**A.C.K NAMBALE DIOCESE EXAMINATIONS**

**BIOLOGY 231/3**

**(PRACTICAL)**

**NOVEMBER 2021- 13/4HOURS**

**MARKING SCHEME**

1.(a)(i) A white precipitate formed

(ii) Exhaled air contains carbon (IV) oxide which reacts with calcium hydroxide to form a white precipitate (Calcium carbonate)

1. Calcium hydroxide + Carbon (IV) oxide Calcium carbonate + Water

Or

2CaOH +CO2 2CaCO3+H2O

1. – Water/Moisture

* Heat energy
* Oxygen, Nitrogen + rare gases (name all)

1. Alveolus Bronchioles Bronchus Trachea

- (Each ½ mks x 4 =2mks)

-Correct order

(b) (i) -Has broad lamina to increase surface area for gaseous exchange

- Has thin lamina to increase rate of gaseous exchange by reducing diffusion distance

- Has cuticle for gaseous exchange

(ii) -Sub-division: Angiospermae/Angiosoermaphyta/Angiospermatophyta

* Class : Dicotyledonae

2.(a) (i) – No colour change/Iodine colour persists

(ii)Starch absent/Don’t store starch

1. (i) Colour changes to purple/violet

(ii)Proteins present/stores proteins

1. – is epigeal germination

-The Hypocotyl grows faster/more rapidly than the epicotyl

-This pulls the cotyledon and plumule out of the soil

(d)(i) –Oxidise food/glucose to provide energy for germination

OR

-Oxygen is used in respiration to provide energy for germination

(ii) –Hydrolyse stored food

-Activates germination enzymes

-Provides medium for biochemical reactions

-Softens testa to allow emergence of plumule/radicle

(iii)-Food storage.

-Protects plumule and radicle from mechanical damage.

-May photosynthesise in seedling

3. (a) K- Thoracic Vertebrae

L- Humerus bone

(b) (i)

(ii) –Has a long neural spine to increase surface area for attachment of muscles.

-Has tuber facets to articulate with ribs

-Has a large centrum to supper more height

(c) K-Thoracic /chest region

L-Fore-limbs

d) (i)-Scapula

(ii)Radius and Ulna bone

(e) Ball and Socket joint