HILLCREST HIGH SCHOOL

NOVEMBER EXAMINATION

ENGINEERING, GRAPHICS & DESIGN

GRADE 11

2014

PAPER 2

MARKS: 100 **TIME**: 2 HOURS

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of **5 pages** including the cover page and **3 questions**.
2. **All** questions must be answered.
3. Unless specified otherwise, all questions are in **Third 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	MAXIMUM
1	MECHANICAL ANALYTICAL		20
2	ISOMETRIC PROJECTION		50
3	MECHANICAL ASSEMBLY		90
TOTAL			160
SYMBOL			100

NAME

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DRAWING NO:	2012 - SSE
REFERENCE NO:	SSE/12

MACHINING: GRIND 0,02 / 0,2 =

WELDING

MACHINING COMPANY: D.O.E PTY

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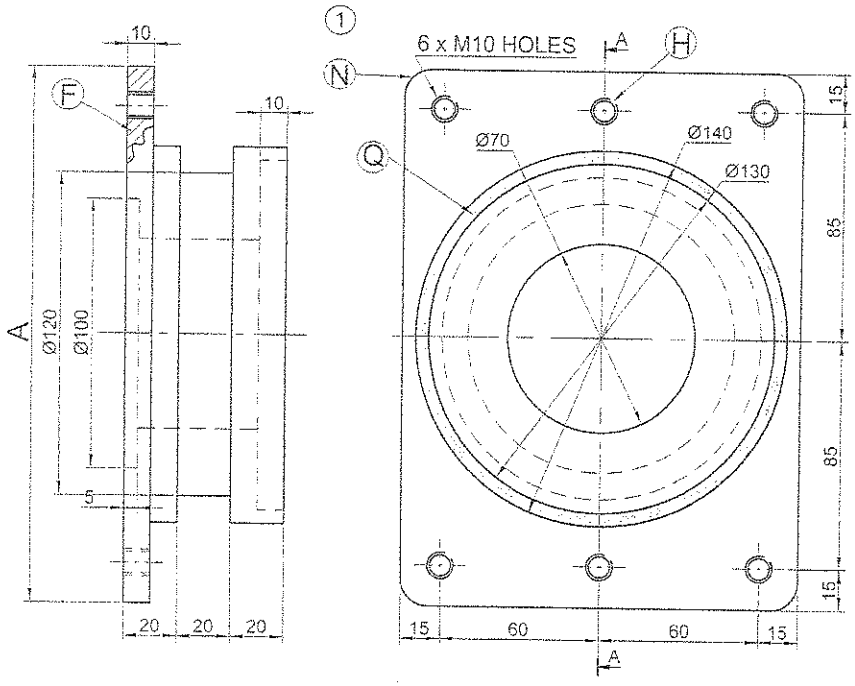
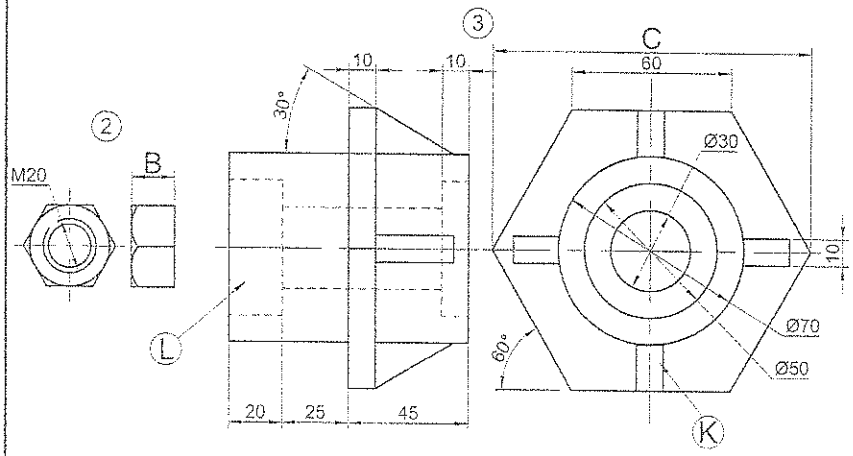
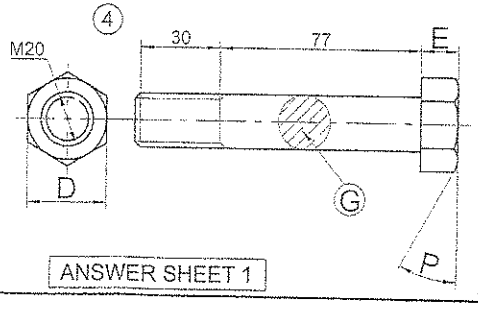
QUESTION 1
20 MARKS

