PTE MOCK EXAM 2019

2012 SCIENCE

MARKING SCHEME

1. a). By the end of the lesson, the learner should be able to observe and identify parts of a fish/record by drawing and label parts of a fish
   b).- variation of teaching methods/approaches
   - Involvement of pupils in collection of materials
   - Involved learners working in groups
   - Lesson was taught practically

   c).- asking chorus answer questions
   - Lesson took longer than allocated time for the science lesson
   - Visit had not been discussed with the pupils (rj topic)
   - Taking away of specimen to his house
   - Pupils should have been allowed to draw the parts of the fish as they observed

   d). chalk board summary

STD 4 (1/2 mark)	**SCIENCE**	
New words(1/2) Fins Operculum Gills	PARTS OF A FISH	ILLUSTRATIONS 

   e). not to drink water from the dam
   Not to play near the dam
   Not to throw things into the dam **any two**
   Not to make noise around the dam
   Not to feed the fish

2. (a) chameleon changes its colour as an adaptation to protect it from its enemies
   b). refraction- rays of light bends as it passes from water to the air
   c). Evaporation – this process of evaporation needs heat which is taken from the body hence the cold sensation
   d). density: objects which float and sink
   Small metallic ball completely immersed in water sinks because weight of water displaced is less than the weight of water, its own volume of water whereas a ship displaces water equivalent to it's own weight
   e). expansion – metals expand when heated hence gaps are left to allow for expansion so that the railway line does not bend

3. i). A. P.E

B. K.E

C. P.E

ii). Between AB PE ----------K.E

BC KE ---------- PE

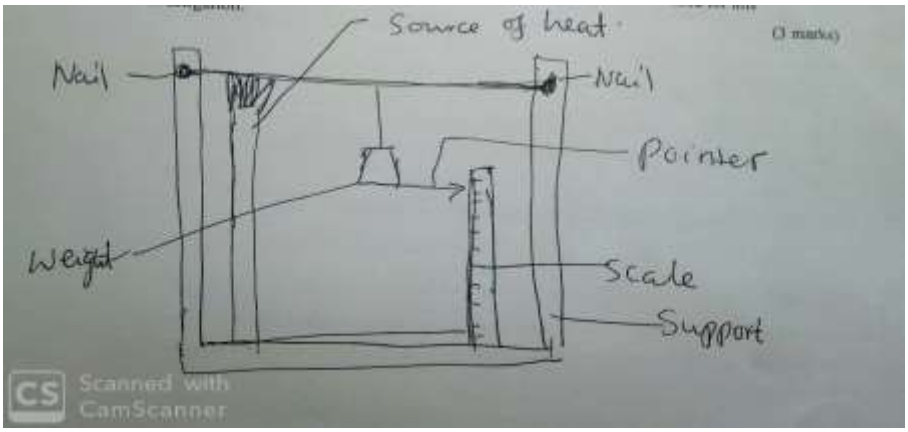
iii).- Thickness of the string

- Length of the string
- Angle of release of the bob
- Weight of the bob

iv). Because of friction between it and the air/air resistance

4. a). By the end of the lesson, the learner should be able to state that solids expand when heated and contract when cooled

b). i).



ii). - Not to touch hot wire with bare hands

- avoid contact with source of heat

iii). - A wire is tightly fixed with nails across the support

- a weight suspended from wire carries a pointer which can move against a scale
- heat is gently applied on the wire and pointer observed
- When the nail is heated it expands, the weight sags moving the pointer downwards along the scale. When heat is withdrawn, the nail cools, contracts, straightens and weight moves up with the pointer

c). – manipulating

- observing (any two)

- Recording

d). - gaps are left between metal rails so as to allow room for expansion to avoid buckling/bending

- electric cables/wires, telephone wires are left slightly sagging if laid in a hot weather/tight in cold weather to allow for expansion and contraction

