



**UNIVERSITY OF JOHANNESBURG**  
**FACULTY OF EDUCATION**  
**JUNE EXAMINATION 2015**

**PROGRAMME:** B Ed (SENIOR AND FET PHASE)  
**MODULE:** ENGINEERING GRAPHICS AND TECHNOLOGY EDUCATION 2A  
**CODE:** EGD10A2 / EGT2A10  
**TIME:** 3 hours  
**MARKS:** 100  
**EXAMINER:** Mr W Engelbrecht  
**MODERATOR:** Dr CF van As  
 (This paper consists of 3 pages)

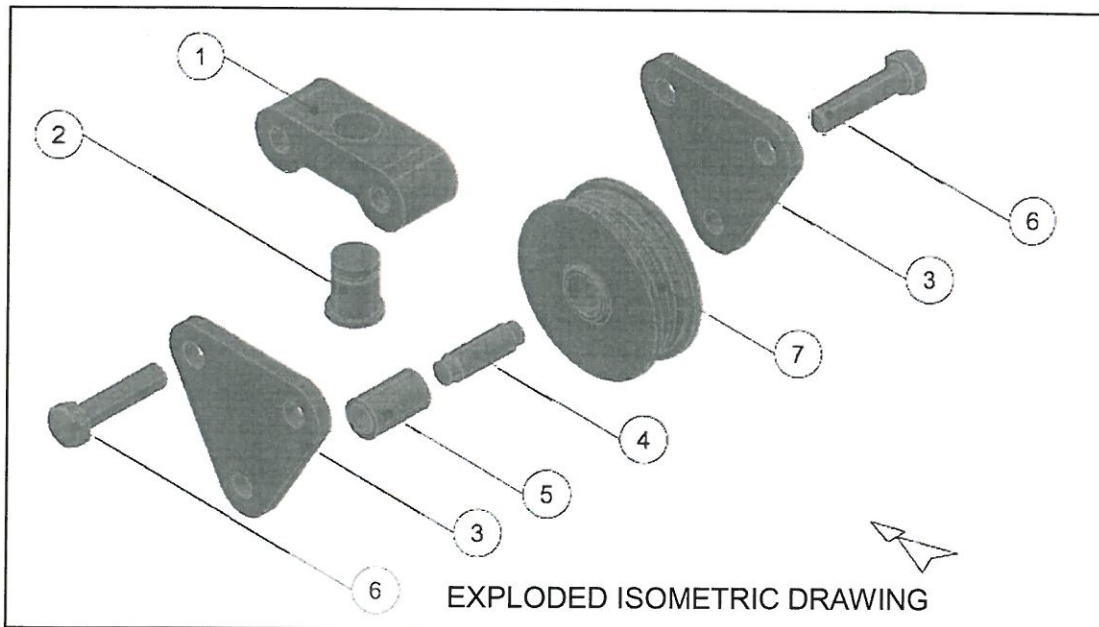
### INSTRUCTIONS

Read the following instructions carefully before answering the questions:

1. Answer all questions on A3 drawing sheets.

### QUESTION 1

The exploded isometric drawing of the components of a rope pulley, showing the position of each component relative to the others is shown in the figure below.