MECHANICAL ANALYTICAL







REFER TO THE INFORMATION GIVEN AND ANSWER THE FOLLOWING QUESTIONS	
1.1 Describe the machining lay on the machining symbol?	
1.2 What is the roughness value on the machining symbol?	
1.3 What is the machining allowance on the machining symbol?	
1.4 What is the production method on the machining symbol?	
1.5 What is the depth of the M10 holes?	
1.6 How many M10 bolts are needed for the M10 holes?	
1.7 What is the dimension A on Part 1?	
1.8 What is the dimension B on Part 2?	
1.9 What is the dimension C on Part 3?	
1.10 What is the dimension D on Part 4?	
1.11 What is the dimension E on Part 4?	
1.12 What is the type of sectioning shown by F on Part 1?	
1.13 What is the type of sectioning shown by G on Part 4?	
1.14 What type of hole is shown by H on Part 1?	
1.15 What feature is shown by K on Part 3?	
1.16 What type of hole is shown by L on Part 3?	
1.17 What is the dimension P on Part 4?	
1.18 What is the feature N on Part 1?	
1.19 What is the area of surface Q (shaded surface) on Part 1? (2)	

ANSWER SHEET 1

NAME

PLEASE TURN OVER

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QUESTION 3
90 MARKS

MECHANICAL ASSEMBLY

ASSESSMENT CRITERIA		
SECTIONAL FRONT VIEW		
Title & Symbol	A	3
CENTRE LINES	B	2
SECTIONING	C	22
NO SECTIONING	D	16
M20 NUT	E	4
M20 BOLT	F	6
HATCHING	G	22
BOLT THREAD	H	4
INT.THREAD.HAT	J	4
ASSEMBLY	K	7
TOTAL	90	

TITLE:

PROJECTION
SYMBOL

ANSWER SHEET 3

NAME

QUESTION 3
90 MARKS

MECHANICAL ASSEMBLY

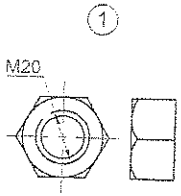
Answer this question on ANSWER SHEET 3

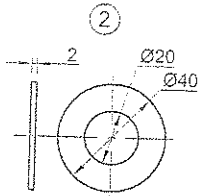
The figure shows the multi-views of components of a **SOCKET ASSEMBLY**, drawn in third angle orthographic projection.

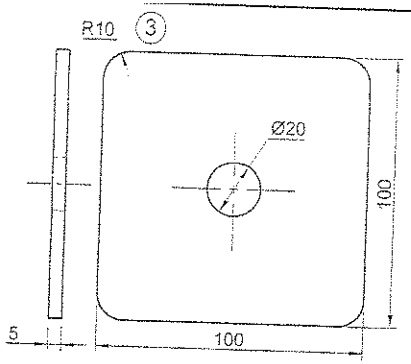
Draw to a scale 1:1 the following:

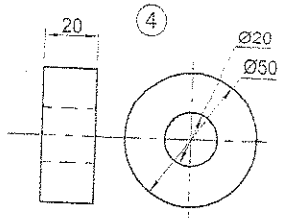
3.1 A **Sectional Front View**, on the cutting plane A-A, of the assembled components, as seen in the direction of F;

