**TERM 2-2022**

**BIOLOGY (MARKING SCHEME)**

**FORM FOUR**

**TIME: 2 HOURS**

**PAPER 1**

Name………………………………………………………………… Adm No………………………………..

School…………………………………………………………………. Class…………………………………….

Signature……………………………………………………………….. Date………………………………………

FORM 4 BIOLOGY PP1 (231/1) MARKING SCHEME

1. Knowledge on its cause; Knowledge on how the virus spreads; Increased knowledge on how to control the spread/containment measures; development of vaccines; global cooperation in research/fight against the virus; Mark 1st 2
2. a) Formation of Spindle fibers; Formation of flagella/cilia;

b) Plantae; Monera;

1. a) Melanin

b) Albinism;

c) Absorbs UV/Ultraviolet rays;

1. a) Eutrophication/Enrichment of water by pollutants;

b) Higher concentration of Carbon (IV) Oxide; thus higher rate of photosynthesis;

 Conducive/Optimum temperatures; thus faster rate of metabolism\Activated enzymes;

1. Exclude dust/contaminants; Prevent dehydration; Hold specimen in position; OWTTE
2. a) Thicker muscular wall;

b) Mammalia; Aves;

c) Contract without nervous stimulation/Initiate contraction on their own;

1. a) To prevent oxygen utillisation for efficient transport;

b) To Create conducive/optimum temperature for sperm formation/ spermatogenesis;

1. a) Has endocrine and exocrine function/Forms both/ hormones and enzymes;

b) Islet of Langerhans;

1. a) A;

b) Sucrose solution is hypertonic; thus it gains water molecules by osmosis;

 **Accept:**  Water is hypotonic; thus water molecules move into the dialysis tubing by osmosis;

1. a) Poikilotherm; **Accept** Ectotherm/Ectothermic/Poikilothermic **Rej** cold blooded

b) Can live in any habitat; Is More active both day and night;

1. a) Wind

b) Long filament; Anthers hanging outside; Feather/Net-like stigma; Smaller bracts to allow the stigma/anthers to be exposed to wind;

1. a) Only X chromosomes are involved;

b) Non-disjunction;

c) i) Turner’s Syndrome; ii) Klinefelter’s Syndrome;

1. a) Remove Oxygen;

b) % of CO2 =[(7cm3 – 6.8cm3) X 100] ÷ 8cm3; Deny if Units Omitted

 = [0.2 cm3 X 100] ÷ 8cm3

 = 2.5%; Deny if % symbol missing

c) Exhaled air;

1. a) Cotyledon is found below the ground surface; elongated epicotyl;

b) Decreases; since stored nutrients are hydrolyzed to facilitate growth/germination/cell division;

1. 3cells measure 1.5mm

Therefore 1 cell will measure?

= (1cell X 1.5mm)/3cells; =0.5mm Deny if Units Omitted

Magnification = image length/actual length

Thus Actual length =image length/magnification

 =05mm/1000; Deny if Units Omitted

 =0.0005mm; Deny if Units Omitted

1. a) Release lytic enzymes; that Neutralize secretions/destroy/digest vitelline and cell membrane for entry of sperm head into the ovum;

b) Waft/push the ovum/zygote/blastula towards the uterus;

1. a) Structures that have lost function thus become smaller;

b) Development of necessary adaptations; to survive a give habitat/conquer different habitats;

1. ai) D-Telophase; ii) E-Anaphase

b) Laying of a Cell plate/Cellulose deposits to separate the daughter cells; Centrioles/Spindle fibers are not involved/seen;

1. a)



b) Differences

|  |  |
| --- | --- |
| **R** | **X** |
| Unipolar | Multipolar/Bipolar; |
| Has Myelin Sheath | Lacks Myelin Sheath; |
| Has Nodes of Ranvier | Lacks Nodes of Ranvier; |
| Has Schwann cells | Lacks Schwann cells; |
| Long Axon | Shorter axon; |

Award the 1st 2

1. i) **Cardiac sphincter muscles**: Relaxes to allow entry of food/food bolus into the stomach/Prevent exit of food from stomach to oesophagus/gullet;

ii) **Erector Pili Muscles**: Contracts and relaxes to make the body hairs straighten or lie flat on the body;

1. a) Low/dim; *Accept* darkness;

b) Etiolation;

c) Increase productivity of Dwarf plants;

1. a) Photosynthesis;

b) Secretion of myelin sheath;

c) Nourish young sperm cells; point of attachment of sperm cells as they develop;

1. a) Place 2ml of her urine in a boiling tube

Add Equal amount/2ml of Benedict’ solution;

Boil;

Green/Yellow/Orange/Brown colour change would show a positive test/result;

 b) It may be digested (since it is protein in nature);

1. a) Innominate bone/Half pelvic girdle; **REJ** Pelvic girdle alone

b) Achieves movement in all planes; Achieves a 3600 rotation thus greater flexibility;

c) Passage of blood vessels/nerve fibers to lower regions of the hind limbs; Reduces weight/density at the hip region;

1. a) Population is a group of organisms of same species found in the same place at the same time; while Community is different populations/group of animals and plants living in the same habitat; Award 0, 1 or 2 mrks

b) Population = [First Marked X Second Capture] ÷ Marked Recaptured

 **REJ** Abbreviations

1. a) Mitosis;

b) Regulate Growth of pollen tube;

1. a) Mammalia; **REJ** Mammals/mammmalia/Mammmalian

b) Body fur/hair; Heterodont dentition/Different types of teeth; Presence of Ear pinna; 1st 2

1. a) Remained the same; all the stomata blocked by jelly thus no water uptake/loss/transpiration;

b) Act as a Control experiment;