

PACE - PREPARE A CHILD EXAMINATIONS COUNCIL
P.7 PRE-MOCK EXAMINATION SET 4 2025

# OFFICIAL MARKING GUIDE

INTEGRATED SCIENCE



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#### **SECTION A: 40 MARKS**

Answer **all** questions in this section Questions **1** to **40** carry one mark each.

- . State the role played by yeast in brewing alcohol.
  - **\*** Yeast produces zymase enzyme that speeds up fermentation.
  - **❖ Yeast speeds fermentation (***Reject yeast helps in fermentation***)**
- Give the way in which washing of hands after visiting a latrine helps to control the spread of germs.

#### It removes germs

Reject; It kills germs. Reason; the above practice lacks soap.

. Identify the type of false roots that enables plants that grow in water logged areas to survive.

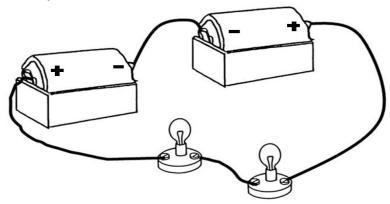
#### Breathing roots

. Name the crop management practice that reduces the weight of the crops.

# Pruning

- State **one** way in which a bee farmer makes use of a centrifuge machine.
  - For centrifuging honey
  - For removing (extracting) honey from honey combs.

A P.7 pupil connected two dry cells with bulbs and a wire as shown in the diagram elow. Use it to answer question **6** and **7**.



- State what happened to the electric bulbs.
  - They didn't produce light

Give a reason for your answer in (6) above.

## Poor arrangement of dry cells

Name the body part of a scorpion that serves a similar purpose as the spiracles of an insect.

## Book lungs

- State any **one** advantage of rearing crossbreeds of cattle over exotic breeds of cattle.
  - Crossbreeds of cattle are more resistant to diseases than exotic breed
  - Crossbreeds are more resistant to harsh weather conditions than exot breeds
  - The meat from crossbreeds is tastier than that from that from exotic breeds
- State the condition for germination in bean seeds that dissolves food nutrients the cotyledon for the growing embryo.

#### ❖ Water

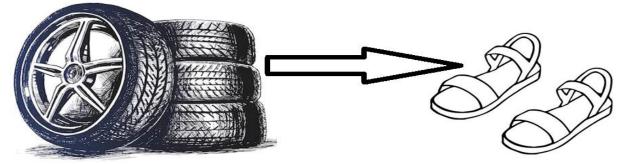
- A P.7 pupil wanted to ride a bicycle one evening but he realized that it was
  difficult for him to turn the bicycle pedals. Write one piece of advice you would
  give to the above pupil in order to solve the above challenge.
  - Lubricating moving parts of the bicycle (Oiling the moving parts of the bicycle, greasing moving parts of the bicycle)
- 2. Give a reason why a female anopheles mosquito cannot spread AIDS.
  - ❖ HIV is destroyed in the abdomen of the female anopheles mosquito

State the cause of wind in the environment. Differences in air pressure 4. Identify the practice done by people at home that encourages free air circulation in a VIP latrine. Leaving the squat hole open 5. Name any **one** substance that has the ability to sublimate. Mothball Naphthalene **❖ Fragrance ball (***urinal* Iodine Dry ice cake) 6. Mention any **one** quality of a good planting material. **❖** Free from crop pests Mature enough Free from diseases Have axillary buds Name any **one** vector that spreads typhus fever among people. Lice Fleas reject tick 8. State the reason for raising the legs of a fainted person above the head level when giving first aid to him or her. It encourages the supply of oxygen to the brain 9. During the health parade, a child was found with the following signs, itching of the skin, hair falling off the skin and round white patches on the skin. Identify the skin disease which the child was suffering from. Ringworm 0. Mention any one bad practice which the above child may have encountered. Body contact with infected people Sharing clothes with clothes, bedding, basins, towels, sponges etc. with infected people

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The diagram below shows a mode of waste management. Study and use it answer questions 21 and 22 correctly.



State the waste management practice shown in the above diagram.

