

INSTRUCTIONS AND INFORMATION

1. The question paper consists of FOUR questions.
2. Answer ALL the questions.
3. All drawings are in THIRD angle orthographic projection unless otherwise stated.
4. All drawings must be drawn to scale 1:1, unless otherwise stated.
5. The questions must be answered on the answer sheets provided.
6. All the answer sheets must be re-stapled in numerical sequence and handed in irrespective of whether the question was attempted or not.
7. Careful time management is essential in order to complete all the questions.
8. Print your NAME in the block provided on every answer sheet.
9. All answers must be drawn accurately and neatly.
10. Any details or dimensions not given must be assumed in good proportion.

GRADE 11

**MANUFACTURING ENGINEERING &
TECHNOLOGY**

**ENGINEERING GRAPHICS AND DESIGN - P2
NOVEMBER EXAMINATION 2020**

FOR OFFICIAL USE ONLY

QUESTION	LEARNER'S MARK	MODERATED MARK
ONE		30
TWO		30
THREE		40
TOTAL	1 0 0	

FINAL CONVERTED MARK	CHECKED BY
100	

MARKS : 100
TIME : 3 hours
This question paper consists of 5 pages.

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QUESTION TWO : ISOMETRIC

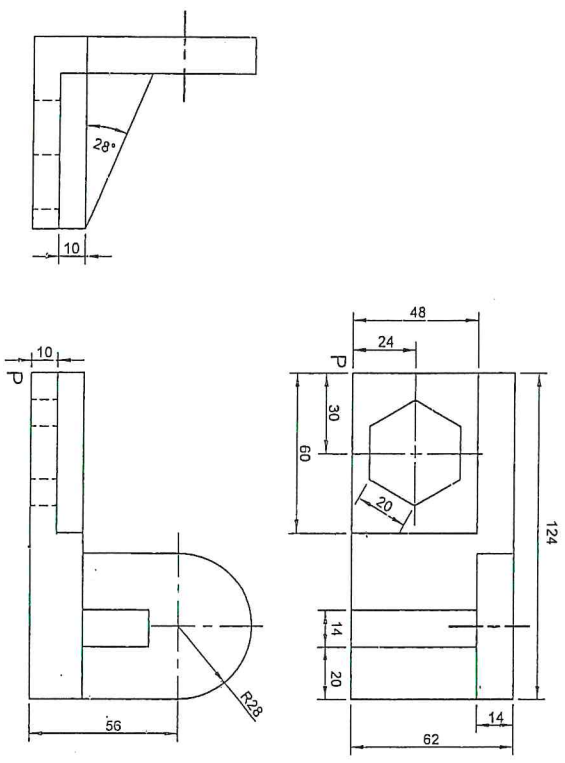
Given:

- The front view, top view and left view of a shaped block
- The position of point P on the drawing sheet

Instructions:

Using scale 1 : 1, convert the orthographic views of the shaped block into an isometric drawing.

- Make P the lowest point of the drawing.
- Show ALL necessary construction.
- NO hidden detail is required.



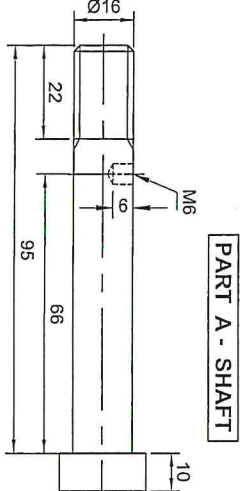
→ P

ASSESSMENT CRITERIA

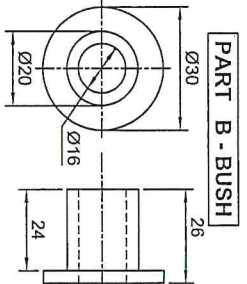
1	AUX. VIEW & PLACING	8
2	ISO. + NON-ISO. LINES	40
3	ISOM. CIRCLE + CONSTR.	10
4	CENTRE LINES	2
TOTAL		60

NAME : _____ GRADE / DIV. : _____

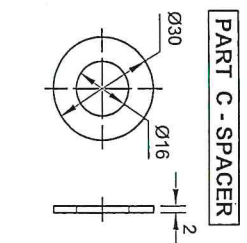
TOTAL (60)		30
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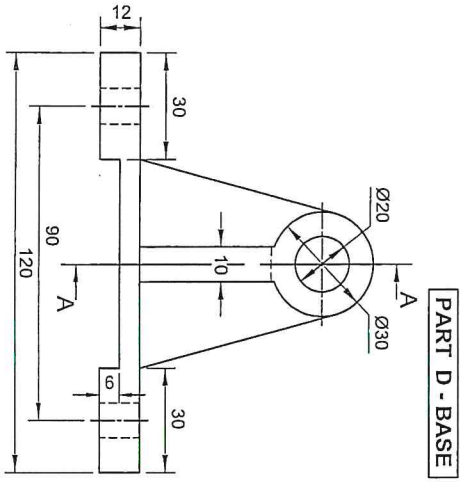
PART A - SHAFT



