



Subject: Grade 7 Technology
Topic: Technology: Term 2 - Exam 1
Total: 124 Marks

Name: _____

Date: _____

Question 1: Multiple Choice
Match the types of structures:

4 marks

A] Man-made B] Natural

1) Beehive 2) Table 3) Ladder 4) Bird's Nest

A	A] matches with 1 and 2	B] matches with 3 and 4
B	A] matches with 2 and 3	B] matches with 1 and 4
C	A] matches with 1 and 3	B] matches with 2 and 4
D	A] matches with 4 and 1	B] matches with 3 and 2

Question 2: True/False

2 marks

The Jaws of Life mini-pat is a magnetic system that uses a syringe, piston, cylinder, tubes, levers and fluid to open or close the blades.

TRUE

FALSE



Question 3: Text Input

3 marks

Choose the correct word from the list below which is used to describe the requirements for the cell phone tower model.

FRAME SPECIFICATIONS SHELL COMMUNICATION STRUCTURE

- Your model should be more than 30 cm tall.
- The model should fit in with the surroundings.
- It should also be rigid and hold its shape by using triangulation.
- Use stiff reeds, thin, straight sticks, or hand-rolled paper dowels for building materials.

Question 4: True/False

2 marks

There are lots of different structures around us. We build some, and some are already there in nature.

The termite mounds and trees are structures built by a person. We call these man-made structures.

TRUE**FALSE**

Question 5: Please Fill In The Blanks

8 marks

The cellphone company sends one of their employees to the village. He talks to the people in the village to find out what the designer should keep in mind when she plans for the tower. He asks:

"What are the most important things I must remember when designing the cellphone tower for your village?"

The tower must be (1) and sturdy.

The tower must not (2) during heavy winds.

The tower construction company must employ (3) workers.

The tower must blend in with the (4).

Possible Answers: society | strong | education | environment | manage | local | collapse | construct