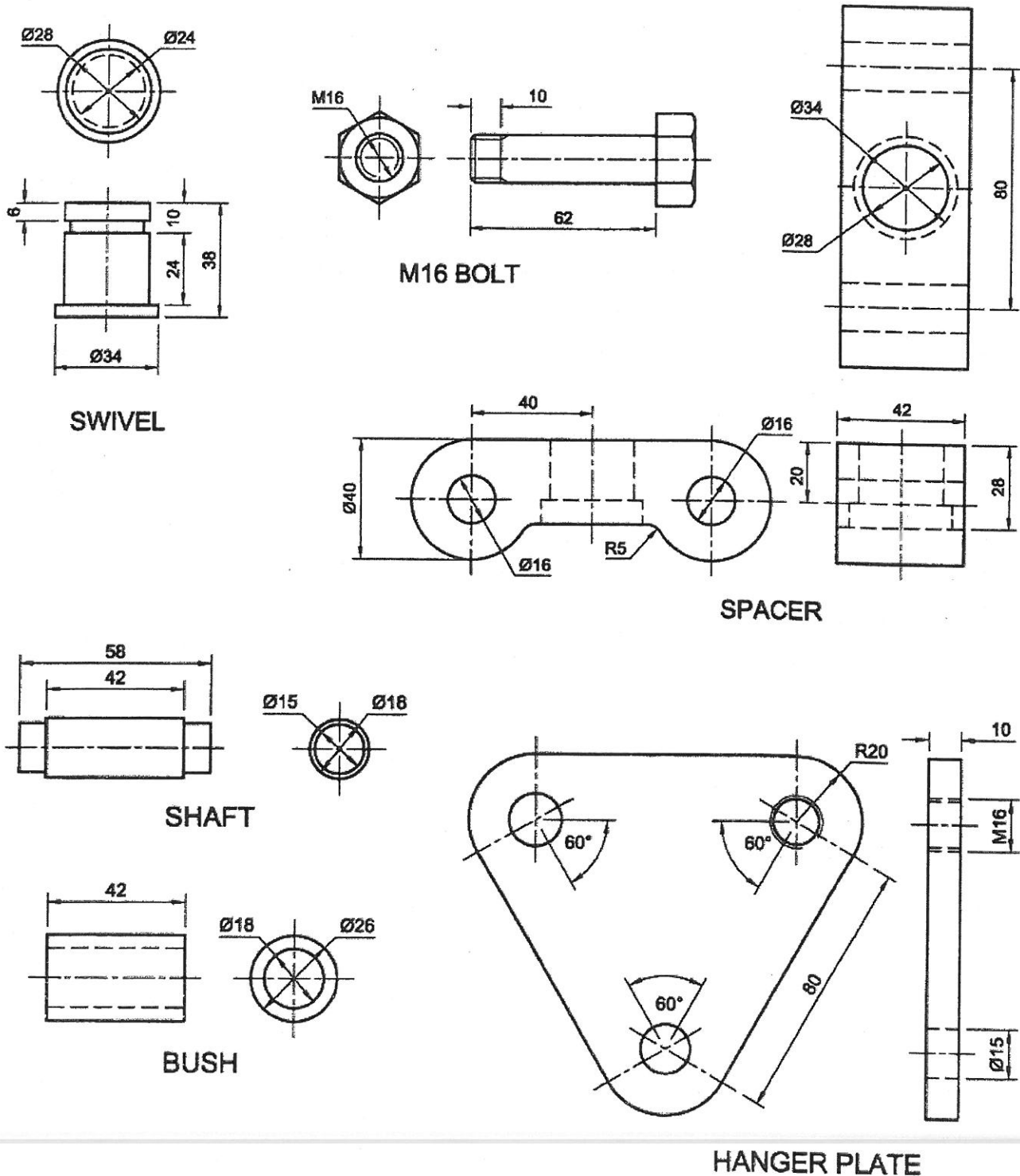


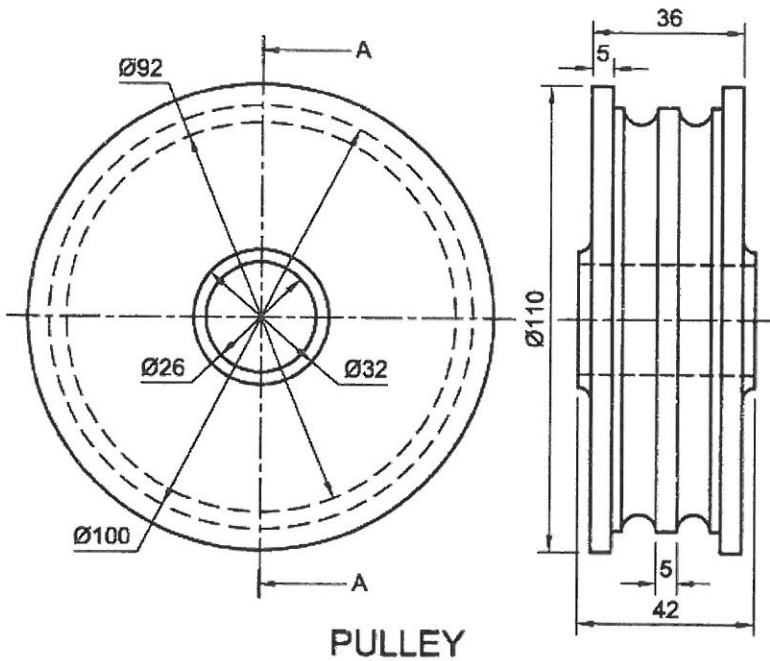
Component list		
Item	Description	Number required
1	SPACER	1
2	SWIVEL	1
3	HANGER PLATE	2
4	SHAFT	1
5	BUSH	1
6	M16 BOLT	2
7	PULLEY	1

