

BELGRADE PLC

TECHNOLOGY FINAL EXAMINATION

TERM 4

GRADE 7

NOVEMBER 2023

MARKS: 80

TIME : 90 MINUTES

LEARNER'S NAME AND SURNAME: _____

INSTRUCTIONS:

- This paper consists of three sections: Section A, B and C
- Read the instructions carefully
- Write neatly and legibly
- Answer all questions in the space provided on this question paper
- Check spelling and sentence construction carefully

SECTIONS	CONTENT	POSSIBLE MARKS	MARKS OBTAINED	MODERATED MARKS
A	TECHNOLOGICAL PROCESSES AND SKILLS	40		
B	TECHNOLOGICAL KNOWLEDGE AND UNDERSTANDING	24		
C	TECHNOLOGY, SOCIETY AND THE ENVIRONMENT	16		

SECTION A TECHNOLOGICAL PROCESSES/ DESIGN PROCESS**[40]****Question 1**

1. Choose the correct answer from the options provided.

1.1. A short circuit happens when...

- A. The circuit is open
- B. bare wires touch
- C. there is a loose connection
- D. the circuit is closed

(1)

1.2. A linear movement is.....

- A. Turning movement
- B. Up and down movement
- C. Backwards and forward movement
- D. Movement in a straight line

(1)

1.3. The body needs protein for...

- A. energy
- B. protection against disease
- C. good health
- D. growth

(1)

1.4. 2D working drawings form a part of the

- A. investigating process
- B. designing process
- C. making process
- D. communication process

(1)

1.5. An example of a third-class lever is...

- A. a tennis player hitting the ball
- B. a wheel barrow
- C. the lid of a suitcase
- D. a pair of scissors

(1)

1.6. A single vanishing point perspective drawing

- A. Project the corners at 4
- B. Is one in which the dimensions are written in centimetres (cm)
- C. Indicates the vanishing point towards the left, right or above the object
- D. Shows only two dimensions of an object

(1)

1.7. Which of these is an example of specification that would be included in a design brief?

- A. You have three hours for the task.
- B. The crane must include a pulley and a crank mechanism
- C. Take care when working with scissors.
- D. Work as part of a team.

(1)

1.8. Reciprocating movement is

- A. turning movement
- B. up and down movement
- C. movement in a straight line
- D. backward and forward movement

(1)

1.9. An example of an emergency caused by environmental deterioration is...

- A. civil war
- B. floods
- C. pollution from factories
- D. visual pollution

(1)

1.10. A metal that is not attracted by a magnet is ...

- A. carbon steel
- B. wrought steel
- C. iron
- D. copper

(1)

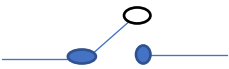
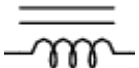
[10]

Question 2

2. 2. Match each electrical component symbol with the correct name from the second column.

Write the number and the letter of the correct answer.

(5)

Electrical component symbols	Name	Answer
2.1. 	A. Electromagnet	
2.2. 	B. Bulb	
2.3. 	C. Buzzer	
2.4. 	D. Single pole single throw	
2.5. 	D. Cell	

QUESTION 3:

1. Read the scenario given then answer the questions that follow:

An informal settlement during a fire

Shack dwellers face many problems. Fires are particularly dangerous. Shack fires kill many people every year. People in shacks use open fires and candles for heat and light. When a candle falls over or an open fire is not dampened down to kill all the flames, a fire starts. These fires spread very quickly because shacks are built too close to each other. There are also no proper roads in between the shacks. This makes it difficult for fire fighters to reach the fires in order to put the fires out.

Your local municipality has asked your class to design and make models of temporary shelters suitable for disaster victims to live in. The shelters must be:

- Lightweight
- Safe and sturdy
- Large enough to house a family of six for a month
- Easy to transport
- Easy to assemble
- Waterproof
- Suitable for all weather conditions such as wind and heat

When designing the shelter, keep the health and safety of the people who will use the shelter in mind.

Questions:

3.1. Identify the problem given in the scenario.

(2)

3.2 Who will benefit from the solution?

(1)

3.3 How will the solution help the municipality?

(2)

3.4 Write a design brief. Start your design brief by saying: I will be designing and making...

(2)

3.5. List 3 specifications and 3 constraints for the problem you have identified.

(6)

