



HILLCREST HIGH SCHOOL
TECHNOLOGY
JUNE EXAMINATION 2019
GRADE 8

TOTAL: 100

TIME: 1 HOUR

EXAMINER: MRS J M BEGA

MODERATOR: MRS T TONKIN

NAME/SURNAME: _____

GRADE 8 _____

SUBJECT EDUCATOR: BEGA/STOLS/NAIDOO/TONKIN

INSTRUCTIONS

1. The question paper consists of 4 questions and 8 pages including the cover page.
2. Answer all questions on the answer sheet 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	MODERATED MARK
20	25	25	30	100	

QUESTION 1: SHORT QUESTIONS

[20]

1.1 Various possible options are provided as answers to the following questions.
Circle the correct answer on the question paper.

1.1.1 A _____ post roof truss has two supporting beams placed on the tie beam.

- A King
- B Queen**
- C Collar
- D Strut

(1)

1.1.2 The structural member shown is a _____.



- A Tie
- B Tie beam**
- C Rafter
- D Strut

(1)

1.1.3 The structural member that holds or pulls two parts of a structure is a _____.

- A Tie**
- B Tie beam
- C Rafter
- D Strut

(1)

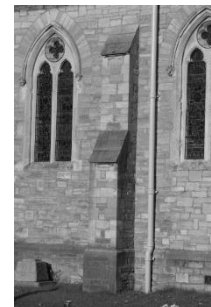
1.1.4 The function/s of a structure is / are:

- A Spanning a gap.
- B Supporting a load.
- C Enclosing people, animals or objects.
- D All of the above.**

(1)

1.1.5 The redundant member shown in the picture is a ...

- A buttress**
- B lintel
- C bridge
- D tie beam



(1)

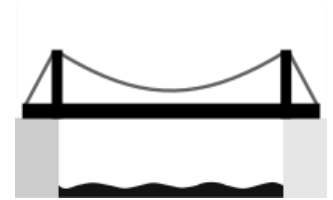
1.1.6 A structure that can span a gap is a _____.

- A tie
- B rafter
- C bridge**
- D king post

(1)

1.1.7 The bridge that is shown in the picture is an example of a...

- A cantilever bridge.
- B suspension bridge.**
- C cable – stay bridge.
- D truss bridge.



(1)

1.1.8 The **type of** line shown in the picture is a _____.

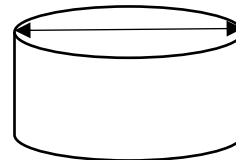
- A dimension line**
- B hidden detail
- C centre line
- D construction line



(1)

1.1.9 The line in the circle is showing the _____.

- A radius
- B circumference
- C diameter**
- D centre



(1)

1.1.10 Structural failure happens when ...

- A fracture
- B bending
- C toppling over
- D all of the above.**

(1)

(10)

1.2 Indicate whether the following statements are **TRUE** or **FALSE**. If false, correct the statement.

1.2.1 Redundant members are parts of a structure that does support a load.
False ✓. **Redundant members are parts of a structure that does not support a load.** ✓

1.2.2 A stay is in tension.
True ✓

1.2.3 Torsion is when a member is pulled in two opposite directions.
False ✓. **Torsion is when a member is twisted in two opposite directions.** ✓

(5)

1.3 Circle the correct term or word in the brackets to make the statement true.

1.3.1 Another name for a 3D drawing is a (orthographic / **isometric**).

1.3.2 (**Reciprocating** / Linear) motion is a backward and forward motion.

1.3.3 A circular or turning motion is a (Linear / **Rotating**) motion.

1.3.4 An unstable structure will topple over if it has a narrow (**base** / top).

(5)

QUESTION 2: STRUCTURES

[25]

2.1 Complete the definitions below:

(6)


2.1.1 A **frame** structure is **rigid** parts joined together.




2.1.2 A **shell** structure protects a **load**.

2.1.3 Solid structures are **compact**. They support **loads** and transfer these loads safely to the ground.

2.2 Complete the table below by filling in whether an image is (a) man – made or natural and (b) shell / frame or solid structure.