Project and draw, to scale 1:1 and in third angle orthographic projection, the following views of the assembled components of the rope pulley:

- 1.1 The sectional front view as seen from the direction of the arrow. NOTE: The cutting plane passes through the centre of the assembly as shown on the pulley. (30)
  - 1.2 The left view. No hidden detail is required. (20)
  - 1.3 Add the following to the drawing:
    - 1.3.1 The total height, the depth and the width of the assembly dimensions. (6)
    - 1.3.2 The cutting plane. Label the cutting plane A-A. (2)
    - 1.3.3 Between 3mm guidelines neatly label the sectioned view: SECTION A-A. (2)
- (60)

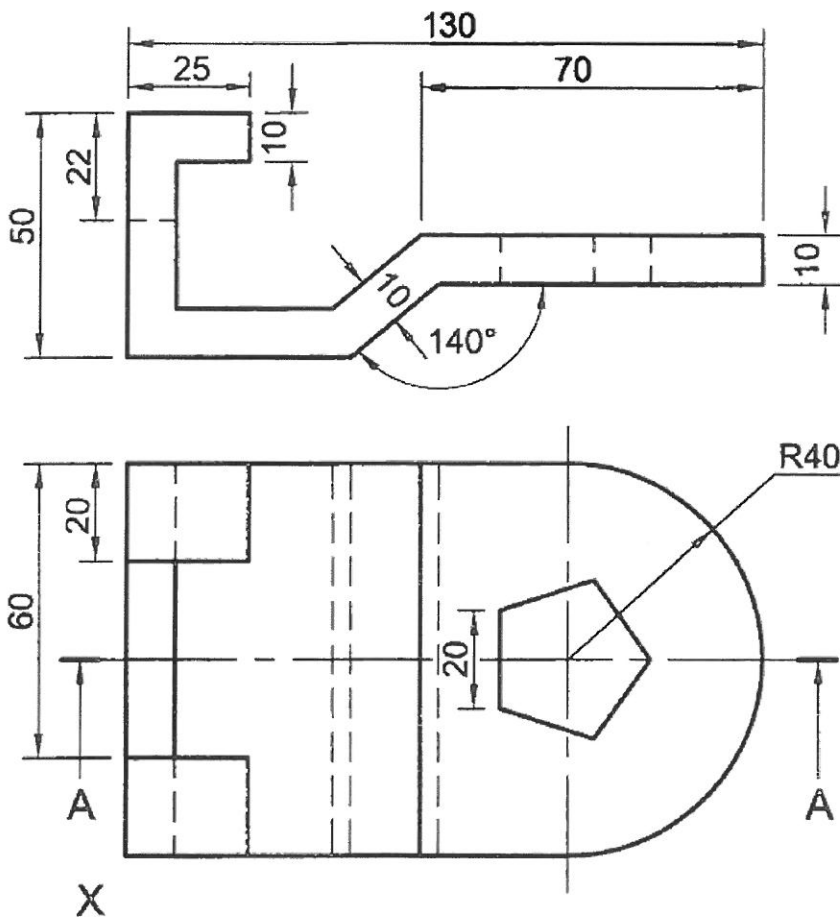
Shown below are the orthographic views of each component of the rope pulley.





## QUESTION 2

The figure below shows an anchor plate, drawn in first-angle orthographic projection. Using a scale of 1:1, convert the anchor plate into a full-sectioned isometric drawing on A-A. To help orientate the drawing correctly make the corner marked X the lowest point of the drawing.



(40)

TOTAL: 100