1	
3	

2	
4	

Question 6: Text Input

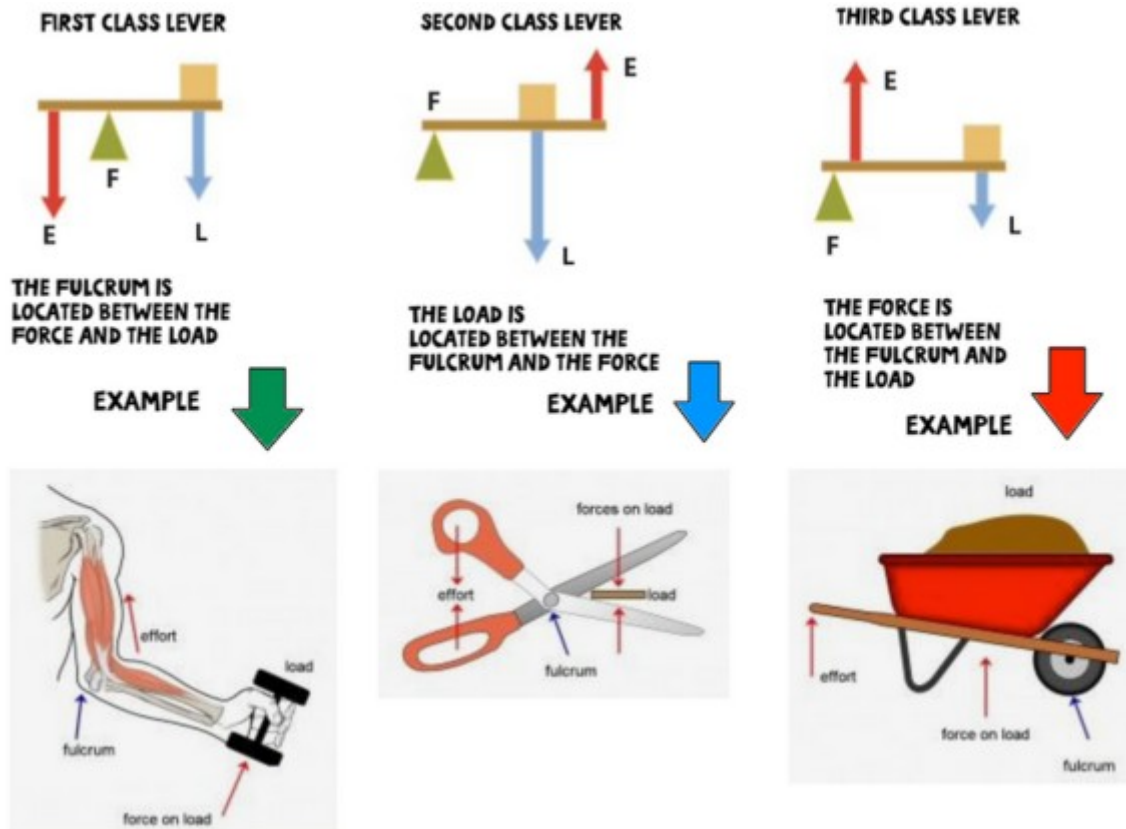
3 marks

Which of these is NOT a shell structure?

Eggshell snail shell roof truss ball skull

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This image refers to question: 7, 8



Question 7: True/False

2 marks

The three classes of levers are shown with correct examples.

TRUE

FALSE

Question 8: Multiple Choice

4 marks

The three classes of levers and correct examples are as follows:

A	1st class - scissors	2nd class - human arm	3rd class - wheelbarrow
B	1st class - wheelbarrow	2nd class - scissors	3rd class - human arm
C	1st class - scissors	2nd class - wheelbarrow	3rd class - human arm
D	1st class - wheelbarrow	2nd class - human arm	3rd class - scissors

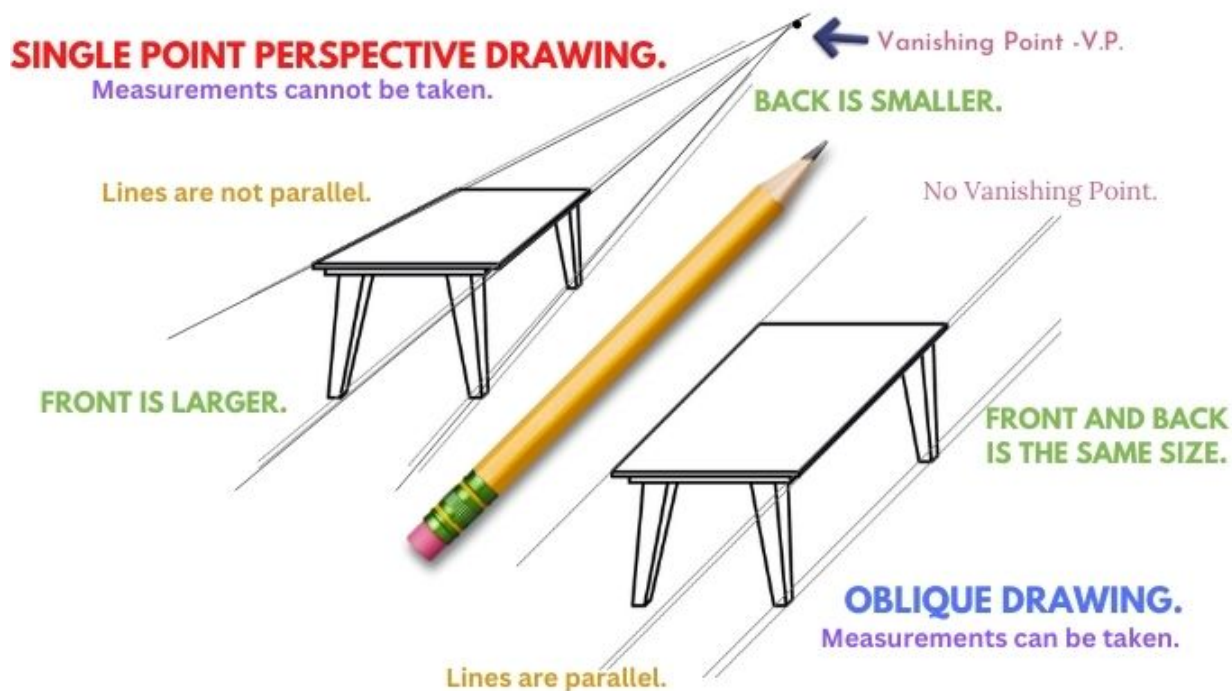
Question 9: True/False

2 marks

The Design Process (Investigate, Design, Make, Evaluate, Communicate – IDMEC) is the main part of all Technology projects.