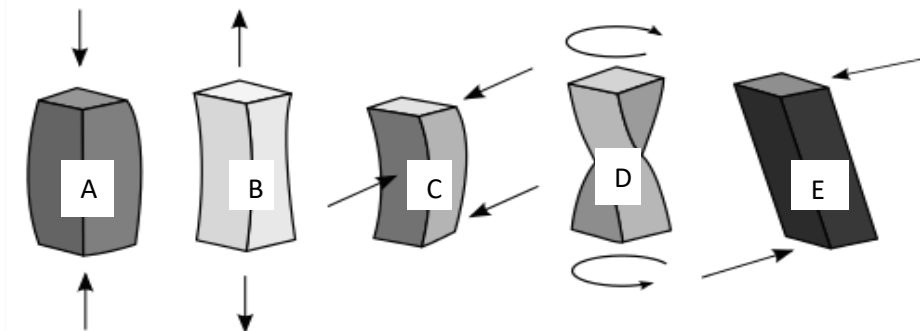
(8 ÷ 2 = 4)

Image	Man – made / natural	Shell / frame / solid
	Natural	Shell

	<p>Man – made v</p>	<p>Frame v</p>
	<p>Natural v</p>	<p>Frame v</p>
	<p>Man – made v</p>	<p>Solid v</p>

2.3 State the force shown in each of the pictures below:

(5)



A: Compression v

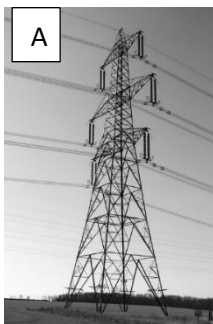
B: tension v

C: bending v

D: torsion v

E: Shear v

2.4 Study the pictures below and answer the questions that follow:



2.4.1 Identify the structures in each picture.

(2)

A – Electrical pylon v

B – Arch v

2.4.2 Describe the technique used in picture A to help strengthen the structure. (3)

The technique used is called triangulation. This is where triangle shapes are created because triangles stay rigid when force is applied.

2.4.3 Fill in the missing words in the sentence below that describes PICTURE B: (5)

An **arch** is a curved structure that supports a **horizontal** structure. This shape helps to **transfer** the force of its **own** weight and of any weight pressing **down** on top of it.

QUESTION 3: DIGITAL LITERACY

[25]

3.1 Identify the devices below: (3)



Laptop



keyboard



computer tower

3.2 What is an application? (2)

Applications are simply software programs on our computers to help us get things done.

3.3 Name TWO examples of apps that can be installed onto your computer already. (2)

Calculator / notepad / paint (any 2 = 1 mark each = 2 marks)

3.4 The area in which you will find your "Home" or "File" tab is called a **ribbon**. (1)

3.5 Complete the sentence below by filling in the missing words: (7)

Computers are built with the **hardware** that is necessary for the computer to **operate** at a basic level. However, there are times when you might want to add functionality to your computer by **connecting** an **external** device. These types of devices are called **peripheral** devices. They add functionality to your computer by providing **input** functions and / or **output** functions, for example a keyboard.

3.6 What is the internet? (2)

The internet is a massive global network connecting computers all across the world.

3.7 What allows you to search through large collections of content to find what you are looking for on the internet? **Search engine** (1)

3.8 When searching on the internet, each search result is called a **hyperlink**. (1)





3.9 State the name of the popular Microsoft email used. **Outlook** (1)

3.10 What should you install on a device to protect it from a Trojan horse? **Anti – virus** (1)

- 3.11 Give the full names for the acronyms below: (4)
- 3.11.1 CPU **central processing unit** ✓
- 3.11.2 WI – FI **Wireless – fidelity** ✓
- 3.11.3 MS **Microsoft** ✓
- 3.11.4 IM **instant messaging** ✓

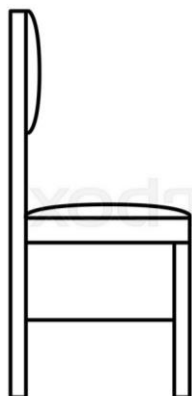
QUESTION 4: GRAPHIC COMMUNICATION [30]

4.1 Show the type of line for the following: (4)

- 4.1.1 Outlines  ✓
- 4.1.2 Hidden detail  ✓
- 4.1.3 Construction lines  ✓
- 4.1.4 Centre lines  ✓

4.2 Complete the table below in single – perspective drawing. (11)

- vanishing point



4.3 The given figure shows an isometric view of a simple object. Copy the object onto the isometric grid below. Colour in each view in a different colour. (15)