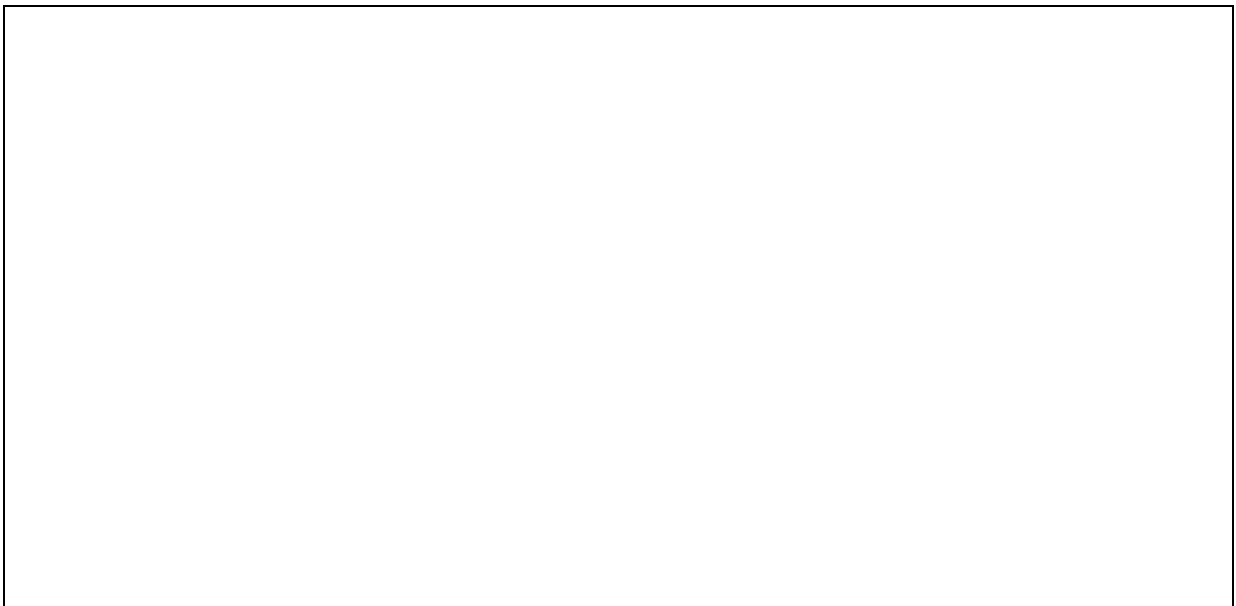
Specifications	Constraints
3.5.1.	3.5.4.
3.5.2.	3.5.4.
3.5.3.	3.5.6

3.6. What do you think can make a shelter unsafe?

(2)

3.7 Draw a circuit diagram with the following electrical components:

2 cells, 1 bulb, open switch and show the direction of current



(6)

3.8 Define the following terms:

3.8.1 Conductor

_____ (2)

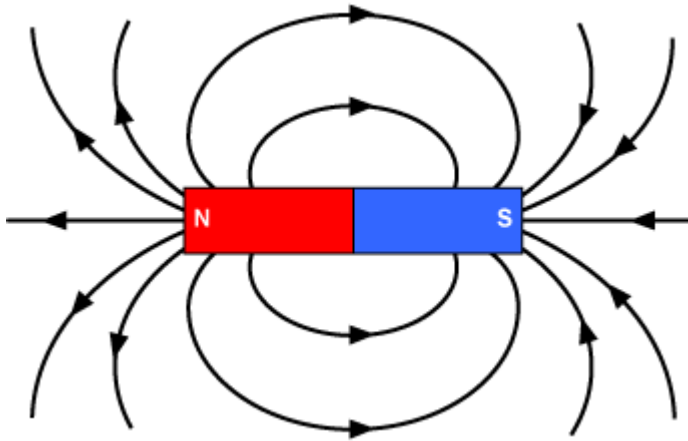
3.8.2 Electrical energy

_____ (2)

SECTION B: KNOWLEDGE AND UNDERSTANDING: [24]

QUESTION 4

4.1. Study the picture given then answer the questions that follow:



4.1. Name the two poles of the magnet shown

_____ (2)

4.2. What will happen when the red end of one magnet come close to the red end of another magnet?

_____ (2)

4.3. Explain the concept of a magnetic field.

_____ (2)

4.4. Define the following technological term.

Recycling: _____

(2)

4.5. Differentiate between the ferrous and non-ferrous metal.

(4)

4.6. Give any 4 recycling material that can be recycled at home.

(4)

4.7. Give the two differences between permanent and temporary magnets.

(4)

4.8. Explain how to store a magnet in order to keep it safe.

(2)

Section C: TECHNOLOGY, SOCIETY AND THE ENVIRONMENT: [16]**Question 5**

Read the following case study and the questions that follow:

The Simelane family left their farm after a devastating veld fire destroyed their home and all their crops. They are being housed in a temporary tented camp on the outskirts of the neighbouring town.

5.1. What is a refugee? (2)

5.2. Why would you not refer to the Simelane's as refugees? (2)

5.3. What do you call people who are in the same position as the Simelane's? (2)

5.4. What kind of disaster is a veld fire? (1)

5.5. When preparing foods to be supplied to a refugee camp, the conditions need to suit the people living in the camp. List 3 criteria to consider regarding food storage and/ or preparation.

5.6. Imagine you are a refugee in South Africa, name two problems you think you will face as a refugee.

5.7 List the four fire-fighting gear.

(4)

TOTAL MARKS: 80