TRUE**FALSE**

This image refers to question: 10

**Question 10: Multiple Choice**

4 marks

Which is not a feature of single-point perspective or oblique drawings?

- | | |
|----------|---|
| A | Lines are not parallel. |
| B | Measurements can be taken. |
| C | There are two vanishing points. |
| D | The front and back have the exact measurements because there is no vanishing point. |

This image refers to question: 11



Question 11: Text Input

3 marks

Which structure does not belong with the group of frame structures?

Note: Your answer must be one word only.

This image refers to question: 12



Question 12: Text Input

3 marks

What is the name of the category of structures shown in this image?

Note: Your answer must be one word only.

This text refers to question: 13

Technology

About 50 years ago, when your grandparents were children, nobody had cell phones. There were no television sets in South Africa. Also, most roads in South Africa were gravel roads. Tarred roads were only found in and around big cities. Most schools didn't have electricity either.

Two hundred years ago, the world was very different. Electricity had not yet been invented. People travelled on foot, on animals or in carts and wagons drawn by animals. Ships were powered by people who rowed or by sails which harnessed wind energy.

One thing many people do is develop practical solutions to problems so that people can have the things they want and need. To do this, people use their knowledge and skills. They also use tools and materials. When developing solutions to problems, people should try not to damage the environment and keep the needs and safety of individuals, families and communities in mind. **All of this together is called Technology.**

Question 13: Please Fill In The Blanks

8 marks

(1) did not exist in the world 50 years ago therefore people communicated with landline telephones.

Ships travelled around the world by using (2) energy to move the sails.

The (3) must be protected at all times when people develop technological solutions to their problems.

(4) is to develop practical solutions to problems so that people can have the things they want and need.

Possible Answers: Communication | Cell phones | Materials | Environment | Electricity | Wind | Technology | Television

