

REPUBLIQUE DU CAMEROUN

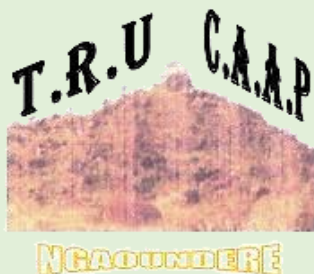
Paix – Travail – Patrie

MINISTERE DES ENSEIGNEMENTS
SECONDAIRES

DELEGATION REGIONALE DE
L'ADAMAWA

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CELLULE D'APPUI À L'ACTION
PÉDAGOGIQUE

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REPUBLIC OF CAMEROON

Peace – Work – Fatherland

MINISTRY OF SECONDARY
EDUCATION

ADAMAWA REGIONAL
DELEGATION

REGIONAL BRANCH OF
TEACHERS RESOURCE
UNIT

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The teachers' resource unit and the regional Inspectorate of pedagogy in collaboration with the Adamawa Social Science Teachers' Association (ASSTA)	Subject code	Paper Number
	Number: 0710	1
	SUBJECT TITLE BIOLOGY	
CANDIDATE NAME CANDIDATE NUMBER CENTER NUMBER	REGIONAL MOCK GENERAL CXERTIFICATE OF EDUCATION EXAMINATION	
ADVANCED LEVEL	DATE	
ONE and a Half (1^{1/2}) hours	WEDNESDAY 13th of MARC 2024	

INSTRUCTIONS TO CANDIDATES:

- USE A SOFT HB PENCIL THROUGHOUT THIS PAPER.
- DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.
Before the Examination begins:
- Check that this question booklet is headed "Biology 0710 Paper 1"
- Insert the information required in the spaces above.
- Without opening the booklet, pull out your answer sheet carefully from inside the front cover of this booklet. Take care that you do not grease or fold the answer sheet or make any mark on it other than those asked for in these questions.
- Insert the information required in the spaces provided on the answer sheet using your HB pencil. How to answer questions in this Examination:
- Answer ALL the 50 questions in this examination. All questions carry equal marks.
- None programmable calculators are allowed.
- For Each question there are four suggested answers, A, B, C and D. Decide which answers is correct. Find the number of the question on the Answer Sheet and draw a horizontal line across the letter to join the square brackets for the answer you have chosen. e.g. If D is your correct answer, mark D as shown below:
[A] [B] [C] [D]
- Mark ONLY ONE answer for EACH question. If you mark MORE THAN ONE answer, you will SCORE ZERO for that Question. If you change your mind about an answer, erase the first mark carefully, and then mark your new answer.
- Avoid spending too much time on any one question. If you find a question difficult, move on to the next question. You can come back to that question later.
- Mobile phones are NOT ALLOWED in the examination room.



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Turn Over

1. Mosses are adapted to live on a terrestrial environment because:
A) They have a means of vegetative propagation
B) They undergo an alternation of generation
C) They have a dominant haploid gametophyte
D) Their rhizoids aid in water absorption

2. An organism X has a radial symmetry, it is acoelomate and has a planular larva. To which major group (phylum) does this organism belong?

- A) Cnidaria
B) Platyhelminthes
C) Scyphozoa
D) Echinodermata

3. The characteristic which proves that frogs evolved from fishes is

- A) Their ability to swim in water
B) Their feeding on aquatic plants
C) Tadpole larva in frogs
D) Similarity in the shape of the head

4. The ground tissue that makes up most of the fleshy parts of plants is called

- A) Sclerenchyma
B) Parenchyma
C) Collenchyma
D) Epidermis

5. Smoking destroys the cilia in the respiratory passage. This

- A) Makes it harder to move air in and out of the lungs
B) Decreases the surface area for respiration
C) Slow blood flow through the blood vessels in the lungs
D) Makes it harder to keep the lungs clean

6. Which plant hormone is responsible for the stimulation of cell elongation in shoots?

- A) Cytokinins
B) Auxin
C) Absciscic acid
D) Ethylene

7. The water content of the mammalian blood is regulated by antidiuretic hormone (ADH), in which part of the nephron does this regulation occur?

