

Hillcrest High School

Grade 8

TECHNOLOGY

JUNE 2023

MARKS: 100

EXAMINER: Mrs N. Magubane

TIME: 1 Hour

MODERATOR: Mrs

NAME: _____ **GRADE 8** _____

SUBJECT EDUCATOR: BEGA/STOLS/D'ALMAINE /MAGUBANE/PEARL

INSTRUCTIONS

1. The question paper consists of 4 questions and 6 pages including the cover page.
2. Answer all questions in the spaces provided.
3. Write your name and grade clearly and neatly in the space provided.
4. Highlight your Technology teacher's name above.
5. Technological based answers must be written.
6. All drawings/sketches must be completed using a sharp pencil and drawing instruments unless otherwise instructed.
7. Marks will be deducted for untidy work especially drawings/sketches.

Q1	Q2	Q3	Q4	TOTAL
20	20	30	30	100

QUESTION 1 **Short questions**

[20]

1.1. Read the question and circle your chosen answer: (10)

1.1.1. One method of categorizing structures is....

- A Natural and Synthetic
- B Normal and abnormal
- C Regular and Irregular
- D Natural or Manmade

1.1.2. The three types of structures are...

- A Frame, Shell, Mass
- B Cage, Shell and solid
- C Solid, Liquid and Gas
- D None of the above

1.1.3 A strongest shape used to make a structure is called

- A Rectangle
- B Triangle
- C Circle
- D Hexagon

1.1.4. A structural member that is mounted vertically is called...

- A Beam
- B Column
- C Strut
- D Pile

1.1.5. A bridge that is supported on one end only is known as a / an....

- A Arch bridge
- B Suspension Bridge
- C Clapper Bridge
- D Cantilever Bridge

1.1.6. When a bridge collapses when it should not have is called

- A Poor design
- B Structural weakness
- C Structure failure
- D Failure of design

1.1.7. A pylon is...

- A A vertical structure
- B A type of strut that supports over a distance
- C Supports heavy objects over a distance
- D Supported at one end

1.1.8. _____ and symbols are another form of communication.

- A Signs
- B Graphics
- C Trademarks
- D Pictures

- 1.1.9. The function of the structure is to...
- A Spanning a gap
 - B Supporting the load
 - C Enclosing people and animals
 - D All of the above

- 1.1.10. _____ is the influence an object has on its immediate surroundings.
- A Visual impact
 - B Redundant
 - C Visual impairment
 - D Impact of Technology

1.2. Match the terms in Column A with the description in Column B. (5)

Term		Definition		Answers	
1.2.1.	2D	A	Investigating	1.2.1.	
1.2.2.	Provide stability to the roof truss	B	Scaling up	1.2.2.	
1.2.3.	3D	C	King Post	1.2.3.	
1.2.4.	Finding information about a given topic	D	Orthographic	1.2.4.	
1.2.5.	Drawing objects bigger than the original object	E	Isometric	1.2.5.	

1.3. Using the words from the box below, choose ONE for each of the terms defined. (5)

Rafters, Tie, Queen post truss, Strut, Tie beam

- 1.3.1. It holds or pulls members framework together _____
- 1.3.2. It has one beam with parallel beams _____
- 1.3.3. It has horizontal beams that rest on two opposite columns _____
- 1.3.4. It holds members of a framework in place by pushing against them _____
- 1.3.5. It has two supporting beams that are attached to a tie beam. _____

QUESTION 2

[20]

2.1. Read this definition and answer the questions that follow: (5)

Technology is the use of knowledge, skills, and resources to meet human needs and recognized and solve problems by .a. .b., .c., .d and .e a product, also taking into consideration social and environmental factors into consideration.

From the definition above, list the design process. Write the steps in the correct order.

- a) _____
- b) _____
- c) _____
- d) _____
- e) _____

2.2. List three advantages and three disadvantages of technology. (6)

Advantages:

Disadvantages:

2.3. *“Technology has changed every aspect of life, making it easier, better and different. Technology has changed living. The standard of living has increased. Our needs are met with greater ease. Technology has brought advancement and boosted every industry.”* (4)

Explain how technology has changed using four points.

2.4. Complete the systems diagram for a Food Processor: (5)

Input	Process	Output

QUESTION 3

[30]

3.1. Complete the table below by ticking in the relevant spaces. (5)

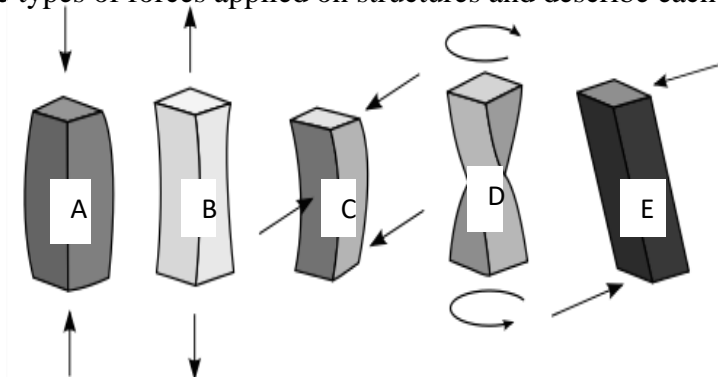
	Frame	Solid	Shell	Man-made	Natural
E.g. Spider web	✓				✓
A rock					
Bicycle					
Ostrich egg					
Roof truss					
Birds nest					

3.2. Some structures can occur naturally, and some are man-made. Explain the difference between natural and man-made structures. (2)

Natural:

Man-made:

3.3. Identify the types of forces applied on structures and describe each of them. (10)



A

B

C

D

E

3.4. Define the following terms: (4)

Cross-bracing:

Triangulation:

3.5. Identify the two types of bridges below and explain the difference between them. (4)



Explain:

3.6. Read the short extract and answer questions that follow:

“Structural failure refers to the loss of structural integrity, or the loss of load-carrying capacity in either a structural component or the structure itself.”

