

**Science and Elementary
Technology**

PSET

09/07/2024

09:00 AM – 11:00 AM



Pupil's complete index number

Province /City	District	Sector	School	Level	Pupil	Year
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Pupil's names

Surname:

Other names:

NB: PUPIL'S INDEX NUMBER AND NAMES
MUST BE WRITTEN AS THEY APPEAR ON THE
REGISTRATION FORM

PRIMARY LEAVING NATIONAL EXAMINATIONS, 2023-2024

SCIENCE AND ELEMENTARY TECHNOLOGY

DURATION: Two hours

Marks: /100

INSTRUCTIONS:

- 1) Do not open this paper until you are told to do so.
- 2) This paper has **one section**.
- 3) All questions are compulsory and must be answered as instructed.
- 4) Read each question carefully before answering it.
- 5) Answer the questions in the space provided in this question paper.
- 6) You must use a **blue** or **black** pen and a pencil for drawing.

SECTION A: ATTEMPT ALL QUESTIONS (50 MARKS)

- 1) Name any two agricultural cutting tools. **(2 marks)**

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.....

- 2) Give any two advantages of using simple machines in our daily life. **(2 marks)**

.....
.....

- 3) Explain two reasons why agricultural tools should be kept in a dry place.

(2 marks)

.....
.....

- 4) Match the following tools with their uses:

(2 marks)

Tools

Uses

a) Clamp

i) blow air into fire

b) Anvil

ii) Sharpening edge of metals

c) File

iii) Hold metal while being cut

d) Bellows

iv) Where red hot metals are bent and shaped

- 5) Classify the following masonry tools according to their usage: **(3 marks)**

Spade, Plumb line, trowel, spirit level, steel float, mortar mixer

Usage	Tools
Smoothing tools	
Leveling tools	
Mixing tools	

- 6) Name any one material that is be used to make toys and learning objects.

(1 mark)

.....
.....

- 7) Name any two materials used while making a magnet.

(2 marks)

.....
.....

8) State whether the following statements are **True** or **False**. (2 marks)

- a) You can make a toy watch from a manila paper
- b) One can maintain a doll by keeping it in a wet place.

9) As a learner who has been taught the importance of utility objects made of clay soil, suggest two benefits of such materials to people. (2 marks)

.....
.....

10) Select the best answer:

Solid water (ice) changes into liquid water by: (1 mark)

- a) wind
- b) heat
- c) cold
- d) rain

11) Complete each of the following sentences with an appropriate word from those given in the brackets. (3 marks)

- i) Air is a mixture of (liquids, gases)
- ii) The main greenhouse gas is (oxygen, carbon monoxide)
- iii) Air pollution may cause (tuberculosis, diabetes)

12) State whether the following statements are **True** or **False**. (2 marks)

- a) Polio is a water bone disease
- b) Rain is the main source of water.

13) Why is water considered to be very important in our daily life? Give two reasons. (2 marks)

.....
.....

14) Match the following Gases with their uses: (2 marks)

Gas	Use
Argon	Combustion
Carbon dioxide	Making fertilizers
Oxygen	Cooling process
Nitrogen	Lights bulb

15) Select components of soil from the following: (2 marks)

air, leaves, humus, manure, water

.....

16) Give two examples of recyclable wastes. (2 marks)

.....

.....

17) Complete the table below with types of waste and their examples. (2 marks)

Types of waste	Example
.....	Maize remains
Electronic waste
.....	Broken bricks, sheet remains
Biomedical waste

18) Farmers are encouraged to make terraces and plant trees in order: (1 mark)

a) to make the country beautiful.

b) to develop an area.

c) to reduce carbon dioxide.

d) to prevent soil erosion.

19) State whether each of the following statements is **True** or **False**. (2 marks)

a) A search engine is a software system where learners can search any kind of information.

b) You can search for information without internet connection.

20) Explain the two advantages of using e-mail in real life. (2 marks)

.....

.....