1	
3	

2	
4	

Question 14: Multiple Choice

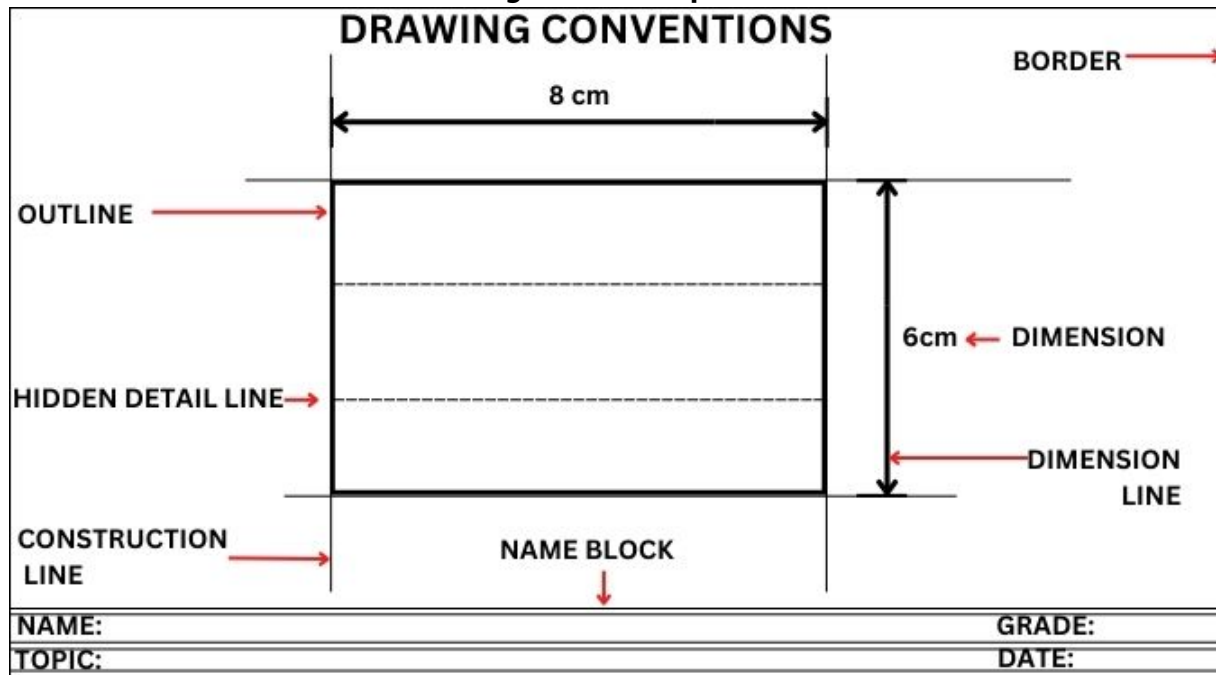
4 marks

Classify the following structures below as **shell, frame or solid structures**:

cellphone tower, human skull, brick, spiderweb, dog kennel, rocks.

A	Shell - human skull, dog kennel Frame - spider web, cellphone tower Solid - brick, rocks.
B	Shell - human skull, spider web Frame - dog kennel, cellphone tower Solid - brick, rocks.
C	Shell - human skull, dog kennel Frame - spider web, brick Solid - cellphone tower, rocks.
D	Shell - brick, spider web Frame - human skull, rocks Solid - cell phone tower, dog kennel

This image refers to question: 15



Question 15: Please Fill In The Blanks

8 marks

The (1) line is a dashed line showing an item not seen on the top of the drawing.

A (2) line has two arrows showing a measurement.

The (3) lines are very light in colour to provide a guideline for drawing.

The (4) details the person who made the drawing.

Possible Answers: name block | date | dimension | border | hidden detail | topic | construction | grade

1	
3	

2	
4	

Question 16: Multiple Choice

4 marks

Frame structures are built strong and stable by connecting the vertical, horizontal and diagonal members to create rigid three-sided formations that can withstand compression and tension forces.