## Recycling

- 2. Mention any **one** advantage of carrying out the above waste management practice in the environment.
  - It reduces the volume of wastes in the environment
  - It reduces bad smell in the environment
  - It reduces pollution in the environment

#### **Note**

# Recycling is important in different ways as follows;

- For making sandals from old car tyres
- For making saucepans from old metals
- For making knives and pangas from old metals
- For making kites from old papers
- ❖ For making farm yard manure
- For making hand bags
- For making fibre balls from old polythene bags
- 3. Name the method of extracting milk from the udder of a cow that involves squeezing of the teats in order to get milk with hands out of the udder of a cov
  - ❖ Hand milking

- 4. Give a reason why salt disappears when mixed with water.
  - ❖ Salt is soluble

reject; Salt is a solute

- 5. Give any **one** danger of teenage pregnancies to teenage girls.
  - They lead to school drop outs
  - They lead to forced marriages//early pregnancies
  - They may lead to death due to attempted abortion
  - They may lead to vaginal fistula
  - They may lead to stigmatization
  - They may lead to loss of family respect
- 6. Name the type of friction experienced by objects moving on solid surfaces.
  - Dynamic friction
- 7. State what happens to the density of water if its volume is reduced.
  - The density increases

The diagram below shows a root system. Use it to answer questions 28 and 29 orrectly.

8. Name the structures marked with letter **T** above.

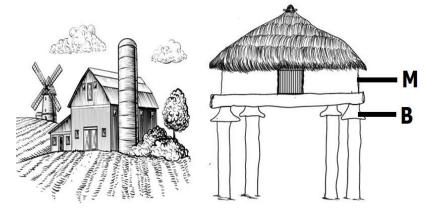
- Root nodules
- 9. State the way in which structures marked **T** are useful to plants.
  - ❖ They keep(store) nitrogen fixing bacteria
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- O. Mention any **one** cause of drug overdose among people.
  - Sweetness of the drug
  - Much fear of the disease
  - ❖ Ignorance about drug prescription
  - Self medication
- 1. Give a reason why displacement method is used to find the volume of a stone.
  - ❖ A stone displaces the amount of water equal to its volume

Reject; a stone is an irregular object

- 2. Name the group of plants to which a thallophyte plant undergo.
  - ❖ Algae
- 3. State any **one** reason why would you choose to use solar energy instead of wood fuel as a source of energy.
  - Solar energy produces cleaner work than wood fuel
  - ❖ Solar energy discourages the cutting of trees unlike wood fuel
  - Wood fuel does not produce smoke which pollutes air while wo fuel does.
- 4. Give a reason why moulds are able to develop on expired food.
  - Expired food has favourable conditions for the growth and survival moulds

he diagram below shows a food store found in some homes in rural areas. Use it to nswer number **35** and **36**.



- 5. Name the part of the store marked **M** above.
  - ❖ Wall ( Granary wall)

reject; granary

- 6. State any **one** adaptation of part marked **B** above to its purpose.
  - ❖ It is slippery to stop rats from gripping on it
  - **❖** It is steep and cone shaped to block the path for rats
- 7. Identify the source of food that undergoes asexual reproduction.
  - mushrooms
- 8. Mention any **one** way how the kidneys are useful to the human body besides excreting urine.
  - They balance the amount of water needed in the body
  - They control the level of salt in the body
  - ❖ They filter blood
  - They help in the production of red blood cells
  - ❖ They produce renin hormone which controls blood pressure
- 9. Mention the way in which whiskers are useful to a rabbit.
  - \* Whiskers help in feeling
- 0. Name the costless natural method of conserving food at home.
  - Sun drying

## **SECTION B: 60 MARKS**

Answer all questions in this section Questions 41 to 55 carry four marks each

- 1. Identify the cause of a short circuit.
  - ❖ Meeting of two naked electric wires carrying current to different directions.

