

UGANDA MARTYRS' S.S. NAMUGONGO
END OF TERM 2 EXAMINATIONS 2004
S.4 INTERNAL MOCK
PAPER 1
P553/1

Instructions

Answer all questions in section A and B in the spaces provided. Choose two questions from section C

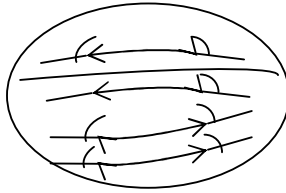
SECTION A:

1	6	11	16	21	26
2	7	12	17	22	27
3	8	13	18	23	28
4	9	14	19	24	29
5	10	15	20	25	30

- Which of the following parts of the cell is filled with liquid sup
 A: cytoplasm B: Nucleus C: vacuole D: mitochondria
- Which of the following substances prevents desiccation in the algae?
 A: cell membrane B: cytoplasm
 C: mucilage D: food vacuole
- Which of the following substances contain Nitrogen?
 A: fats B: carbohydrates C: proteins D: water
- In the Biuret's test for proteins, which colour indicates a positive result?
 A: Dark brown B: Pink C: Violet D: orange
- Which of the elements are common in carbohydrates and fats?
 A: carbon, hydrogen, oxygen B: carbon, sulphur, nitrogen
 C: carbon, hydrogen, sulphur D: carbon, hydrogen, nitrogen
- Which of the following is carried out by nitrifying bacteria?
 A: Ammonium compounds → Nitrates
 B: Nitrates → Nitrogen gas
 C: Nitrates → ammonia
 D: Nitrogen gas → Protein
- The spread of organisms which cause potato blight is by
 A: gametes B: spores C: polten D: Nectar
- Which of the following reproduces by budding?
 A: Amoeba B: Mucor C: Bacteria D: Yeast

9. Which of the following vessels supply blood to the liver?
 A: hepatic artery and hepatic vein
 B: Hepatic vein and hepatic portal vein
 C: hepatic artery and hepatic portal vein
 D: Hepatic portal vein only
10. Which of the following is not true about anaerobic respiration in man
 A: Alcohol is produced
 B: lactic acid is produced
 C: Oxygen debt is built up
 D: large amount of energy is used up
11. Which of the following is a function of the skin?
 A: sound reception
 B: vitamin
 C: touch reception
 D: vitamin A formation
12. Which of the following does not increase heat loss from the body?
 A: sweat production
 B: vaso constriction
 C: vaso dilation
 D: contraction of skeletal muscles
13. Which of the following parts of the kidney is well supplied blood vessels?
 A: pelvis
 B: cortex
 C: medulla
 D: ureter
14. Which of the following is the correct order of the three layers of the skin from the outermost?
 A: cornified, malpighian, granular
 B: malpighian, cornified, granular
 C: granular, cornified, malpighian
 D: cornified, granular, malpighian
15. Which of the following best represents an interaction of the organisms with each other and with the environment
 A: community
 B: Habitat
 C: ecosystem
 D: population
16. Which of the following is list contained in sandy soil?
 A: air
 B: Humus
 C: water
 D: rock particles
17. Which of the following can be added to improve a clay soil?
 A: humus
 B: Earth worms
 C: lime
 D: producers
18. Which of the supports the flower when in bid?
 A: petals
 B: sepals
 C: receptacle
 D: bracts
19. In mice, if black coat colour is dominant to white coat colour and 100 pairs of hybrid rats (black and white) are mated, the F₁ generation will be:
 A: all black
 B: all white
 C: 1 black: 1 white
 D: 1 white: 3 black

20.



The diagram illustrates a stage during cell division. Which stage is immediately before this one?

- A: bivalent formation B: synapsis
C: centrioles replicate D: chromosomes move to the equator
21. If a red haired rat was crossed with a pure bred black haired rat, the offspring in the second generation would be: (black is dominant)
A: all black B: all red C: $\frac{1}{2}$ black : $\frac{1}{2}$ red D: $\frac{3}{4}$ black : $\frac{1}{4}$ red
22. Which part of the brain controls peristalsis?
A: cerebrum B: medulla C: cerebellum D: pituitary
23. Long-sightedness is caused by
A: a short eye ball B: a uneven curvature of lens
C: curvature of the cornea D: long eyeball
24. The white of the eye is the
A: sclera B: cornea C: pupil D: lens
25. Which of the parts of the eye are all involved in the process of accommodation?
A: ciliary muscle, lens, iris,
B: choroid, Retina, fovea
C: optic rerve, vitreous humour, choroid
D: ciliary muscle, agireous humour conjunctiva
26. Which of the following is an example of an immovable joint?
A: wrist B: elbow C: suture D: knee
27. Which of the following bones make up the forelimb?
A: humerus, ulna, tibia B: femur, tibia, fibula
C: humerus, ulna, Radius D: fibula , Radius, femur
28. Which of the following joins the biceps to the humerous
A: ligament B: cartilage C: tendon D: muscle.
29. Meiosis is most likely to take place in the
A: cervix B: uterus C: Ovary D: Fallopian tube
30. Fertilisation is most likely to take place in the
A: ovary B: uterus C: vagina D: cervix

SECTION B

31. (a) Define transpiration

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(b) Explain the following statements

(i) transplanting of seedlings is mostly done in the evenings

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(ii) before transplanting a plant, some leaves are removed

