The Open University of Sri Lanka
Faculty of Engineering Technology

00075

Study Programme	:	Bachelor of Technology Honours in Engineering
Name of the Examination	:	Final Examination
Course Code and Title	:	**MEX3234 - Engineering Drawing**
Academic Year	:	2016/17
Date	:	10th November 2017 (Friday)
Time	:	0930hrs - 1330hrs.
Duration	:	Four (04) hours

General instructions:

(i) Clarify any doubts with the supervisor/invigilator in your examination hall.

(ii) **The Question 01 in Section A is compulsory.** Answer this question and another one of your choice from **Section B.**

(iii) 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 script.

(iv) **Spend approximately three hours for question 01** and the remaining time for the other question.

(v) Use both sides of the drawing paper.

(vi) Draw the standard cage, Title box, projection symbol, etc. only for question 01. **(Marks will be deducted if the title block is not properly placed)**

(vii) All construction details, centerlines, etc. should be clearly shown.

(viii) You are strictly advised to write your index number, Registration Number and course code only on the drawing paper. Do not write your name or provide any other information.

Section A (Compulsory)

Q1. Fig 01 shows the exploded orthographic views of different components of a TAIL STOCK of a Lathe Machine.

1. Casting
2. Clamping plate
3. Spindle Bearing
4. Set Screw
5. Key
6. Spindle
7. Barrel
8. Hand Wheel
9. Centre
10. Die Nut
11. Square Headed Bolt
12. Washer.

Assemble the different components in their correct positions and draw the following views to a scale of full size in first angle projection. You need not show the details of the guide ways of the lathe bed.

(a) Sectional front elevation corresponding to the given front elevation of the casting.

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

(c) Plan projected from view(a).

Note: 1. No hidden details are necessary.

2. Give only ten main dimensions in the drawing. Radii of casting curves may be taken as suitably.

3. Assume any missing dimensions.

4. All dimensions are in millimeters.

5. Indicate the projection symbol and print the main title, sub titles and the scale.

(75 marks)

Section B (Answer only one question)

Q2. Figure Q2 shows an incomplete elevation and a plan of a right circular cone intersecting a cylinder. Draw the given views and complete the elevation with hidden details.

