SMARTWIZ

GRADE 6 TECHNOLOGY EXAM

MARKS: 50

MARKS	

TIME: 1 hour 30 Minutes

SCHOOL _____

CLASS (e.g. 4A) _____

SURNAME _____

NAME _____

Instructions for Learners:

- Read all instructions carefully before beginning the exam.
- Write your name and student number clearly on the answer sheet or booklet.
- Answer all questions unless otherwise indicated.
- Show all workings/calculations where applicable.
- Write clearly and legibly.
- Use only blue or black ink. * Do not use correction fluid or tape.
- No electronic devices (such as calculators, cell phones, etc.) are allowed unless specifically permitted.
- Raise your hand if you have a question.
- Do not talk to other learners during the exam.
- Any form of dishonesty will result in disqualification.

This exam consists of 4 pages, including the cover page.

SECTION A: TYPES OF STRUCTURES (10 MARKS)

1. Tick the correct structure type for each example: (4)

Structure	Frame	Solid	Shell
A ladder	☐	☐	☐
A brick wall	☐	☐	☐
A soccer ball	☐	☐	☐
A metal tower frame	☐	☐	☐

2. Give one use for a **shell structure**. (1)

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3. Write down one example of a **temporary structure**. (1)

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4. What does a structure need to be **stable**? (2)

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5. What is the function of a **foundation** in a building? (2)

SECTION B: TECHNOLOGICAL PROCESSES (10 MARKS)

6. Match each process with the correct description. Write only the letter: (4)

Process		Description
A. Investigate	___	Finding out what the problem is
B. Design	___	Drawing and planning a solution
C. Make	___	Building or creating the solution
D. Evaluate	___	Checking how well the solution works

7. Why is it important to follow the design process step-by-step? (2)

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8. Rearrange the following into the correct design process sequence:
Make, Investigate, Evaluate, Design (1)

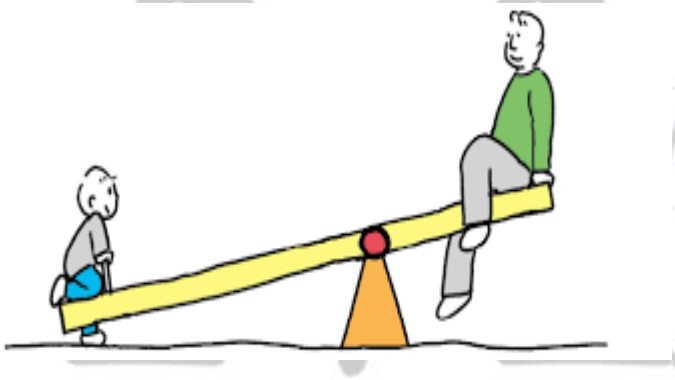
9. What do we call a drawing that shows how a product will look? (1)

10. What is one thing we include in a **design brief**? (2)

SECTION C: SYSTEMS AND CONTROL (15 MARKS)

11. What is a **lever**? Give one real-life example. (2)

12. Label the diagram of a first-class lever: (3)



- Load: _____
- Fulcrum: _____
- Effort: _____

13. Which class of lever has the fulcrum in the **middle**? (1)

14. Identify the **input**, **process**, and **output** in this example:
A person turns a handle to move water into a tank.

- Input: _____
- Process: _____
- Output: _____ (3)

15. Name any two examples of **systems** used at school. (2)

16. What is the purpose of a **gear** in a machine? (2)

17. Draw two gears that turn in opposite directions. Add arrows to show the motion. (2)

SECTION D: TECHNOLOGY IN OUR LIVES (15 MARKS)

18. List **two** ways technology helps in **communication**. (2)

19. How has technology changed the way we **travel**? (2)

20. Give two **positive** effects of technology on the environment. (2)

21. Give one **negative** effect of technology on people. (1)

22. Study the table below and answer the questions: (4)

Item	Old Technology	New Technology
Communication	Letter	_____
Transport	Horse and cart	_____
Lighting	Candle	_____
Music	Cassette player	_____

- Fill in the missing "New Technology" items.

23. Do you think technology always improves our lives? Give one reason for your answer. (2)

End of Exam
Total: 50 Marks

MEMO

SECTION A: TYPES OF STRUCTURES (10 MARKS)

1.

- Ladder – **Frame ✓**
- Brick wall – **Solid ✓**
- Soccer ball – **Shell ✓**
- Metal tower – **Frame ✓**

2. To protect or cover something (e.g., a helmet or a bottle). ✓
3. Tent / Scaffolding / Stage setup / Gazebo (any valid answer). ✓
4. A structure must have a strong base, be balanced, and built from strong materials. ✓✓
5. A foundation supports the structure and keeps it steady and strong. ✓✓

SECTION B: TECHNOLOGICAL PROCESSES (10 MARKS)

6.

- A. Investigate – Finding out what the problem is ✓
- B. Design – Drawing and planning ✓
- C. Make – Building the solution ✓
- D. Evaluate – Checking how well it works ✓

7. So the solution can be well-planned, tested, and improved. ✓✓
8. Correct sequence:
   Investigate → Design → Make → Evaluate ✓
9. A labelled design drawing or sketch / A design plan. ✓
10. The problem to solve or what the product must do. ✓✓

SECTION C: SYSTEMS AND CONTROL (15 MARKS)

11. A lever is a simple machine used to lift loads.
    Example: See-saw, crowbar, scissors. ✓✓
12.

- Load: One end of the beam ✓
- Fulcrum: The middle pivot ✓
- Effort: The other end (where force is applied) ✓

13. First-class lever ✓
14.

- Input: Turning the handle ✓
- Process: Moving water through pipes ✓
- Output: Water entering the tank ✓

15.

- Intercom system, alarm system, timetable system, school bell ✓✓

16. Gears transfer motion and change speed or direction in machines. ✓✓
17. Correct gear drawing with opposite arrows: ✓✓
    (One clockwise, one counter-clockwise)

SECTION D: TECHNOLOGY IN OUR LIVES (15 MARKS)

18.

- Cell phones, email, video calls, social media ✓✓

19.

- Cars, trains, planes allow faster travel and greater distances ✓✓

20.

- Solar panels reduce pollution
- Recycling technology reduces waste ✓✓

21.

- People become dependent on devices / Less exercise / More screen time ✓

22.

Item	New Technology
Communication	Cell phone / Email ✓
Transport	Car / Bus / Train ✓
Lighting	Electric light / LED ✓
Music	Smartphone / Streaming ✓

(Any modern equivalent accepted)

23. Open-ended, e.g.:
    Yes – It makes life easier and saves time ✓
    No – It causes pollution or addiction ✓

✓✓

✅ **Total: 50 Marks**