

## Department of Education - Western Province

### Year End Evaluation - 2013

669

### Grade 9 Science

Name / Index No : .....

Time : 2 Hours

#### Part I

- Answer all the questions underline the correct answer.

1. The first step in the scientific method is,  
i. problem ii. observations  
iii. formulating of hypotheses iv. conducting of experiment
2. A disease caused by bacteria is,  
i. mumps ii. amoebiasis iii. aluham iv. tuberculosis
3. Which are the following days in most suitable observe the sky?  
A. clouds free day  
B. day near new moon day  
C. day near to full moon poya day  
i. A and C ii. B and C iii. A and B iv. A, B and C
4. Which one of the following groups contain only the vector quantities?  
i. distance,time,velocity, displacement ii. time, velocity,displacement, acceleration  
iii. speed,velocity,displacement, force iv. velocity,displacement,acceleration, force
5. A vehicle traveled 100 m towards the East on a liner path. It turned back from that point and traveled for 75m toward west. What is the distance and Displacement traveled by the vehicle?  
i. 175m and 25m towards west ii. 175m and 25m towards east  
iii. 25m and 125m towards east iv. 25m and 175m towards west
6. The modern method for symbolizing elements was introduced by,  
i. J.J.Thomson ii. J.J.Bursilias iii. John Dalton iv. Dimithri Mendaleaf
7. There are brightest start also found in the constellations. Which one of the following constellations contain Betelgeuse star?  
i. Ursa Minor ii. Hunter iii. Ursa Major iv. Taurus
8. What is termed by Milky way?  
i. The path of stars which travel. ii. Is the name of a nebula.  
iii. Is the Galaxy of our solar system. iv. Is a constellation.
9. A particular element melted and burnt, with blue colour flame and released a gas with a characteristic smell, when it was introduced into a flame. This element is,  
i. Carbon ii. Magnesium iii. Iron iv. Sulphur
10. The quality certificate issued for maintaining of high standards of production in an organization is,  
i. E 300 ii. HACCP iii. ISO 9001 iv. SLS 36

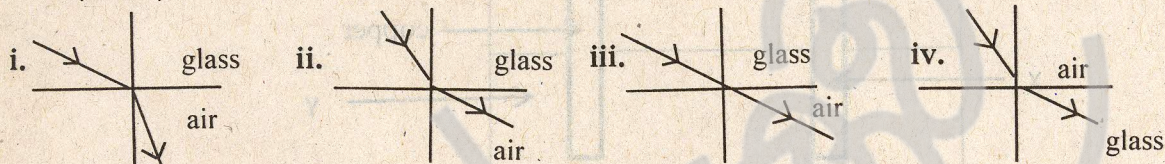


11. One nanometer is equal to,  
 i.  $10^{-7}$  m                      ii.  $10^{-9}$  m                      iii.  $10^{-12}$  m                      iv.  $10^{-6}$  m
12. Which one of the following is a homogenous mixture of solid state?  
 i. sugar solution                      ii. dilute Hydrochloric acid  
 iii. brass                      iv. mixture of Iron and sulphur powder

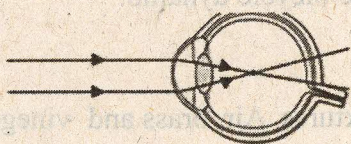
13. The inflorescence shown in the diagram is,  
 i. spike                      ii. spadix                      iii. raceme                      iv. umbel



14. Which one of the following is the correct ray diagram ?



15. Soldering lead is an Alloy. Which elements are the component of this,  
 i. nickel and chromium                      ii. copper and tin  
 iii. copper and zinc                      iv. lead and tin
16. Which one of the following answers contain natural composite materials only  
 i. concrete, coconut shells, rocks                      ii. ply wood, animal bones, muscles  
 iii. animal bones, rocks, coconut shells                      iv. Asbestos, coconut shell, paper
17. Which one of the following animals has a risk of extinction due to feeding of one type of food and loss of habitats?  
 i. sea horse                      ii. vampire bat                      iii. weaver bird                      iv. giant panda
18. Which eye defect is shown in the above diagram?