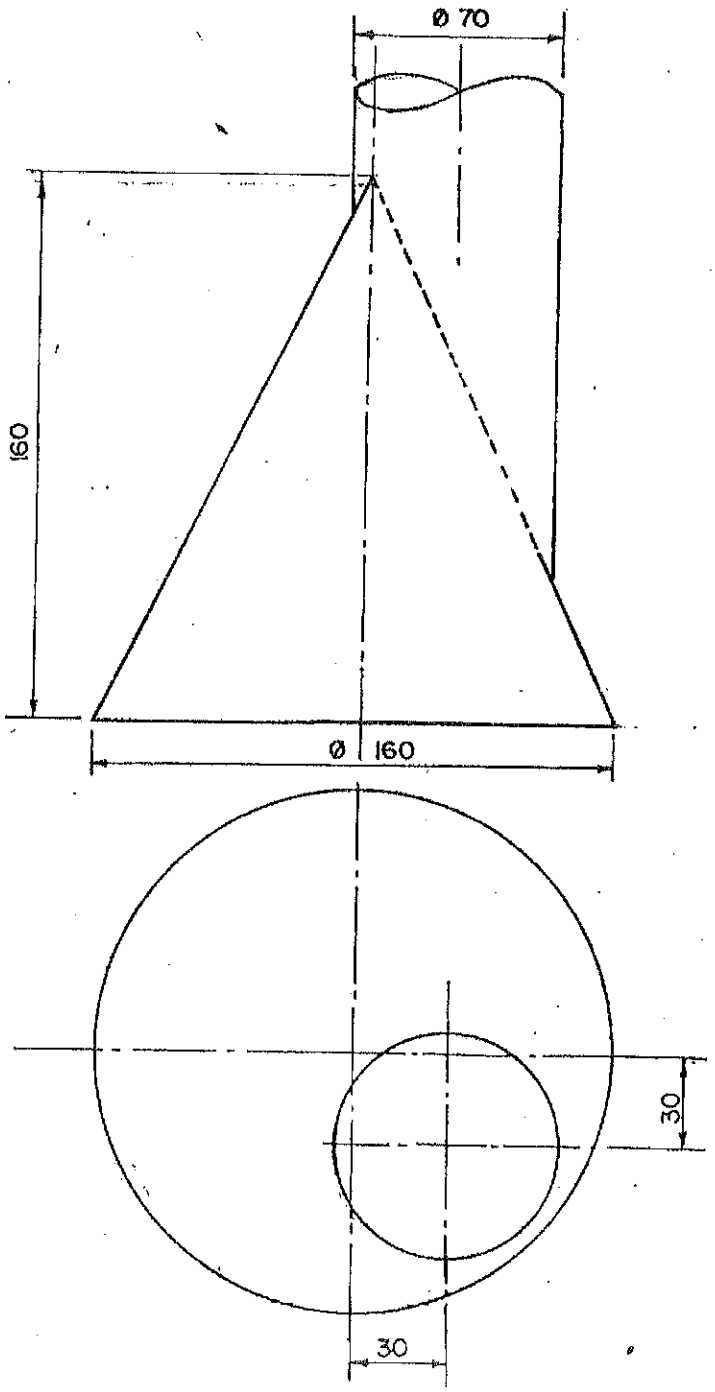


Figure.Q2

(25 marks)

Q3. Figure.Q3 shows two orthographic views of an object in first angle projection. Draw to a scale of full size the isometric view of the object taking the near points as shown by the arrows.

Note: Use natural scale and no hidden details are necessary.

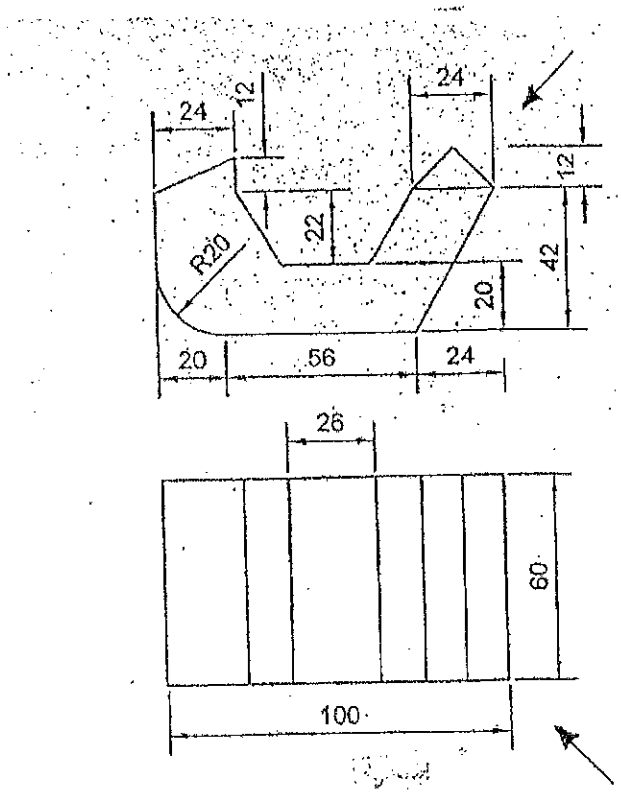


Figure.Q3

(25 marks)

