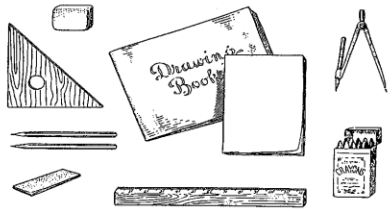
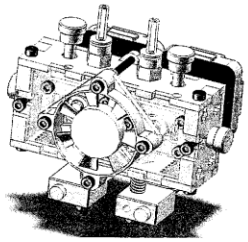
HILLCREST HIGH SCHOOL

MIDYEAR EXAMINATION

ENGINEERING, GRAPHICS & DESIGN



GRADE 11
2017
PAPER 2



MARKS: 135 **TIME**: 2 HOURS

INSTRUCTIONS TO CANDIDATES

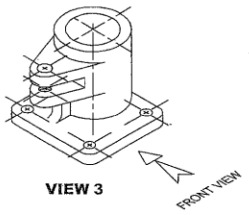
1. This question paper consists of 4 **pages** including the cover page and **2 questions**.
2. **All** questions must be answered.
3. Unless specified otherwise, all questions are in **First Angle Orthographic Projection**.
4. Unless specified otherwise, all questions are to be completed to a **scale of 1:1**.
5. **All** answer sheets must be re-stapled in numerical order, even questions that are not attempted/blank.
6. All **construction work** must be shown, even if a stencil was used.
7. Print your **NAME** neatly on each page.
8. Use only the **drawing sheets** provided.
9. Your drawings should reflect **neatness** and **accuracy**.
10. All dimensions or detail not given may be **assumed** in **good proportion**.

QUESTION	SECTION	MARK	MODERATE	MAXIMUM
1	MECHANICAL ANALYTICAL			30
2	MECHANICAL ASSEMBLY			105
TOTAL				135
SYMBOL				100

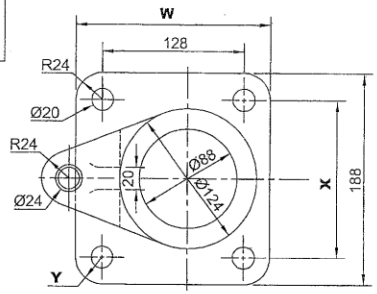
NAME:

GIVEN:
The working drawing of a SUPPORT BRACKET, with a title block and a table of questions.

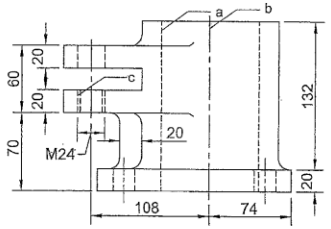
INSTRUCTIONS:
Complete the table below by neatly printing the answers to the questions, which all refer to the accompanying drawing and title block.



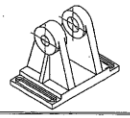
VIEW 3



VIEW 1



VIEW 2



DIYARA ENGINEERING

"create-enhance-sustain"

