions before you start answering.
2. Clarify any doubts with the supervisor/invigilator in the examination hall.
3. Question in **SECTION A** is compulsory. Answer this question and one other question of your choice from **SECTION B**.
4. It is strongly advised to prepare a sketch of the solution on a rough paper, before drawing it on the drawing paper. If you wish, you could attach the sketch to your answer scripts.
5. Spend approximately three hours for question Q1 and rest of the time for the other question.
6. Use both sides of the drawing paper.
7. Draw the standard cage, title block, projection symbol etc. only for the question Q1. (Marks will be deducted if the title block is not properly placed)
8. All construction details, centerlines etc. should be clearly shown.
9. Candidates are strictly advised to write his/her Index Number, Registration Number, and Course Code only. Do not write your name or any other information.

This paper contains five (05) pages

SECTION A
(Compulsory)

Q1. Figure 1 shows the scattered orthographic views of the following components of a BELT TENSIONER.

1. STANDARD NUT
2. WASHER
3. FRAME
4. BRACKET
5. KEY
6. SHAFT
7. BUSH
8. PULLEY
9. PIN (2 Nos.)

Belt Tensioner is a part of a machine, where the tension of the belt is adjusted by tilting the assembled unit about the axis of two pins (9). The mechanism employed to rotate the Belt tensioner is not shown in the figure.

Assemble the components by placing them in their position and draw the following views of the Belt Tensioner to a scale of full size in third angle projection keeping the axis of the FRAME in vertical position.

(a) Sectional Front Elevation of the assembly on A – A.

(b) End Elevation of the assembly projected to the left of view (a).

(c) Plan projected from view (a).

Adhere to the following instructions;

- Assume any missing dimensions.
- Show hidden details wherever necessary.
- Give a minimum of five main dimensions.
- Indicate the symbol of projection
- Print the main title "BELT TENSIONER", sub title and scale.
- Radii of casting curves may be taken suitably.

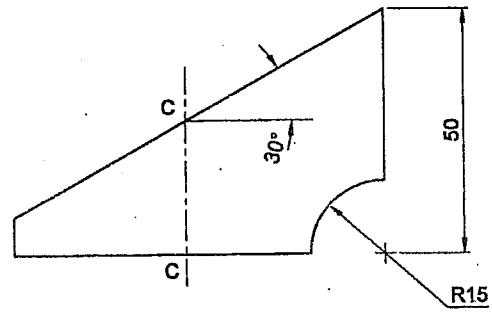
SECTION B

(Answer only one question)

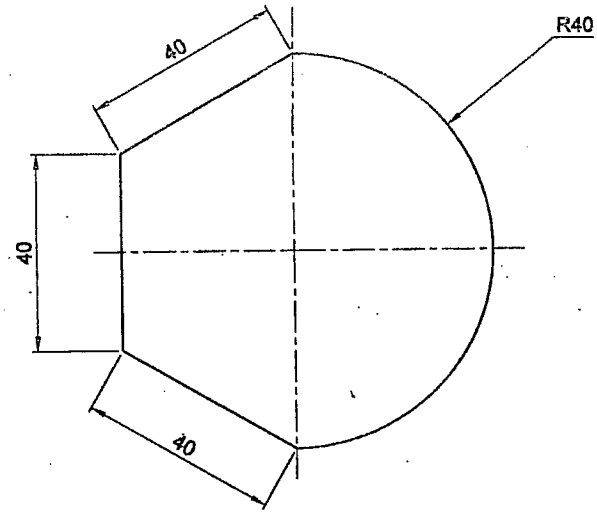
Q2. A thin metal sheet is bent to form a hollow object (The interior is completely empty). The Plan and Front Elevation of this object is shown in Fig.Q2.

(i) Draw the End Elevation to a scale of full size projected to the left of given front Elevation.

(ii) Draw the development to show the shape of the piece of thin metal required in order to form the object taking C- C as the seam.



FRONT ELEVATION

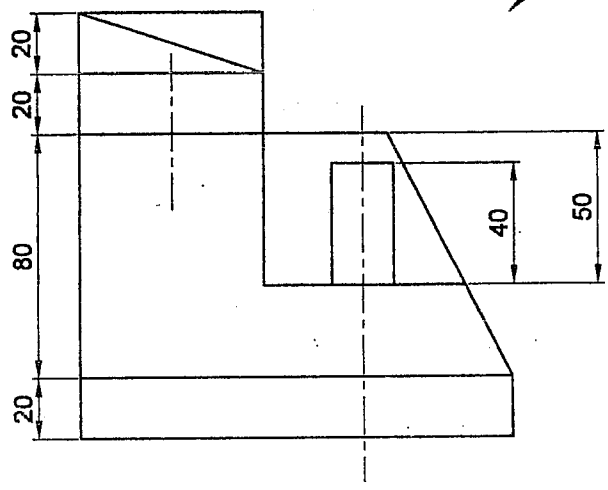


PLAN

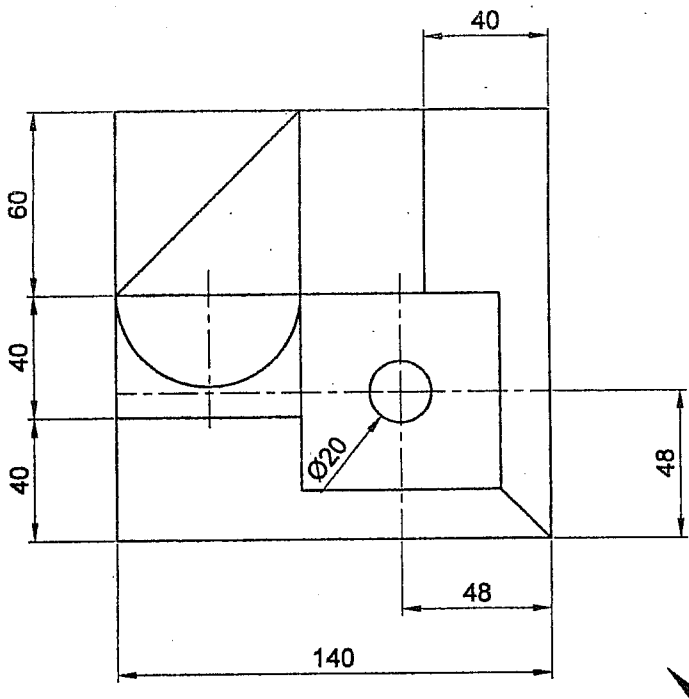
Fig.Q2

Q3. Fig.Q3 shows two orthographic views of an object. Draw the isometric projection of the object to a scale of full size taking the near point as shown by the arrows.

Note: Isometric scale need not to be used.



FRONT ELEVATION



PLAN

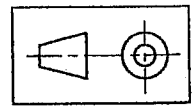
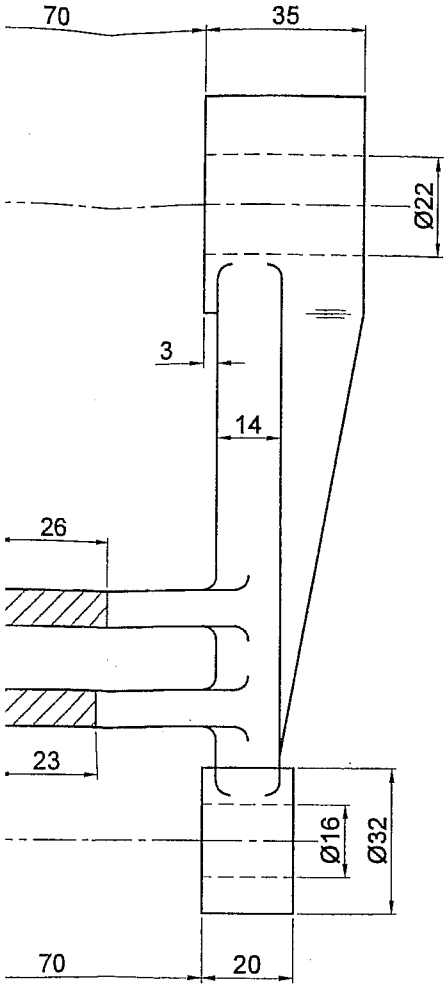
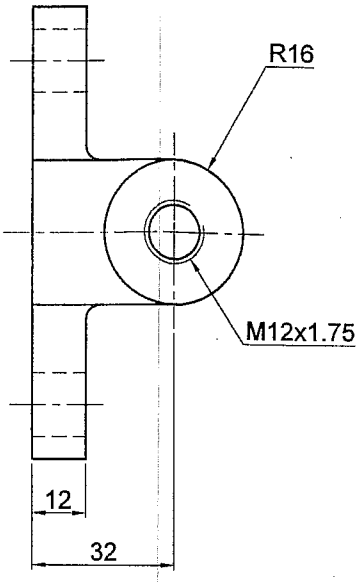