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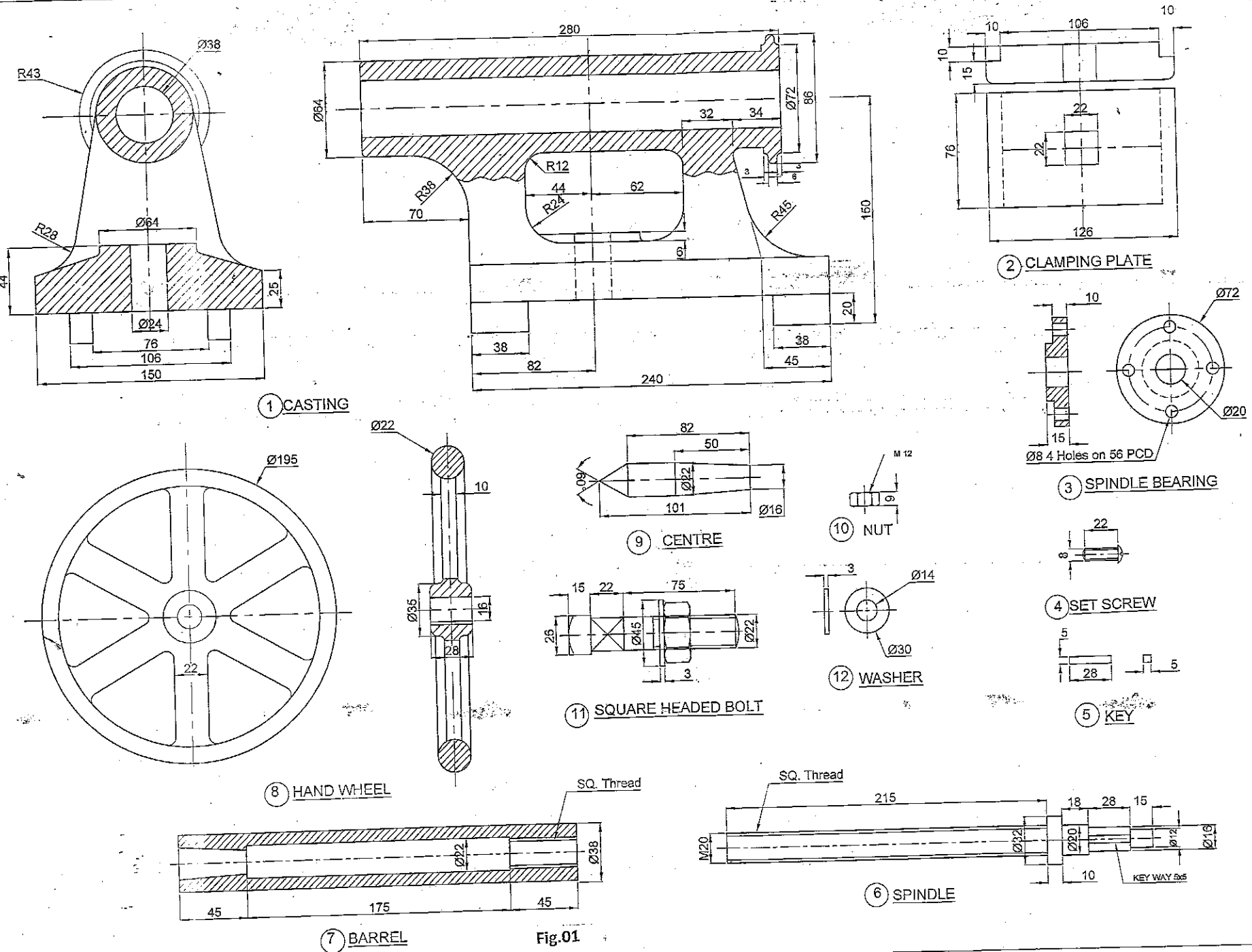

Ø38
R43
R28
Ø64
44
25
Ø24
76
106
150
1 CASTING
280
Ø64
Ø72
86
32
34
R12
R38
70
44
62
R24
R45
150
6
20
38
82
45
240
10
106
10
10
15
22
22
76
126
2 CLAMPING PLATE
10
Ø72
Ø20
15
Ø8 4 Holes on 56 PCD
3 SPINDLE BEARING
22
8
4 SET SCREW
5
28
5
5 KEY
Ø195
22
8 HAND WHEEL
Ø22
10
Ø35
16
28
82
50
09
Ø22
101
Ø16
9 CENTRE
M 12
9
10 NUT
15
22
75
26
Ø45
Ø22
3
11 SQUARE HEADED BOLT
3
Ø14
Ø30
12 WASHER
SQ. Thread
Ø22
Ø38
45
175
45
7 BARREL
SQ. Thread
215
M20
Ø32
18
28
15
Ø20
Ø12
Ø16
10
KEY WAY 5x5
6 SPINDLE

Fig.01