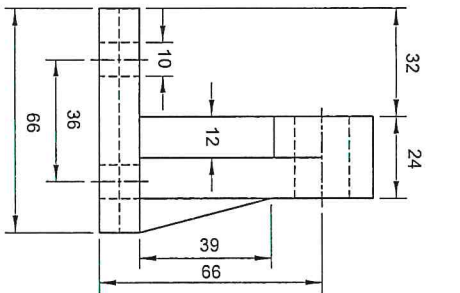
PART B - BUSH



PART C - SPACER

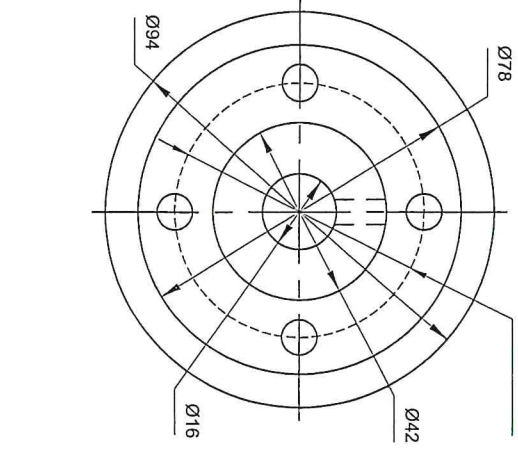


PART D - BASE

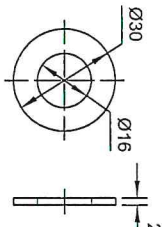


PART E - PULLEY

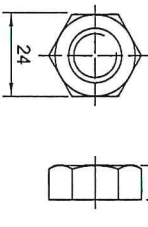
4 holes of Ø10
PCD Ø60



PART F - WASHER



PART G - M16 NUT



QUESTION THREE - MECHANICAL ASSEMBLY

GIVEN:

- The exploded isometric drawing of the parts of a BEARING BRACKET, showing the position of each part relative to all the others.
- Orthographic views of each of the parts of the BEARING BRACKET

INSTRUCTIONS:

- Answer this question on page 6.
- Draw, to scale 1:1 and in third-angle orthographic projection, the following views of the assembled parts of the bearing bracket assembly:

- A sectional front view, on cutting plane A-A, as seen from the direction of the arrow shown on the exploded isometric drawing. The cutting plane is shown on the left view of the base (part D). All drawings must comply with the guidelines contained in the SABS 0111.

NOTE:

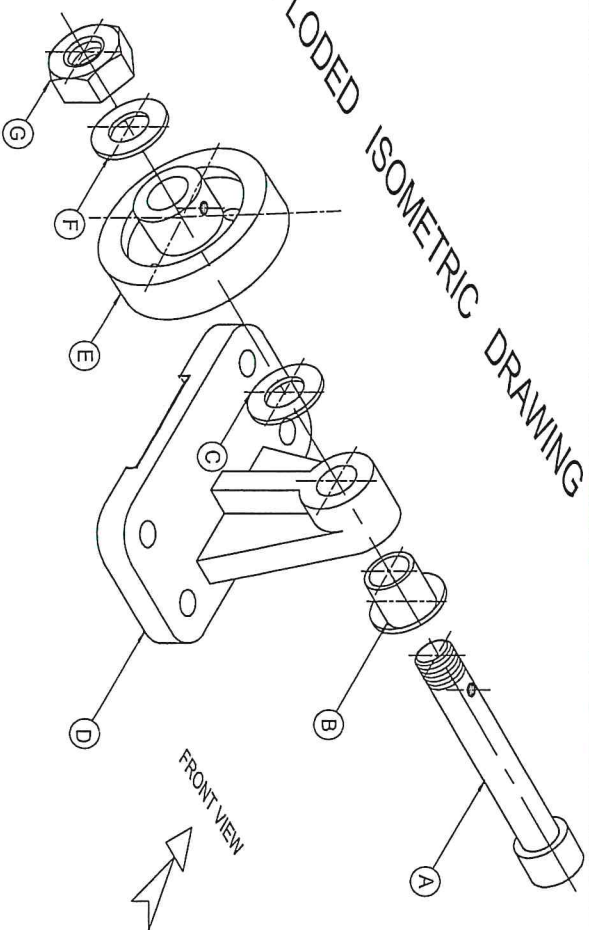
- The drilled holes on the shaft and pulley must align with each other.
- No hidden detail is required.

Add the following to the drawing:

- Label the sectional view : SECTION ON A-A

[40]

EXPLODED ISOMETRIC DRAWING



QUESTION FOUR : ASSEMBLY - ANSWER SHEET

ASSESSMENT CRITERIA		
SECTIONAL VIEW		
1	BASE	6
2	BUSH	2
3	SHAFT	10
4	SPACER	2
5	PULLEY	13
6	WASHER	2
7	NUT	5
8	CENTRE LINES	2
9	HATCHING	15
TOTAL		57
PENALTIES		
CONVERTED TOTAL		40
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