21) Match the following parts of XO Laptop with their use. (2 marks)

Part

Use

a) Camera

i) For displaying work.

b) Keyboard

ii) For switching on the computer.

c) Screen

iii) For taking pictures and videos

d) Power button

iv) For typing letters and numbers

- 22) Mention any two uses of a mobile phone. **(2 marks)**

- 23) What are the steps followed in creating a folder? **(2 marks)**




- 24) ICT contributes a lot to individual life as well as community lives. Give any two positive contributions. **(2 marks)**

- 25) Suggest one reason why farmers should feed well their chickens. **(1 mark)**

- 26) Mention any two reasons why we keep cattle in our country. **(2 marks)**

- 27) The Ministry of Health advises people to feed on at least one egg per week in order to fight against nutritional deficiency diseases.
 Do you agree with this statement or not? Justify your answer. **(3 marks)**

- 28) Identify the class of each of the animals in the table below. **(3 marks)**

Tilapia	Toad	Bat
		
.....

- 29) Give two examples of domestic animals which are vertebrates. **(2 marks)**

.....

30) Our Government administered the plantation of trees in all areas of Rwanda. Support this policy by giving reasons. **(2 marks)**

.....

.....

31) Match the following elements: **(2 marks)**

Parts	Function
Stamen	Female part of flower
Ovary	Produces ovules
Pedicel	Male part of flower
Carpel / pistil	Attaches flower to the branch

32) State any two uses of leaves to animals? **(2 marks)**

.....

.....

33) Choose the best answer. **(2 marks)**

After fertilization, the ovary develops into (seeds, fruits)

Asexual reproduction doesn't involve (ovary, gametes).

34) State any two importance of blood in the human body. **(2 marks)**

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.....

35) Identify any two consequences of smoking. **(2 marks)**

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.....

36) How do we call a special stage in human growth/development at which the first ejaculation occurs? **(1 mark)**

.....

37) State whether the following statements are **True** or **False**. **(2 marks)**

- i) The virus causing AIDS can be transmitted through sexual intercourse
- ii) Mosquitoes transmit the virus that causes HIV/AIDS

38) Apart from tasting, mention other two functions of the tongue. **(2 marks)**

.....

.....

39) Complete the following sentences: (2 marks)

- a) The longest bone of the human body is
- b) The place where two bones meet is called a

40) Match the following elements with their functions. (3 marks)

Type of muscles

Function

- | | |
|------------------------|--------------------------|
| a) Voluntary muscles | i) Automatic movements |
| b) Cardiac muscles | ii) Controlled movements |
| c) Involuntary muscles | iii) Heart beats |

41) How is family planning useful to our country? (2 marks)

.....
.....

42) Complete the sentences below with the correct words. (2 marks)

- a) The sacs that keep air are called
- b) The poison gas found in tobacco is

43) Establish the differences between white blood cells and red blood cells.

(2 marks)

White blood cells	Red blood cells

44) Match the types of teeth with their functions.

(2 marks)

Teeth

Functions

- | | |
|---------------|-------------------|
| a) Canines | i) Cutting food |
| b) Molars | ii) Chewing food |
| c) Incisors | iii) Tearing food |
| d) Pre-molars | iv) Grinding food |

45) Draw two magnets which prove that two opposite sides attract each other.

(2 marks)

46) How does electricity help in the conservation of the environment? **(2 marks)**

.....
.....

47) Match the following tools with their uses: **(2 marks)**

Tools	Use
a) Tester	i) cuts and holds wires
b) Rubber gloves	ii) prevents electric shock
c) Pliers	iii) Checks the flow of electricity
d) Screw driver	iv) drives screws

48) Identify the states of matter from the following list: ice, liquid, water vapors, solid, stone, smoke, gas, juice. **(3 marks)**

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.....
.....

49) Mention any two sources of renewable energy. **(2 marks)**

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.....