3.6.1. Name three ways in which structure can fail. (3)

3.6.2. Explain how top-heavy toppling over happens on structures. (2)

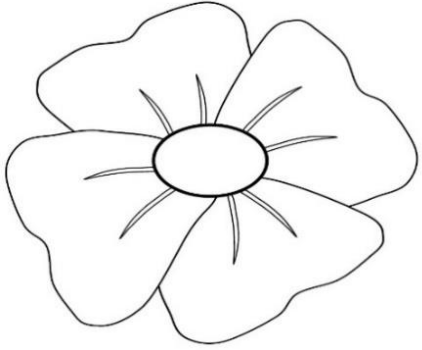
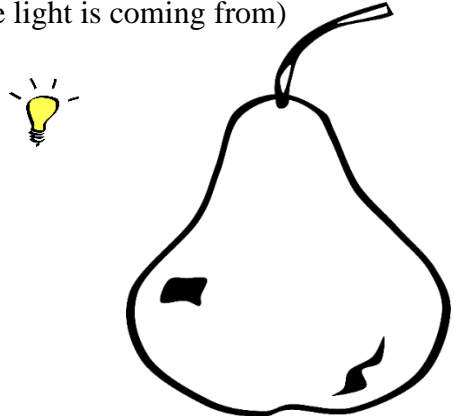
QUESTION 4

[30]

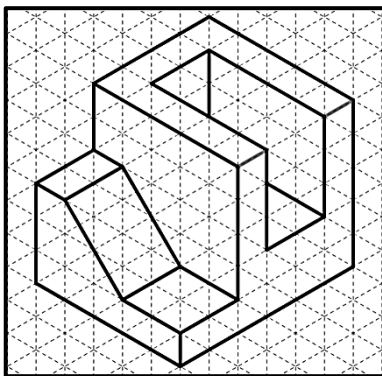
4.1. Draw the following types of lines: (5)

Name of line	Draw the line
Hidden detail	
Construction	
Outline	
Centre line	
Dimension line	

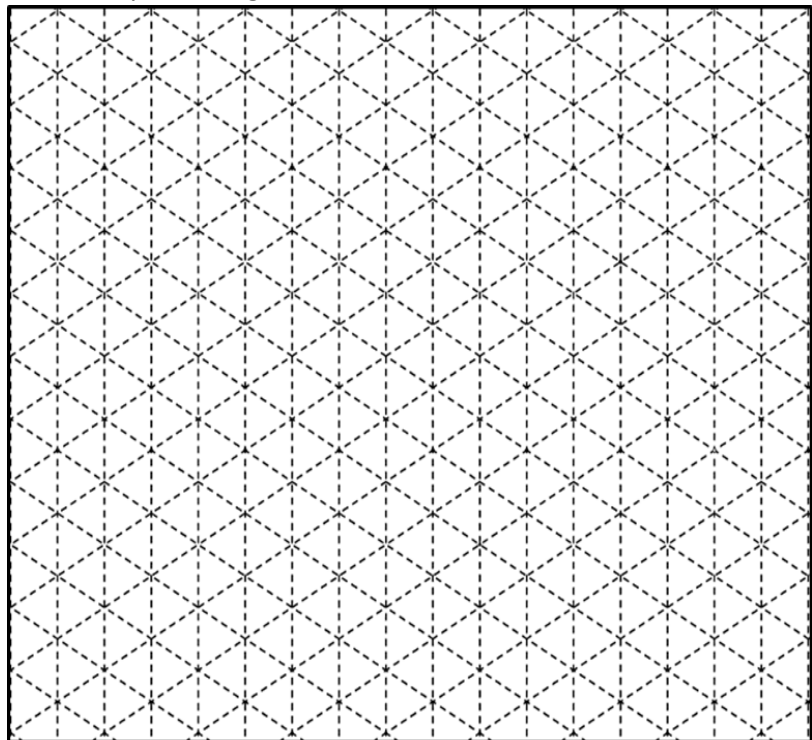
4.2. Use colouring and shading to enhance the drawings below, make them more realistic. (6)

<p>Colour the flower:</p> 	<p>Shade the pear: (The light bulb indicates where the light is coming from)</p> 
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4.3. The given figure shows an isometric view of a simple object. Copy the object onto the isometric grid. Show the different views by colouring in each view in a different colour. (14)



RUBRIC		
Lines	10	
Colour	3	
Neatness	1	
TOTAL	14	



4.4. Complete the picture of the snowman using the grid lines as a guide. (5)