5. a). – Durability

- Safety when in use

- Workability

- Suitability of materials/choice of materials

b). i) key C

ii) Ability tested = application of knowledge

c). which of the following metal rusts/which one of the following is a magnetic material?/the following are non- magnetic materials **except**

d).- scientifically correct

- Almost same length as the key
- Closely related to the key/plausible

e). - it enables the test developer to cover all content

- It enables test developer to cover all mental abilities/cognitive skills

6.a). i) Good conductors:- iron, Aluminum, copper- any metal

Bad conductors:- rubber, plastic, glass, wood, paper

ii). Pupils placed various materials one at a time across the terminal and B to close the gap. Observe and record. If the bulb lights, the material is a good conductor: if it does not light, then it is a bad conductor.

iii). Assign tasks to all pupils

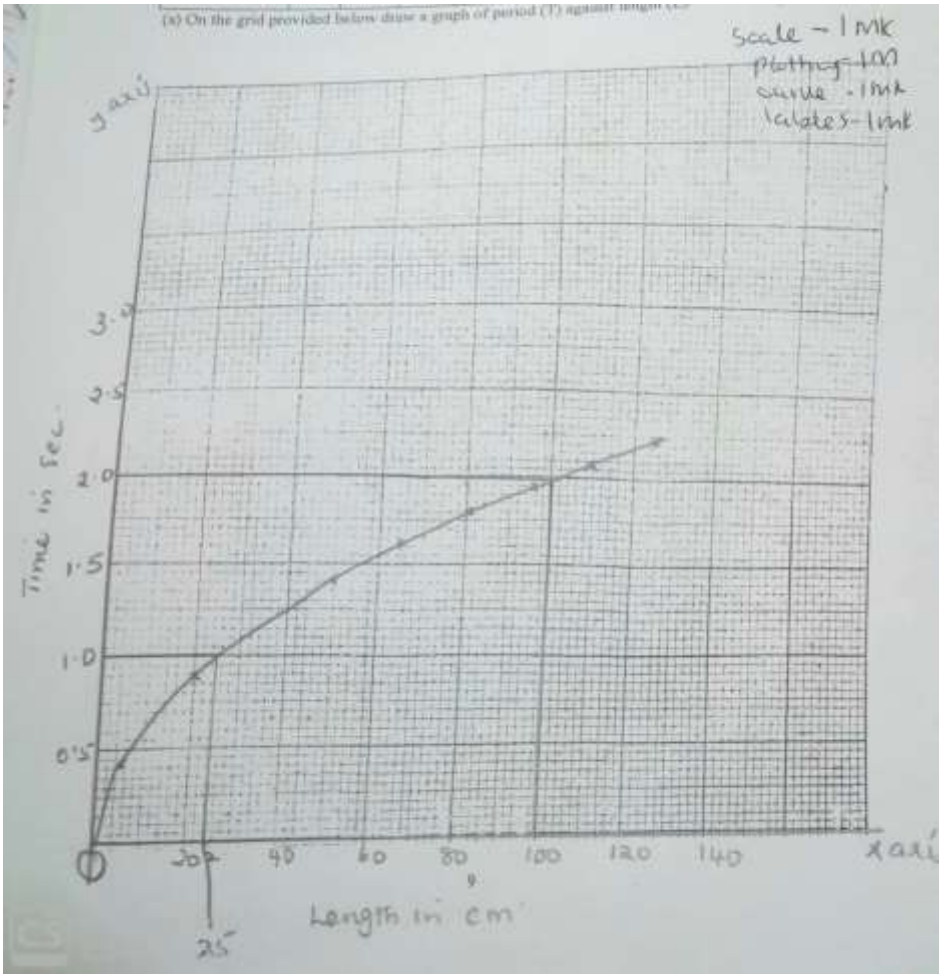
b). - scientific skills are not developed

- Little or no knowledge is retained

- boring for the learner/passive

- hinders creativity and discovery.