50) Describe any one property of light shown by the image of your face in a plane mirror. **(1 mark)**

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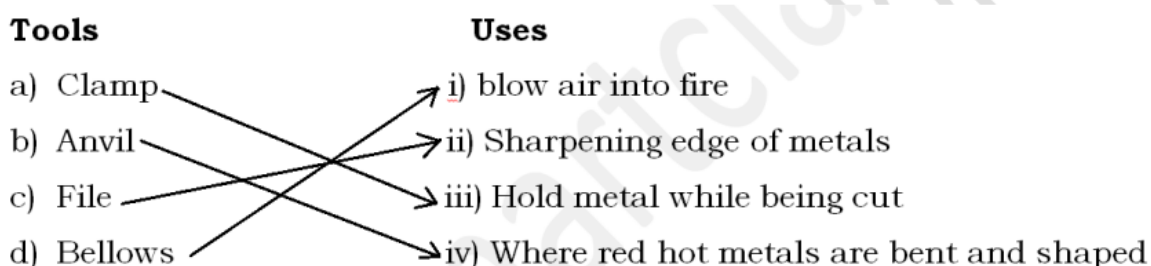
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MARKING GUIDE OF P6 SET NATIONAL EXAMINATION 2023-2024

- 1) Sickle, axe, machete, slasher
- 2) Simple machines help to make the work **easy**
 Simple machines help to increase the **yield**
 Simple machines help to increase the **efficiency of the work**.
 Simple machines are useful because **they reduce effort** or extend the ability of people to perform tasks beyond their normal capabilities.

- 3) Agricultural tools should be kept in dry places to avoid **rust**.

4)



5)

Usage	Tools
Smoothening tools	Trowel
Leveling tools	Spirit level
Mixing tools	Mortar mixer

- 6) Paper, clay, threads, needle...
- 7) Banana fibres, string, pair of scissors
- 8) a) True
b) False
- 9) They can be used for entertainment
 They can be used for playing
 They can generate income by selling them
- 10) (b) heat

11)

- i) Air is a mixture of **gases**.
- ii) The main greenhouse gas is **carbon monoxide**.
- iii) Air pollution may cause **tuberculosis**.

- 12) a) True
b) True

- 13) We use water in cooking
We use water in cleaning
We use water in growing crops
We use water in industries to produce juices and beer.
Water is used in transportation by ships...

14)

Gas	Use
Argon	Combustion
Carbon dioxide	Making fertilizers
Oxygen	Cooling process
Nitrogen	Lights bulb

- 15) Humus, air, water

- 16) Papers, plastics, metals

17)

Types of waste	Example
Biodegradable wastes or agricultural wastes	Maize remains
Electronic waste	Old DVD, television sets, telephones, computers and their parts.
Construction wastes	Broken bricks, sheet remains
Biomedical waste	Expired drugs, surgical dressings, plastic syringes and used gloves.

- 18) (d) To prevent soil erosion.

- 19) (a) True

19) (a) True

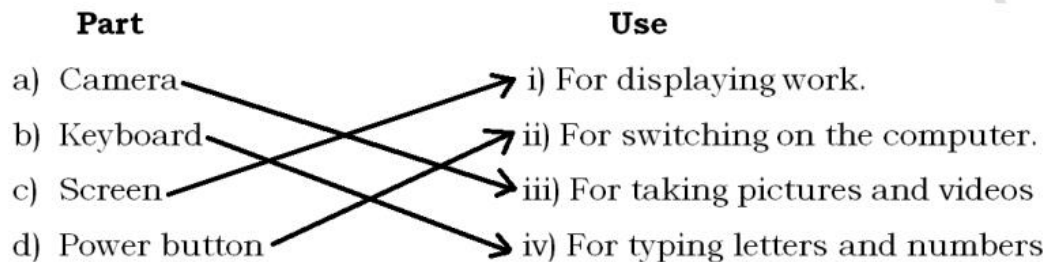
(b) True

20) We use e-mail for communication

We use e-mail to get information about friends and our relatives

We use e-mail to find jobs

21)



22) We use mobile phones for communication

We use mobile phones to pay services

We use mobile phones to get news

23) Right click on blank area of Desktop and the menu appears.

Click on option "New Folder" and the folder will be created on the Desktop.

Rename the new folder appeared on desktop as your choice.

24) For communication

To pay services

To get information

To get money through services

25) Farmers should feed well their chickens so that they can grow quickly.