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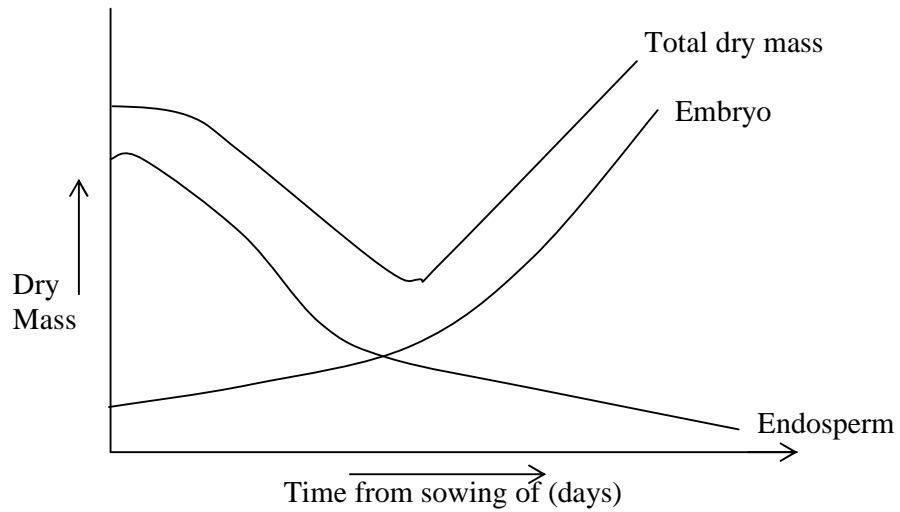
(iii) movement of water up a stem is faster on a hot day than a cold day.

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(iv) Watering of seedlings is mostly done in the evening.

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32. The graph below shows changes in dry mass of a whole barley grain, its endosperm and embryo during germination



(a) Give one advantage and disadvantage of using dry mass as a measure of growth
Advantage

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Disadvantage

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(b) Describe the graph of

(i) Embryo

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(ii) Endosperm

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- (c) Explain the graph of
 - (i) Whole barley grain

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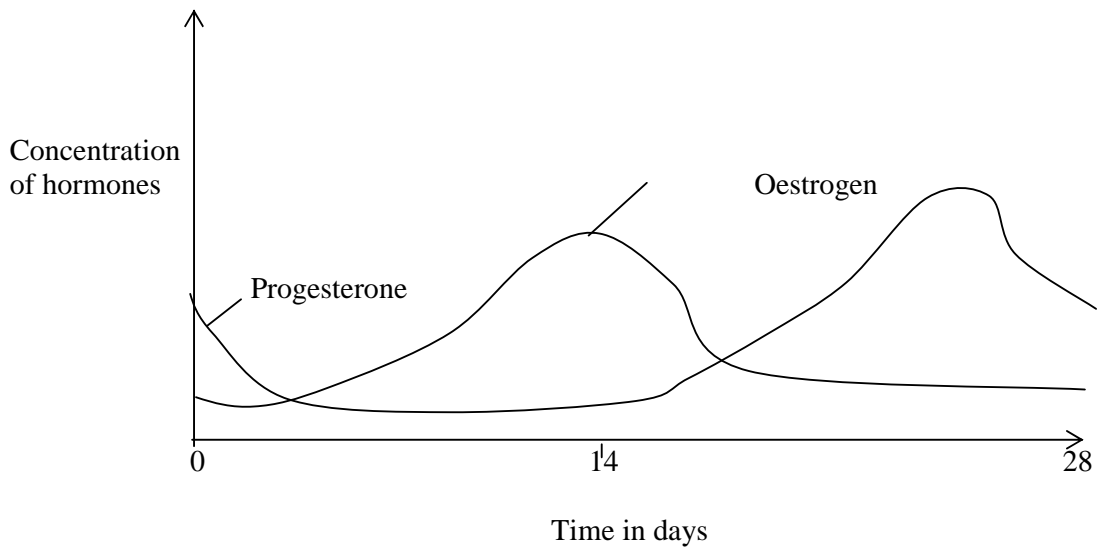
- (ii) Endosperm

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33. The graph below shows events during the menstrual cycle



- (a) Describe the graphs:
 - (i) of oestrogen

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- (ii) progesterone

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(b) Explain what is occurring to the uterus lining between day 5 and day 12

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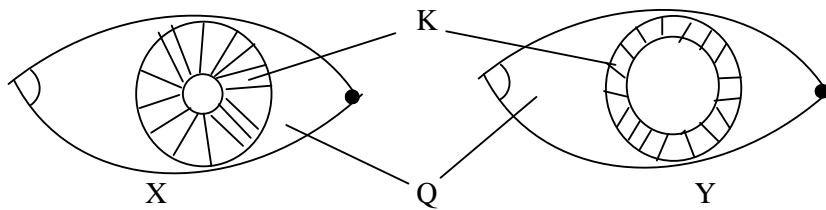
(c) State the role of progesterone between day 16 and day 25

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(d) Between which days is menstruation most likely to occur

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34. The diagram below illustrate structures of the eye, observed during different light intensities?



(i) Which diagram illustrates the eye as observed at night?

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(ii) State the reason for your choice

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(iii) Identify parts labelled K & Q
K =
Q =

(iv) What stimulus causes the change from X to Y?

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SECTION C:

- 35. (a) Using named examples explain parasitism, saprophytism and mutualism
(b) State the economic importance of saprophytes
(c) Describe sexual reproduction in the common mould (Rhizopus)
- 36. (a) Define the following terms xerophytes, mesophytes, hydrophytes
(b) briefly explain how each type of the above plants is adapted to its habitat
- 37. (a) Define respiration
(b) Describe an experiment to illustrate anaerobic respiration by the yeast cells.
- 38. (a) Define
 - (i) Endotherm
 - (ii) Ectotherm

(b) Explain the role of the structures of the skin in temperature control.

END