7.



b). i).25cm $\pm$ 1

ii). 0.20 seconds $\pm$ 0.02

8.a).i). Installing tanks/dams

ii) Dams

b). - migration of animals

- Appearance of butterflies/crickets/fireflies
- crocking of frogs
- streaming of safari ants

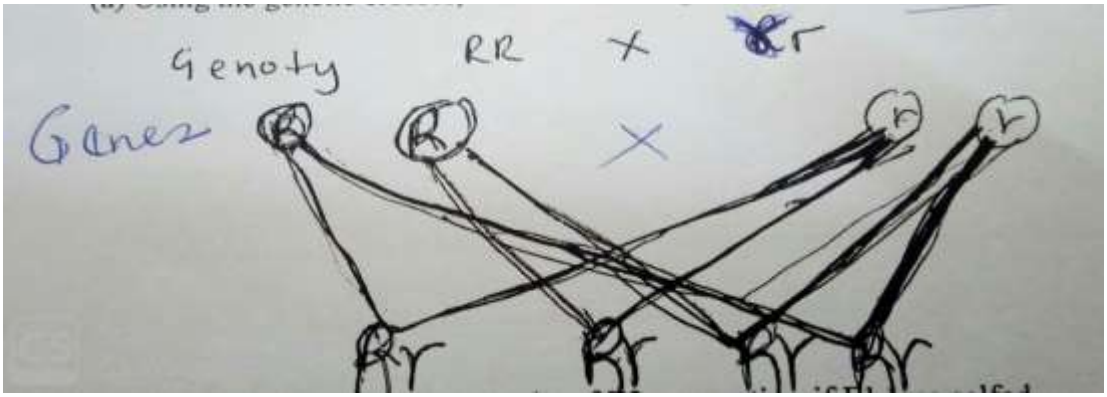
9. a) i). P = Dilute Hydrochloric acid *Reject Hydrochloric acid*

Q= Calcium Carbonate/any soluble Carbonate. *Accept Marble chips*

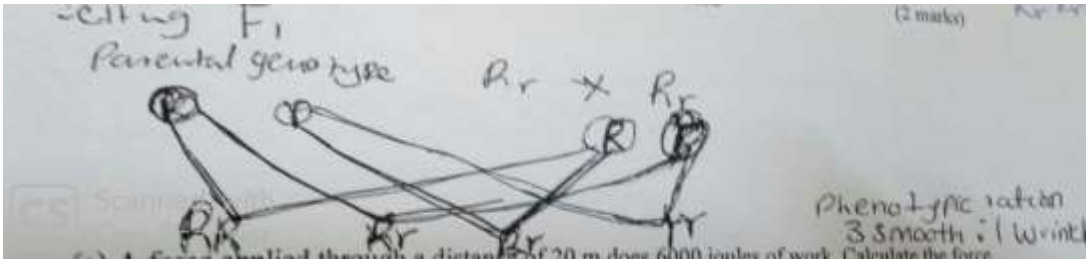
ii). Anhydrous Calcium Chloride

b). Down ward displacement of air because the gas is denser/heavier than air

10. a).



b).



11. a). Work = force X distance= 600J since 1J= 1Nm,

Force = 600Nm/20m = 300 N

b). by increasing the effort distance

12. a). When the string is pulled down, volume increases but pressure in the bell jar decreases hence atmospheric pressure forces air in

b). i) to trap the wind and stretch the sock

ii). Water remains warm due to the reduced/low evaporation rate: through the pores on the surface of the pot.

13. a) Egg → Nymph → Adult

b). i Antennae/feelers

ii Ovipositor

c). i). G-------- Posterior Vena-cava

H -------- Bicuspid valve

ii).- Coronary artery

- Tricuspid valve

14. a) cork – prevents heat loss or heat gain through conduction

b). double glass wall – prevents heat loss or gain through conduction as it a poor conductor

c). silvered surfaces – prevents heat loss or gain by radiation

d) – Vacuum – prevents heat loss or gain by convection and conduction

15. a) i).- wind- small and light

- Wing-like /parachute shaped/feathery

ii). Edible, succulent, fleshy; brightly colured pericarp

- Scented
- Hard indigestible coat, have hooks or spine

b). i- adhesion force between water molecules and glass molecules is stronger than cohesion forces between molecules of water

ii – cohesion force between Mercury molecules is stronger than adhesion force between mercury and glass molecules