A	Integration
B	Triangulation
C	Rectangulation
D	Amalgamation

Question 17: Multiple Choice

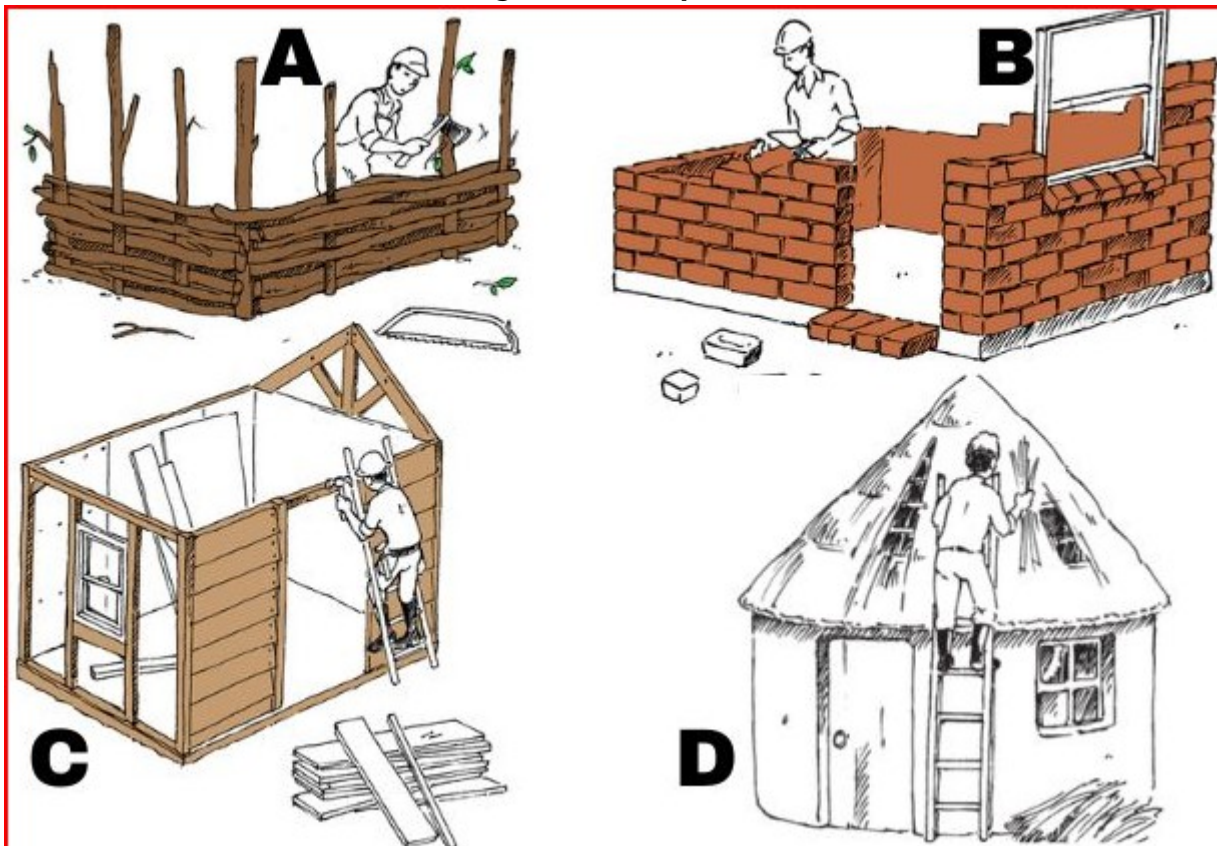
4 marks

Match these types of structures and examples:

A - FRAME 1 - BRICK
B - SOLID 2 - CAR
C - SHELL 3 - LADDER
D - COMBINATION 4 - BOTTLE

A	A2	B3	D4	C1
B	A3	B1	C4	D2
C	A4	B3	C2	D1
D	A1	B2	C3	D4

This image refers to question: 18



Question 18: Multiple Choice

4 marks

Match the building materials with the types of houses being constructed.

Bricks and cement Timber Mud and grass Tree branches and logs

A	A] Bricks and cement B] Timber C] Mud and grass D] Tree branches and logs
B	A] Mud and grass B] Timber C] Bricks and cement D] Tree branches and logs
C	A] Mud and grass B] Tree branches and logs C] Bricks and cement D] Timber
D	A] Tree branches and logs B] Bricks and cement C] Timber D] Mud and grass

Question 19: Please Fill In The Blanks

8 marks

The Jaws of Life mini-pat is a (1) system if it uses a liquid in the syringe.

The (2) piston forces the liquid through the thin plastic tubes connected to another syringe.

The system can (3) if there is a leak in the tubes or syringe.

The hydraulic system opens and closes the blades by moving the (4)

Possible Answers: fail | pass | levers | syringe | pneumatic | hydraulic | effort | investigate

1	
3	

2	
4	

Question 20: Text Input

3 marks

Which function of a structure describes a bridge over a deep river joining two places?

To **contain** or hold something and to keep it apart from other things.

To **protect** something so that it is not damaged.

To **support** something and hold it up.

To **span** the space between two objects so that they are connected.

Note: Only write the key word from the options below:

Contain protect support span

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Question 21: Text Input

3 marks

The fulcrum on a lever is also called a ...

Note: Your answer must be one word only.

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Question 22: True/False

2 marks

Oblique drawings are three-dimensional and have measurements for length, width and height.

Question 23: True/False

2 marks

Chicken and ostrich eggs are examples of **natural shell structures**. Soccer balls or balloons are **man-made shell structures**.

Question 24: True/False

2 marks

Mr Smith needs a table in his workshop. He asks you to go to Mr. John and ask him to make a table. Mr. John says, "You will have to give me more information. Tables are used for different things and can be different sizes and shapes. Please ask Mr. Smith to give me more information."

All technology projects start with gathering information, or it will not be clear what has to be done. This part of the design process is called *investigation*.