- (b) State the way in which the function of a fuse is different from that of a switch as components of an electric circuit.
- **A** fuse breaks the circuit in case of too much flow of current while a switch breaks or completes the circuit.
- (c) Mention any **two** ways of preventing short circuits.
- Avoid pushing metallic objects into the socket
- Using properly insulated wires
- Using an expert to install electricity in a building
- Avoid overloading the sockets
- \* Replacing electric wires with damaged insulators
- ❖ Using fused electrical appliances at home
- Proper wiring of the building during electricity installation
- 2. (a) Give the meaning of the term **respiration**.
  - \* Respiration is the process by which the body uses food to produce energy/Break down of food with oxygen to produce energy in the bod
  - OR Respiration is the oxidation of glucose in the body to produce energy.
  - (b) The table below shows the percentage of different gases during inhalation and exhalation the air we breathe out. Study and complete it correctly

Gases	Inhaled air	Exhaled air
Oxygen	21	16%
carbon dioxide	0.03%	4%
Nitrogen	78	78%
Rare gases	0.97%	0.97%

- 3. (a) Give any **two** conditions in which bottle feeding may be recommended for babies.
  - When the mother has breast cancer

❖ When the mother has little breast milk

Death of the mother

❖ When the mother has HI\*

/AIDS

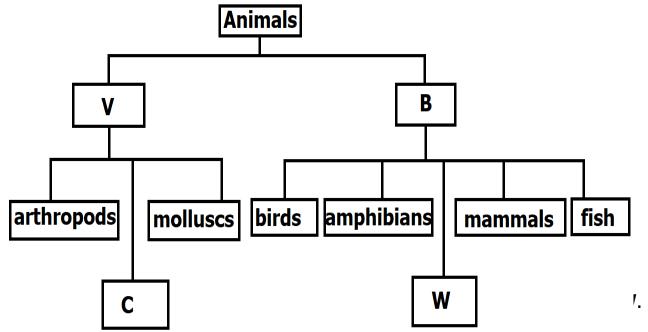
When the mother is away

Reject; when the mother has gone for work

- (b) State the reason why breast feeding is regarded as a natural family planning method in some women.
- **❖** Breast feeding delays the next pregnancy by delaying ovulation
- (c) Apart from breast feeding, give any **one** other condition when a woman cabe vulnerable.
- ❖ Sickness //Old age

- Pregnancy
- 4. (a) Name the physical process that forms nimbus clouds in the sky.
  - Condensation
  - (b). Name the type of cloud that;
  - (i) Resembles cotton piles in the sky. **Cumulus clouds**
  - (ii) Shows a clear weather.
- **Cirrus clouds**
- (c). Mention any **one** use of clouds in the environment apart from providing rainfall to people
  - Clouds protect people from direct sunlight

 The table below shows classification of animals. Use it to answer questions tha follow.



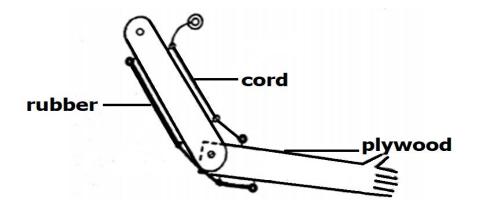
- (a) Name the groups of animals in the boxes marked with letters **V** and **W**
- (i) V Invertebrates
- (ii) W Reptiles
- (b) State the way in which animals in the box with letter **C** are different from fish in form of sensing sound waves.
  - Animals in the box with letter C use the skin for sensing sound waves while fish use a lateral line for sensing sound waves.
- (c) Name the type of skeleton animals in the box with letter **B** has.
- Endoskeleton
- 7. (a) Give the meaning of the term **crop rotation**.
  - Crop rotation is the growing of different types of crops on the san epiece of land seasonally (season after season)

- (b) Identify any **two** factors considered by crop farmers when designing crop rotation.
- Inclusion of legumes
- inclusion of cover crops
- Growing of deep rooted plants and shallow rooted plants interchangeably
- Crops in the same family should not follow each other
- (c) State the way in which cop rotation controls soil erosion in a crop garden.
- Crop rotation involves the growing of cover crops which protect the soil erosion.
- 8. **Transpiration** is the process by which plants lose water in form of water vapour to the atmosphere. It majorly takes place in plant leaves by the use of the stomata.
  - (a) Name the part of a stem in which the above process takes place.
    - Lenticels
  - (b) Explain how wind affects the rate of transpiration. (02 marks)
    - Too much wind increases the rate of transpiration while less wind reduces the rate of transpiration
    - (c) State any **one** way how transpiration may be a menace to the plant life.
    - Transpiration may lead to wilting of plants.
    - Transpiration reduces the crop yields
    - Causes reduced growth in plants
- 9. Identify the state of matter in which heat transfer by conduction is slowest.
  - Gaseous state/gas state/gases
  - (c). Give a reason for your answer in (a) above.
    - Gases have well-spaced molecules ( molecules of gases are furth apart)

(d). Name the kind of heat whose transfer does not a need a medium transmission.