- i. short sightedness  
 ii. long sightedness  
 iii. impaired vision  
 iv. colour blindness
19. Alternative energy resources can be used as a solution for energy crisis, but those energy sources are not used widely because,  
 a. The cost of production is high.  
 b. High technology is needed to use.  
 c. They are environmental friendly.  
 The correct answer is,  
 i. a and b only                      ii. b and c only                      iii. a and c only                      iv. a, b and c only

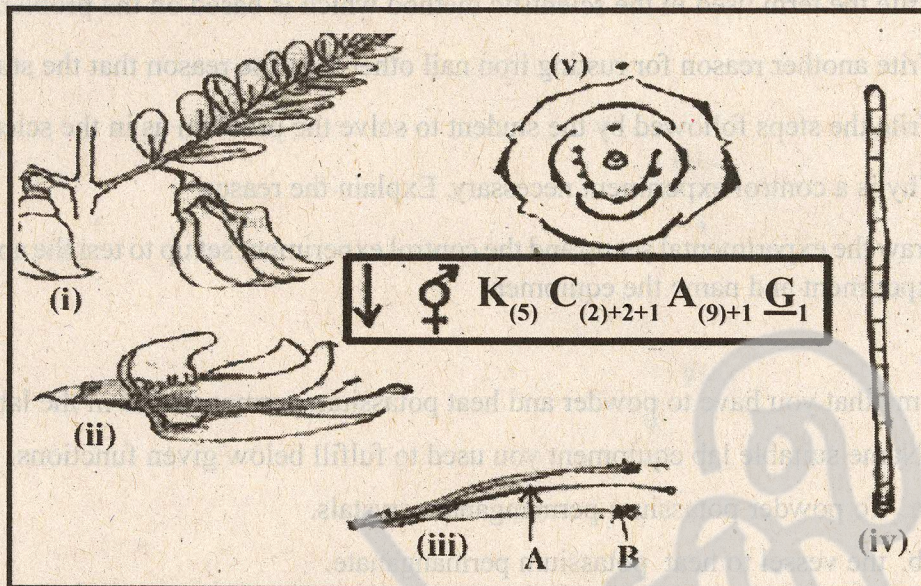
20. The incorrect statement regarding tsunami is;  
 i. Due to bursting of volcano under the sea, Tsunami can occur.  
 ii. The amplitude of a Tsunami wave increase with the depth of the sea.  
 iii. The velocity of Tsunami depend on the depth of the sea.  
 iv. Tsunami occurs frequently in the countries such as Japan and Indonesia.



## Part II

### • Answer the First question and four other questions

1. A) Given below is a poster done by a group of students who explores plant diversity.



- Name the flower shown in the poster?
- Identify, Structures A and B on the floral diagram (iii)
- Write 2 alternative methods that can be used for students instead of drawing parts of plants when designing a poster.
- Mention two things you found in the poster. Which are not included.
- Floral diagram is used to describe the structure of a flower. State one advantage of using a floral diagram.
- Mention one characteristic that can be expressed a floral structure, using a floral formula but not using a floral diagram.
- Write the floral formula of a flower including following information.

Zygomorphic, bisexual, 5 sepals are connected, Six stamens, Gynacium has 5 pistils which are connected to each other,

B)

Sowing seed paddy

Fulfilling in three months

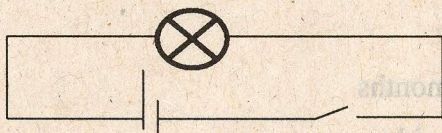
Waving a golden paddy

Passing away afterwards

- With regard to the poem What category does the paddy plant belong according to its life span?
- Write one characteristic of above mentioned plant group.
- Paddy seeds are propagated by animals. Name 2 other seeds which are propagated by animals and write one adaptation shown by each?



2. A nail inserted in a wall for a long time was removed by a student using a hammer. The part outside the wall rusted more than the part of the nail inside. The student thought that this difference took place as outside exposure to more moisture in the air.
- Write the main problem arose due to his observation
  - Write the term used in the scientific method which is based on the problem
  - Write another reason for rusting iron nail other than the reason that the student suspend
  - Write the steps followed by the student to solve the problem as in the scientific method
  - Why is a control experiment necessary. Explain the reason
  - Draw the experimental set up and the control experiment set up to test the above mentioned experiment and name the equipment
3. A) Assume that you have to powder and heat potassium permanganate in the laboratory.
- Name suitable lab equipment you used to fulfill below given functions.
    - To powder potassium permanganate crystals.
    - the vessel to heat potassium permanganate.
    - to provide the heat.
  - Well heated potassium permanganate is dissolved in water and got the solution filtered. Write the colour of the solution you got.
- B) We use various equipments to measure electricity in the laboratory.
- Name the equipment used to measure following measurements.
    - Electric current
    - Potential difference
  - Mention the symbols for the above given 1 equipment respectively.
  - Draw a circuit to show the flow of current through the bulb and to find out potential difference at the two terminal of the bulb using the above mentioned equipment.