Question 25: Text Input

3 marks

Towers are designed so that they are stable, strong and rigid.

Something is **stable** if it does not fall over or collapse easily.

Something is **strong** if it does not break easily.

Something is **rigid** if it does not bend easily.

The opposite of rigid is ...

WEAK UNSTABLE FLEXIBLE

Note: Your answer must be one word only.

Question 26: Please Fill In The Blanks

8 marks

The description and measurements of what the project should look like are part of the (1) .

The notes you write about the project are called a (2).

The height, width and depth of the object are called the (3).

A real object is often several times bigger than a drawing of it. This is called the (4) of the drawing.

Possible Answers: drawing | specifications | evaluate | scale | design brief | colour | instrument | dimensions

1	
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2	
4	

Question 27: Text Input

3 marks

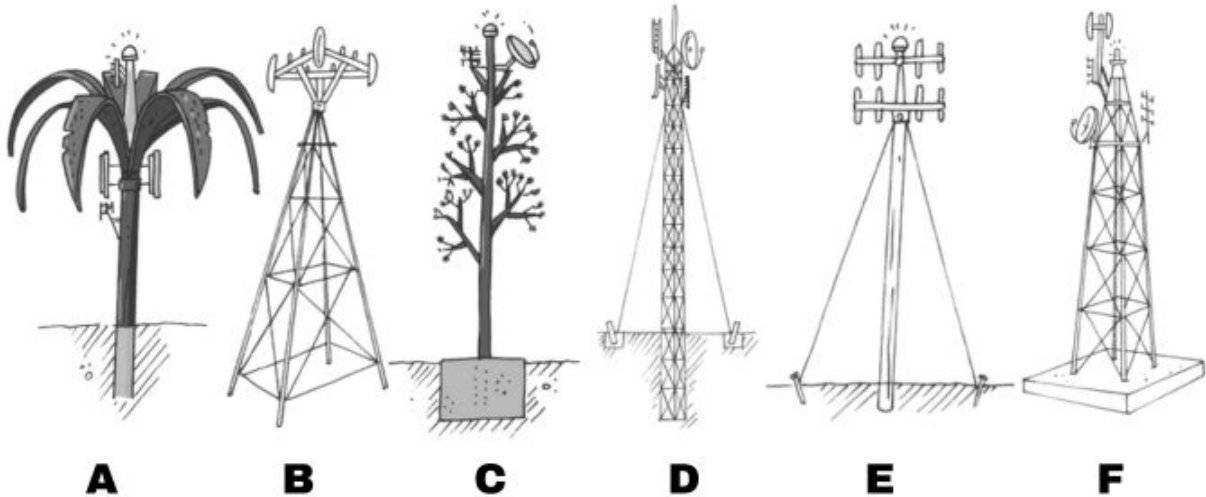
Which is NOT an example of a frame structure?

ladder spider web roof truss ball cage scaffold

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This image refers to question: 28

TYPES OF CELL PHONE TOWER STRUCTURES.



Question 28: Please Fill In The Blanks

8 marks

Steel cables, known as guys, hold the structures firmly down in (1).

The cell phone (2) are disguised as trees to blend in with the natural environment.

The concrete block foundation supports the weight of (3) .

(4) has a wider base and narrow top to balance the structure since there is no concrete foundation.

Possible Answers: towers A and C | tower B | tower C | tower D | tower E | tower F | towers D and E | towers C and F

1	
3	

2	
4	

Question 29: True/False

2 marks

A wheelbarrow with a load of sand in the middle is an example of a third-class lever.

TRUE	FALSE
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Question 30: Please Fill In The Blanks

8 marks

The (1) parts of a frame, such as a pylon, make it rigid and stable to prevent the structure from collapsing.

The outer (2) of a shell structure will protect the contents on the inside.

A bridge structure (3) the load or weight of heavy vehicles.

Structures such as webs, shells and trees occur (4) in the environment.

Possible Answers: supports | span | layer | protect | triangular | structure | naturally | environment

1	
3	

2	
4	

Total: 124 Marks