est. 2010. Florida, Durban

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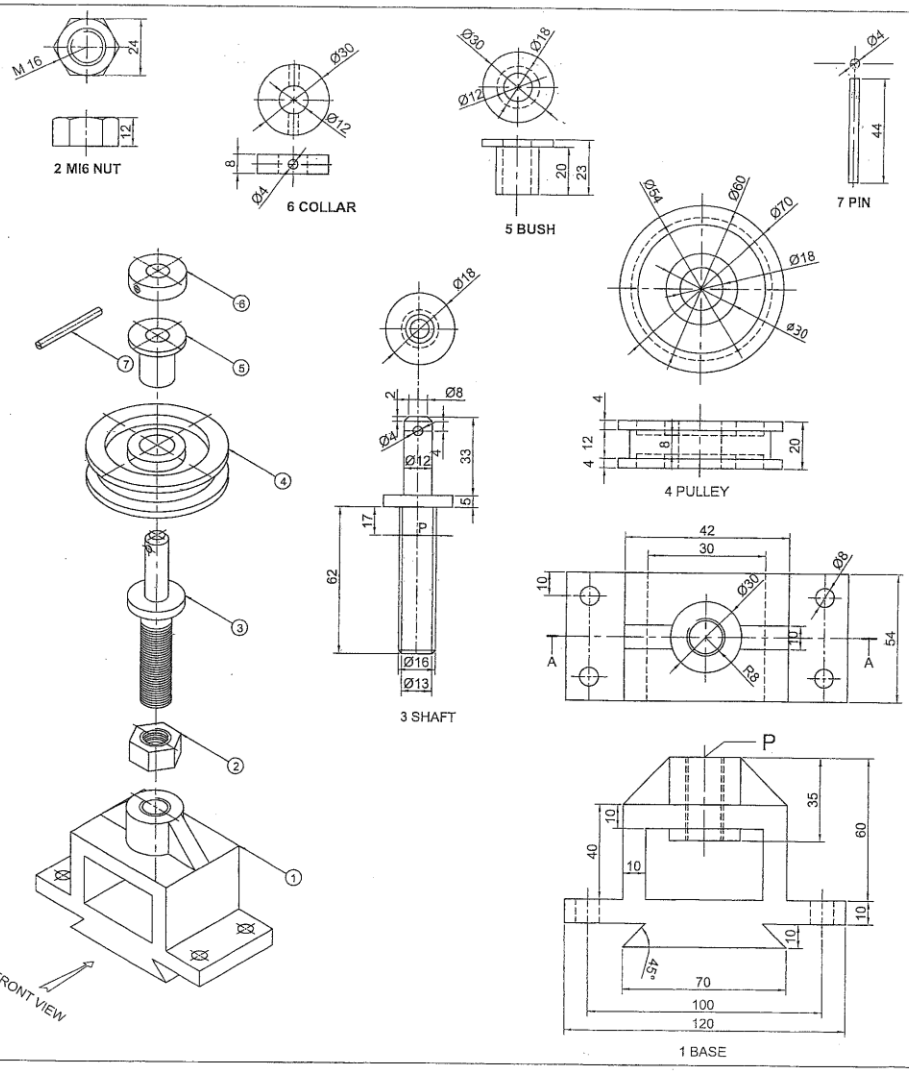
DRAWN BY: MYEN	DRAWN DATE: 19 - 06 - 2011	MATERIAL: MILD STEEL	REVISION 1:DESIGN [22-05-2011]
CHECKED BY: MIKA	CHECKED DATE: 22 - 08 - 2011	NO REQUIRED: 340	REVISION 2:COLOUR [25-05-2011]
APPROVED BY: EDDIE	APPROVED DATE: 28 - 05 - 2011	SI UNIT: MILLIMETRES	TOLERANCES: ± 0,04
DRAWING NO: 2201 - NM	DRAWING SYSTEM:AutoCAD 2015	TITLE : SUPPORT BRACKET	MACHINING: $\frac{0,04}{\nabla x}$
REFERENCE NO: 4545 / 36YG	DRAWING SCALE: 1:5	Unspecified fillet radii : R4	MACHINING COMPANY: BAT PTY

1	What is the scale of the drawing ?		1
2	Who checked this drawing ?		1
3	On what date was this drawing approved ?		1
4	What is the name of this component ?		1
5	What is the email address of this company ?		1
6	When was DIYARA ENGINEERING established ?		1
7	Where is DIYARA ENGINEERING based ?		1
8	What is the drawing number ?		1
9	Why was the second revision done?		1
10	From what material is the component made ?		1
11	Identify view 1.		1
12	Identify view 2.		1
13	Determine the dimension at W ?		1
14	Determine the dimension at X ?		1
15	Determine the dimension at Y ?		1
16	What line type is used at a ?		1
17	What line type is used at b ?		1
18	What does C indicate?		1
19	What quantity must be manufactured ?		1
20	What drawing system was used ?		1
21	What type of drawing is shown at view 3 ?		1
23	What is the main function of this company ?		1
24	What is the website address of this company ?		1
25	How old is this company ?		1
26	What is the length of the component ?		1
27	What is the total height of the component ?		1
28	What system of projection has been used ?		1
29	Draw, freehand, the projection symbol ?		2

Name:
Teacher:

30



QUESTION 2.: MECHANICAL ASSEMBLY

Given:

- The exploded isometric drawing of the parts of a pulley tensioner, showing the position of each part relative to all the others.
- Ortographic views of each of the parts of the pulley tensioner

Instructions:

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

4.1 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 top view of the base (part 1).

4.2 The top view.

- All drawings must comply with the gidelines contained in the SABS 0111.

NOTE;

- Point P on the shaft , nut and base must correspond.
- No hidden detail is required.

Add the following features to the drawing:

- The cutting plane A-A
- Label the sectional view : SECTION A-A

PARTS LIST		
PART	QUANTITY	MATERIAL
1 BASE	1	CAST IRON
2 M16 NUT	1	MILD STEEL
3 SHAFT	1	HARDENED STEEL
4 PULLEY	1	CAST IRON
5 BUSH	1	BRONZE
6 COLLAR	1	MILD STEEL
7 PIN	1	MILD STEEL

QUESTION 2: MECHANICAL ASSEMBLY

ASSESSMENT CRITERIA			
TOP VIEW			
1	BASE	12	
3	SHAFT	2	
4	PULLEY	2	
6	COLLAR	1	
7	PIN	6	
8	SECTION A-A	3	
9	CENTRE LINE	8	
10	HATCHING	13	
SUBTOTAL		47	

ASSESSMENT CRITERIA			
SECTIONAL FRONT VIEW			
1	BASE	13	
2	M 16 NUT	5	
3	SHAFT	15	
4	PULLEY	14	
5	BUSH	4	
6	COLLAR	2	
7	PIN	1	
8	LABEL	2	
	THIRD ANGLE	2	
SUBTOTAL		58	
TOTAL		105	

Name:
Teacher: