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BIOLOGY
(THEORY)
PAPER 1
APRIL – MAY 2019
2 ½ HOURS

POST PRIMARY KABALE DIOCESAN MOCK EXAMS

UGANDA CERTIFICATE OF EDUCATION

BIOLOGY (THEORY) PAPER 1

2 HOURS 30 MINUTES.

INSTRUCTIONS TO CANDIDATES.

- *This paper consists of **three** sections **A** **B** and **C***
- *Answer **all** questions in **section A** and **B** and any **two** questions in **section C***
- *Indicate the numbers attempted in section C in the table*

FOR EXAMINERS USE ONLY

NUMBER	MARKS	EXAMINER'S INITIALS
Section A		
No. 1-30		
Section B		
No. 31		
No. 32		
No. 33		
Section C		
No		
No.		
TOTAL		

SECTION A

Write a letter to the correct answer in the box provided

1. Which of the following explains why digestion of fats doesn't occur in the human stomach.
   A. Absence of fat digesting enzymes
   B. Low PH for the fat digesting enzymes
   C. High PH for the fat digeting enzymes
   D. Absence of bile salts that emulsify fats

2. Deciduous plants in temperate zones shade off their leaves during winter.
   A. To avoid freezing temperature
   B. Because of water shortage
   C. To cut down the process of guttation
   D. Because of too much

3. During fertilization in plants, the,
   A. Vegetative nucleus fuses with antipodal /cell nucleus
   B. Vegetative nucleus fuses with pollen tube nucleus
   C. Generative nucleus fuses with the egg nucleus
   D. Generative nucleus fuses with the antipodal cell nucleus

4. which of the following substances is absent in the tissue fluid
   A. Glucose
   B. Fibrinogen
   C. Sodium ions
   D. Urea

5. In which one of the following animals will a hydrostatic skeleton be found
   A. Grasshopper
   B. Earth worm
   C. Tilapia
   D. Rabbit

6. Some people prefer growing some crops vegetatively rather than by use of seeds because
   A. These crops are usually ornamental
   B. This has always been a practice
   C. Vegetative structures are safer and easy to carry over long distances
   D. In vegetative reproduction, the offsprings are the same as the parents

7. The major form of reproduction in spirogyra during dry harsh season is,
   A. Fragmentation
   B. Budding
   C. Conjugation
   D. Spore formation

8. The function of the choroid layer in the human eye is.
   A. Focusing lightrays onto the retina
   B. Supplying nutrients to the eye.
   C. Controlling the amount of light entering the eye.
   D. Bringing about accommodation

9. Which of the following is found in all circulatory systems?
   A. Heart
   B. Blood pigment
   C. Capillaries
   D. A circulatory fluid

10. All members of the same species found in a particular area at the same time form

A. An ecosystem
B. A population
C. Niche
D. Community

11. Under secretion of antidiuretic hormone (ADH) by the pituitary gland into blood results into

A. Pernicious anaemia
B. Diabetes mellitus
C. Goitre
D. Diabetes insipidus

12. Which one of the following characteristics in man is not a discontinuous variation?

A. Blood groups
B. Body weight
C. Tongue rolling
D. Albinism

13. The non-green parts of variegated leaves get sugar for respiration by

A. Osmosis
B. Transpiration pull
C. Diffusion from the green plants
D. Translocation through veins

14. A cell divides by mitosis every 15 minutes. How many cells will be formed in one hour?

A. 16
B. 36
C. 64
D. 12

15. Which of the following is true of epigeal germination?

A. Hypocotyl elongate
B. Epicotyl elongate
C. Cotyledons remain below the ground
D. Occurs only in monocots

16. Colour blindiness is due to a sex-linked gene. A female (Woman) would be colour blind only if

A. Only father is colour blind
B. Only mother is colour blind
C. Mother is a carrier and father is normal
D. Mother is a carrier and father colour blind

17. The part of the brain that deals with temperature regulation is the;

A. Cerebrum
B. Hypothalamus
C. Medulla
D. Cerebellum

18. The ability of the human eye to distinguish colours of the objects is the function of the

A. Rods
B. Fovea
C. Blind spot
D. Cones

19. Identical twins will result when.

A. Each ovary releases an egg which each is fertilized separately
B. One ovary releases 2 eggs and each egg is fertilized by a separate sperm
C. A single egg divides into 2 parts which are fertilized separately
D. One single sperm fertilizes an egg and the zygote formed divides into two

20. Which one of the following organisms would give lactic acid when respires anaerobically.

A. Algae
C. Amoeba
B. Fungi
D. Bryophytes

21. In a normal person. urine contains no glucose because

A. The kidney tubules convert glucose to urea.
B. Glucose passes back to blood stream from tubules.
C. The kidney tubules do not allow glucose to pass
D. Glucose is oxidized before reaching the collecting duct.

22. Which of the following is not a function of a placenta?

A. Secretion of some hormones
B. Supply of nutrients to the foetus
C. Supply of the mothers blood to the foetus
D. Removal of excretory products from the foetus

23. Which of the following secretions has enzymatic digestive role?

A. Hydrolysis of starch in the mouth
B. Supply of nutrients to the foetus
C. Circulation of blood in the body
D. Removal of excretory products from the foetus

24. Which of the following groups of terrestrial animals is most adapted to water conservation

A. Mammals
C. Birds
B. Insects
D. Reptiles

25. At the compensation point in green plants,

A. Photosynthesis stops
C. more carbondioxide is absorbed
B. More oxygen is given out as by product
D. No net exchange of gases takes place

26. Meristematic cells in plants divide by the process of

A. Meiosis
C. Fragmentation
B. Mitosis
D. Budding

27. Growth in insects is said to be

A. Intermittent
C. Dorminant
B. Continous
D. Ecdysis

28. A person of blood group O in his blood has

A. Antigen O and antibodies a. b
C. Antigen A, B and no antibodies
B. No antigen, but antibodies
D. Antigen a, b. and antibodies

29. A gene or allele which is dominant will have its effect expressed when

A. It is in homozygous state only

B. It is in heterozygous state only

C. It is a both homozygous and heterozygous state

D. It is homozygous recessive state only

30. Which one of the following hormones causes the contruction of the uterus during birth?

A. Progesterone

B. Oestrogen

C. Protactin

D. Oxytocin

SECTION B

Answer all questions in this section in the spaces provided

31. During a study to analyse the effort of the marrum road on green plants, leaves were picked from different plants at particular distances from the road, boiled in ethanol displayed on a white background and treated with iodine solution. The tabulated values below indicate the volume of iodine solution required to realise colour changes.

Distance from the road (m)	0	10	30	50	80	110	150
Volume of iodine used (mm^3)	11.0	10.0	9.0	8.0	6.5	5.0	3.5

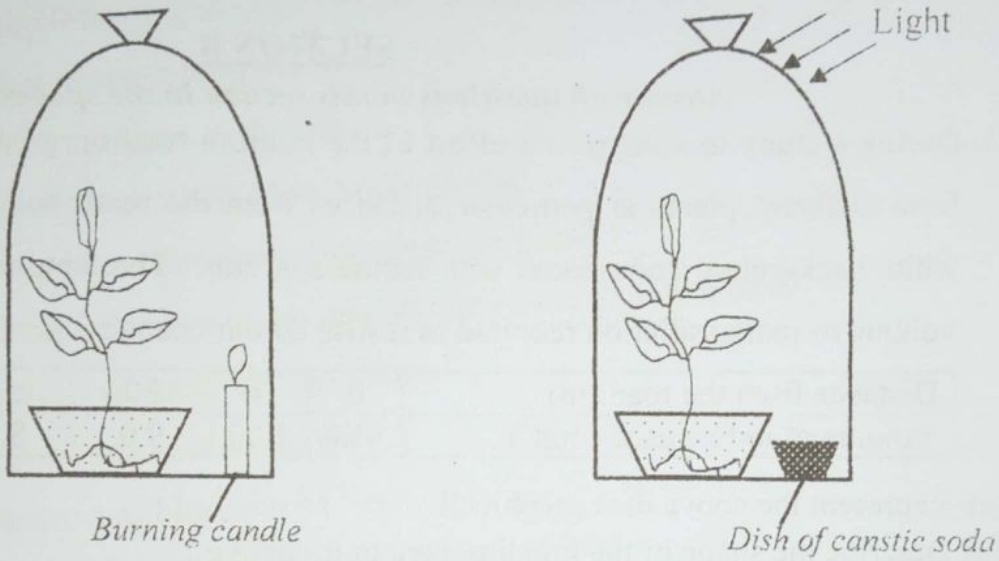
(a) Represent the above data graphically **(06 Marks)**

(b) Describe the shape of the graph plotted in (a) above **(04 Marks)**

(c) Explain the description given in (b) above **(08 Marks)**

(d) State any two factors that may affect the volume of iodine in the above experiment **(02 Marks)**

32. Two young seedlings grown in pots were kept in the dark for 2 days. The plants were watered and placed in the bell jar as shown in the figure below.



(a) What was the aim of the experiment? **(01 Mark)**

(b) State the role of the following **(03 Marks)**

(i) Burning candle

(ii) Caustic soda

(iii) Bell Jars

(04 Marks)

(d) How is the cochlea adapted to its function? **(03 Marks)**

SECTION C

Answer only two questions from this section

34. (a) What is gaseous exchange? **(02 marks)**
    (b) Explain briefly how gaseous exchange occurs in fish **(09 marks)**
    (c) Describe the characteristic features of the respiratory surface of an insect? **(04 marks)**

35. (a) Describe how tissue fluid is formed and returned in the capillary bed. **(07 marks)**
    (b) How are the following tissues adapted to their functions in plants
    (i) Xylem **(04 marks)**
    (ii) Phloem **(04 marks)**

36. (a) Explain the mechanism that is involved in active flight **(10 marks)**
    (b) How are the special structures possessed by the fore wings in birds involved in making the flight simple? **(05 marks)**

37. (a) Describe how nitrogen in plants and animals is transformed into nitrates consumable by other plants **(10 marks)**
    (b) Explain ways how carbondioxide is replaced into the atmosphere? **(05 marks)**

Success
"NEVER GIVE UP ON GOD"

END