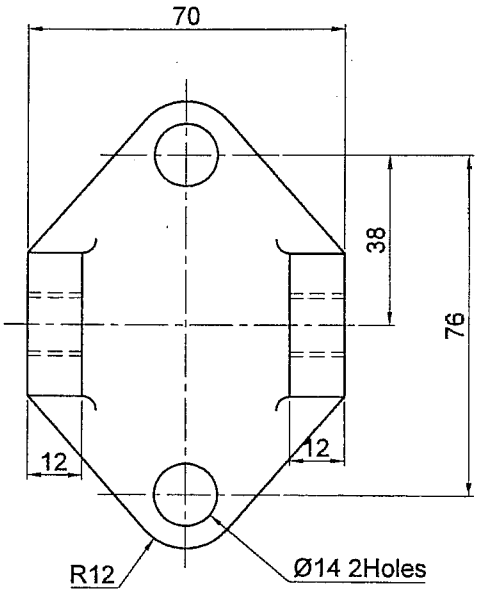
Fig.Q3

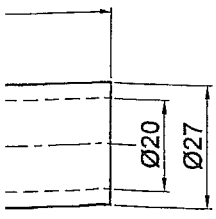


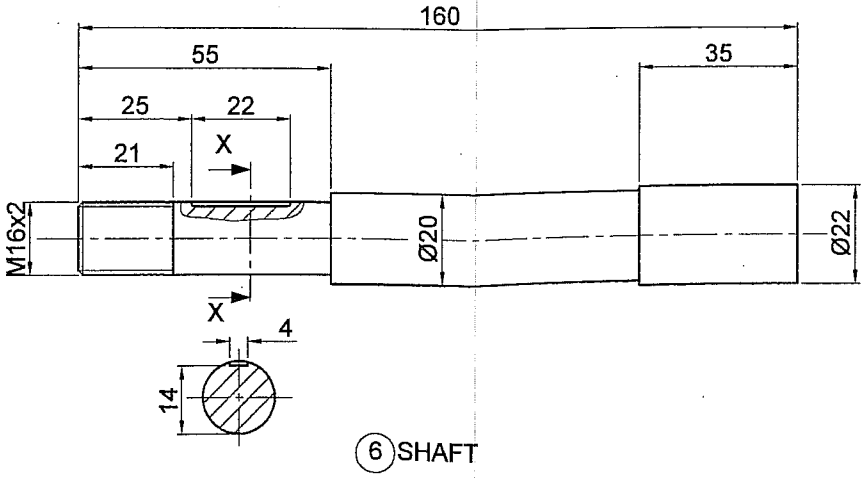
(3) FRAME



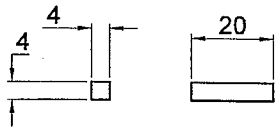
(4) BRACKET







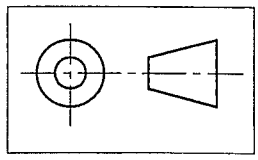
(6) SHAFT



(5) KEY

ALL DIMENSIONS ARE IN mm

NOT TO SCALE



:R

NEERING DRAWING

TION 2006