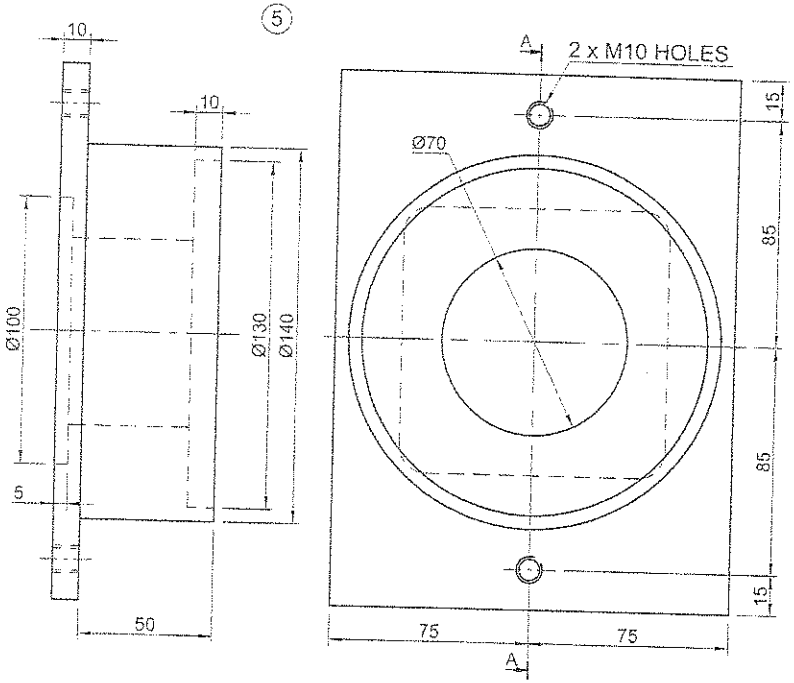
- All fillets/rounds not given are R10.
- Print the title in the space provided.
- Draw the projection symbol in the space provided.
- Show 2 faces for the M20 hexagonal nut.
- Show 3 faces for the M20 hexagonal bolt.
- Use the given centre lines to position your view

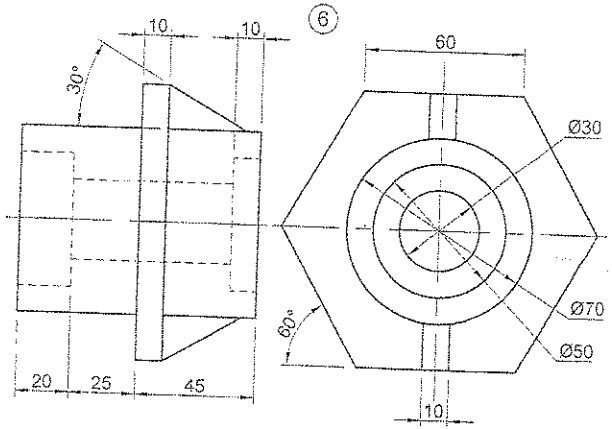




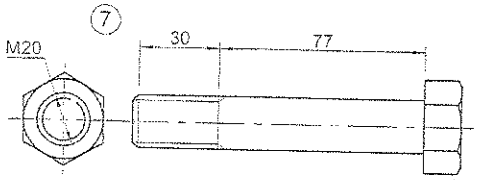


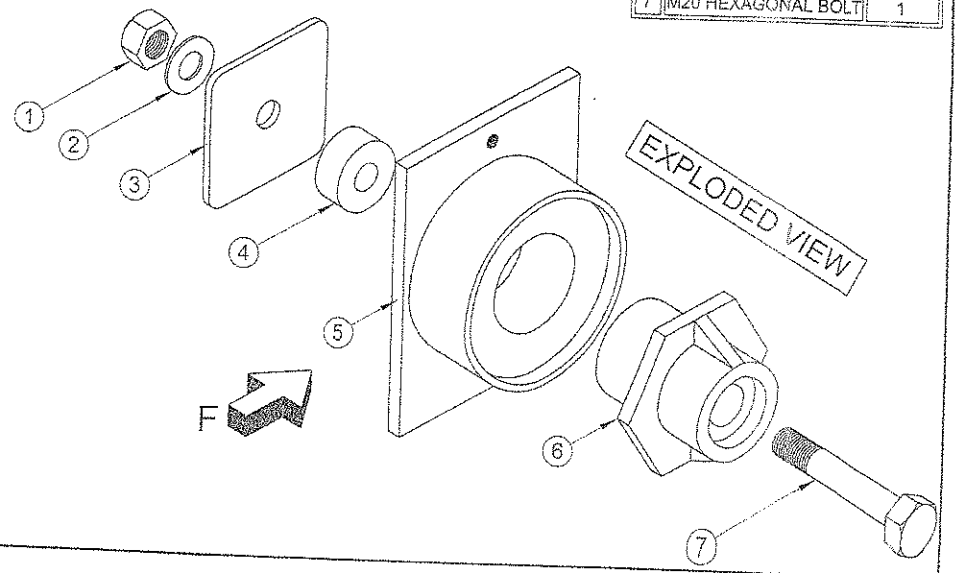






COMPONENT LIST		
No	PART	Quantity
1	M20 HEXAGONAL NUT	1
2	WASHER	1
3	HOUSING PLATE	1
4	BUSH	1
5	HOUSING	1
6	SOCKET	1
7	M20 HEXAGONAL BOLT	1





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