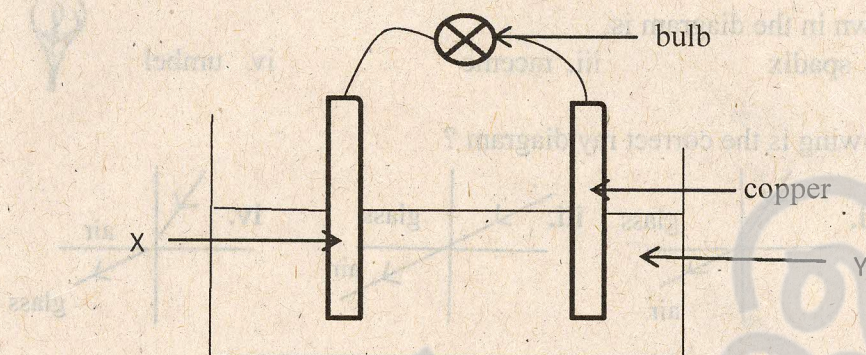


- Mention the units of measuring voltage and current in order.



4. A) Dry cells are used by Sri Lankans in many homes.
- Write the type of cell that dry cells belong.
  - Write the energy transformation in dry cells.

B). Below given is a diagram of a simple cell.



- Name X and Y
- Write two observations you make, few minutes after you prepare this set up.
- Name positive (+) and negative (-) terminals.
- State one disadvantage of this cell.

C) Bicycle dynamo is a source of electricity. There is a difference between the electric current generated by the bicycle dynamo and dry cell.

- Name the electric current generated by the bicycle dynamo.
- Write the strategies to generate more energy from the bicycle dynamo.

5. A). Non-pure forms of states of matter are known as mixtures. Air, brass and vinegar are few examples for mixtures.

- Find two homogeneous mixtures among above mentioned mixtures.
- Write two basic characteristics of a solution.
- Mention the solute and the solvent of one of the above mentioned solutions in order.

B). When a drop of Iodine is added on to a boiled potato it becomes blue black colour.

- What is the conclusion you obtain by observing it.
- What can you observe after applying an equal quantity of Sudan iii in to a test tube containing same amount of margarine.
- Soya beans are rich in proteins. Write the steps you follow when investigating the presence of protein in food in the laboratory.



6. A) A student who placed a piece of quick lime into a water beaker said that the temperature had increased in the beaker. Then he poured the mixture in to a glass bottle to observe it the next day. The following day he saw lime powder had been deposited at the bottom of the test tube and solution had become colorless. He took a small amount of the solution to a test tube and sent exhaled air through it. Then colorless solution converted into milky colour.
- Mention two situations where chemical reactions took place according to the passage.
  - Write one evidence for each chemical reaction that took place mentioned above
  - Name the colorless solution remained in the above deposited lime powder
  - What is the constituent in the exhaled air which turned colorless solution into milky colour.
- B) Nano-Technology is considered as the 5<sup>th</sup> industrial revolution
- Write 2 fields that Nano-Technology is used
  - Write two harmful effects of Nano-Technology
  - Write the name of the natural mineral in Sri Lanka which is used to make artificial bones
7. A). The Grade 9 Students were divided into two groups and they were supplied the following goods.
- Group P - a twine thread, plain mirror, a protector,
- Group Q - a glass block, a white paper, a laser torch
- After giving necessary instructions to the groups, they were advised to observe the behaviour of light using the plain mirror and the block of glass
- What are the behavioral patterns of light observed by group Pand Q students?
  - Name an equipment used in the medical field according to the observations done by group P. Name these two laws.
  - Draw a diagram to indicate the path of light beam according to the observations done by group Q
  - In the auditoriums, it is difficult to hear the sound reflection. Name two strategies to avoid this situation
  - When a person produces sound it goes to a certain object and reflects back to the person. It takes 0.4 seconds. Calculate the distance between the person and the object (The velocity of air is  $334\text{ms}^{-1}$ )