Farmers should feed well their chickens in order to increase the egg-laying capacity of chickens.

26) We keep cattle to get food (meat)

We keep cattle to get milk


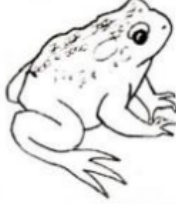

We keep cattle to get money

We keep cattle to get manure

27) I agree with this statement.

Reason: Eggs are a balanced diet that contains all food nutrients that can help in good health and in fighting against nutritional disorders.

28)

Tilapia	Toad	Bat
		
Fish	Amphibian	Mammal

29) Cow, rabbit, chicken, sheep, goat, ...

30) Trees help in the production of oxygen that we use in respiration
 Trees help to decrease the amount of carbon dioxide from the atmosphere, preventing global warming.
 Trees beautify the environment
 Trees attract tourists

31)

Parts	Function
Stamen	Female part of flower
Ovary	Produces ovules
Pedicel	Male part of flower
Carpel / pistil	Attaches flower to the branch

32) Leaves are food of animals
 Leaves produce oxygen that animals use in their respiration.

33) After fertilization, the ovary develops into **fruits**.
 Asexual reproduction doesn't involve **gametes**.

34) Blood transports nutrients
 Blood transports oxygen
 Blood transports antibodies
 Blood transports metabolic wastes
 Blood is involved in temperature regulation...

35) Smoking causes lung cancer
 Smoking causes chronic bronchitis
 Smoking causes emphysema
 Smoking increases the risk of stroke

36) Puberty

- 37) i) True
ii) False

38) The tongue helps in the digestion of food.
The tongue helps in speaking.

- 39)
a) The longest bone of the human body is the **femur**.
b) The place where two bones meet is called a **joint / an articulation**.

40)

Type of muscles

Function

- | | | |
|------------------------|---|--------------------------|
| a) Voluntary muscles | → | i) Automatic movements |
| b) Cardiac muscles | → | ii) Controlled movements |
| c) Involuntary muscles | → | iii) Heart beats |

41) Family planning helps in preventing malnutrition disorders
Family planning helps in promoting the good health of the mother.
Family planning helps the mother to get enough time to breastfeed her children.
Family planning helps in increasing the economy of the country.

42)

- a) The sacs that keep air are called **alveoli**.
b) The poison gas found in tobacco is **carbon monoxide**.

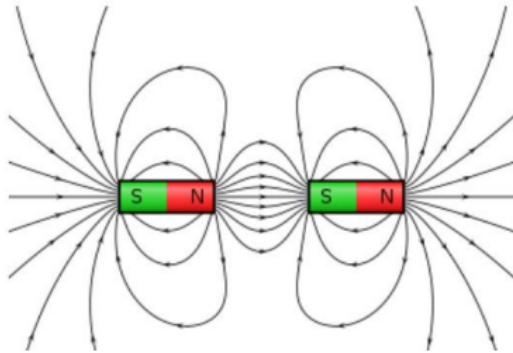
43)

White blood cells	Red blood cells
Help in body defence	Transport oxygen
Are less numerous	Are numerous
Have a nucleus	Have no nucleus

44)

Teeth	Functions
a) Canines	i) Cutting food
b) Molars	ii) Chewing food
c) Incisors	iii) Tearing food
d) Pre-molars	iv) Grinding food

45)



46) Electricity helps in the conservation of the environment because it doesn't produce gases which may contribute in the destruction of the environment. Most forms of electricity are renewable energy sources which cannot get exhausted and do not affect our environment negatively.

47)

Tools	Use
a) Tester	i) cuts and holds wires
b) Rubber gloves	ii) prevents electric shock
c) Pliers	iii) Checks the flow of electricity
d) Screw driver	iv) drives screws

48) Solid, liquid, gas

49) Sunlight, wind, water or hydroelectric power, energy from ocean waves, geothermal power, solar power, bio-fuels (trees which can be planted to replace cut ones).

50) The image has the same size as the face
The image is not real (is virtual)
The image is upright