#### ❖ Radiant heat

- (d) Mention any **one** way through which heat transfer by conduction is useful a hairdresser.
- \* For making hair straight
- For curling hair (styling the hair well)
- O. The diagram below shows the action of certain muscles in the body. Use it to answer the questions that follow.



- (a) What name the muscle represented by the,
- (i) Cord **Biceps muscle**
- (ii) Rubber **Triceps muscle**
- (b) State what happens to the rubber when the plywood is straightened.
  - The rubber contracts
- (c) Mention any **one** practice done by people to improve the efficiency of the skeletal muscular system.
- Maintaining proper body posture
- Doing regular physical exercises
- ❖ Feeding on a balanced diet
- \* Avoid playing rough games
- Going for regular medical checkups

- 1. (a) Give the meaning of the term **farm records**.
  - ❖ Farm records are written information showing different activities and transactions carried out at the farm.
  - (b) Mention any **two** forms of inventory records kept at the farm.
  - Number of hoes kept at the farm
  - Number of pangas at the farm
  - Date when some tools were bought
  - Type of feeders used at the farm
  - (c) State any **one** way how a farmers benefits from keeping farm record.
  - **❖** Farm records help a farmer to plan for the framers
  - They help farmers to get loans from the bank
  - They help farmers in decision making
  - They help farmers to know the profits and losses made at the farm
  - Farm records help farmers to know the income and expenditure
  - **❖** Farm records help farmers to tell the history of the farm
- 2. (a) Name the component of air used by plants to make plant proteins.
  - Nitrogen
  - (b) Mention any **one** way in which cattle farmers make use of the component air named in (a) above.
  - Cattle farmers use it to preserve semen
  - (c) State **two** differences between the exhaled air and inhaled air.
  - \* Exhaled air has more carbon dioxide than the inhaled air.
  - \* Exhaled air has less carbon dioxide than the inhaled air
  - Exhaled air has more water vapour than the inhaled air

- (a) One of the properties of matter is "matter exerts pressure". Mention any or other property of matter.
  - Air has weight

Air can be compressed

Air occupies space

- Air moves things
- (b) Mr. Julius Jasper wanted to do an experiment to prove that matter exerts pressure using the following materials. **Cold water**, **open bottle** and **charco stove**. Write three steps through which he underwent in order for him to get accurate results. (03 marks)
- Julius Jasper filled an open bottle with water and heated it
- When steam was formed, he covered the bottle tightly with the lid to keep vapour inside the bottle.
- He poured cold water on the bottle.

#### **Explanation**

The bottle crumpled/collapsed inside

**Reason**: The air pressure outside was greater than the air inside the bottle. Therefore, the air outside pushed the bottle inside and there was air inside to balance it.

**Conclusion**. This showed that air exerts pressure.

- (a) Mention the process through which seeds are scattered from a parent plant to other areas.
  - Seed dispersal
  - (b) Mention any **two** features that develop on some seeds in order to ease the above process.
  - Hard testa (coconut seeds)
  - Tuff of hair
  - Hooks/barbs (burdock) seeds)
  - Feather like structures
  - Parachute like

structure/plumes (dandelion seeds)

Wing like **structures(** *maple seeds* 

© 2025 PACE Examinations Board 0754 742 152/0786 616 884 (c) State **one** way in which plants makes use of the above process.

❖ Plants colonize new areas

**❖** It reduces competition for water, sunlight, sunlight and space

It prevents plants from extinction

It prevents plants from overcrowding of plants

55. Match the following deficiency diseases to their signs correctly.

**Deficiency disease** Signs

Scurvy Ox bow legs

Kwashiorkor Bonny face

Rickets Bleeding gum

Marasmus Swollen moon like face

Scurvy Bleeding gums

Kwashiorkor Swollen moon like face

Rickets Ox bow legs

Marasmus Bonny face

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