- A) The ascending limb of the loop of Henle
B) The descending limb of the Loop of Henle
C) The proximal convoluted tubule
D) The collecting duct

8. The process of deamination involves

- A) Production of urea
B) Removal of excess amino acids
C) Production of NH_3
D) Ornithine cycle

9. What are the phenotypes of the parents of a haemophiliac son and a normal daughter?

	FATHER	MOTHER
A	Carrier	Normal
B	Haemophiliac	Carrier
C	Haemophiliac	Haemophiliac
D	Normal	Carrier

10. Cystic fibrosis occurs in the population with a frequency of 1 in 2200. Calculate the frequency of the carrier genotype

- A) 2%
B) 6%
C) 4%
D) 25%

11. According to the Hardy-Weinberg principle, allele frequency in a randomly mating population will

- A) Increase with the growth of the population
B) Decrease with increase in the population
C) Change when birth rate exceeds death rate
D) Remain constant

12. An example of convergent evolution is

- A) Wings of insects and wings of birds
B) Wings of birds and pentadactyl limbs of the whales
C) Appendix of man and the caecum of rodents

Turn Over

D) Coccyx of man and the tail of horse

13. According to the fluid mosaic model, a plasma membrane is composed of

- A) Phospholipid and hemicellulose
- B) Phospholipid and polysaccharide
- C) Phospholipid, extrinsic and intrinsic proteins
- D) Phospholipid and surface proteins

14. Vitamins are essential in humans because they act as

- A) Neurotransmitter
- B) Enzymes
- C) Apoenzymes
- D) Coenzymes

15. How does the myelin sheath increase the speed of impulse transmission?

- A) It restricts the potential difference to the Node of Ranvier
- B) It promotes a change in potential difference along an axon
- C) It ensures that the ions are kept closed to the axon membrane
- D) It triggers the opening of the sodium potassium gates

16. Which period of the heart cycle is completely occupied by the ventricles relaxing?

- A) Atrial systole
- B) Atrial diastole
- C) Ventricular systole
- D) Ventricular diastole

17. The process in which sperm cells undergo physiological changes within the female genital tract to penetrate and fertilize the ovum

- A) Proliferation
- B) Capacitation
- C) Maturation
- D) Acrosomal reaction

18. When seeds show hypogeal germination, the part that pushes the cotyledons into the soil is

- A) Epicotyl
- B) Hypocotyl

C) Plumule

D) Radicle

19. In the cell cycle, DNA synthesis takes place during Phase

- A) M phase
- B) G2 phase
- C) G1 phase
- D) S phase



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20. Bright colours in certain plant parts are made possible by the following organelle in the cells of that part

- A) Microbody
- B) Chloroplast
- C) Sap vacuole
- D) Plasmodesmata

21. The pigment in plant cells that is responsible for the different bright colours of flowers and leaves of most plants is

- A) Xanthophyll
- B) Chlorocyanin
- C) Haemoglobin
- D) Anthocyanin

22. Bile is produced in the liver and stored in the gall bladder. The production of bile involves

- A) The breakdown of haemoglobin
- B) The deamination of proteins
- C) Detoxification of cellular metabolism
- D) The breakdown of hormones and fats

23. The deficiency of iodine in the body causes

- A) Acromegaly and cretinism
- B) Cretinism and goitre
- C) Gigantism and constipation
- D) Constipation and gigantism

24. Resting potential is maintained by

- A) Active transport and osmosis
- B) Active transport and facilitated diffusion
- C) Facilitated diffusion and osmosis
- D) Active transport and voltage gated ion channels

Turn Over

For questions 25 to 34 choose;

- A) If (i), (ii), (iii) are correct
- B) If (i) and (iii) are correct
- C) If (ii) and (iv) are correct
- D) If only (iv) is correct



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25. Characteristics of photorespiration

- i) Occurs in C3 plants
- ii) Reduces yield in C4 plants
- iii) Ribulose biphosphate carboxylase oxidase (RuBISCO) is CO₂ acceptor
- iv) Phosphoenolpyruvate (PEP) carboxylase is first CO₂ acceptor

26. Increases the supply of nitrogen available to plants in the soil

- i) Thiobacillus denitrificans
- ii) Rhizobium
- iii) Nostoc
- iv) Nitrosomonas

27. Counter current exchange takes place in

- i) The loop of Henle in the nephron
- ii) Gas exchange in human lungs
- iii) Gas exchange in fish gills
- iv) Gas exchange in insect tracheal system

28. Hormones concerned with calcium metabolism are

- i) Calcitonin
- ii) Thyroxin
- iii) Adrenaline
- iv) Parathormone

29. Allometric growth can be defined as

- i) A type of growth pattern seen in fish and certain insects such as locust
- ii) Growth in which the organism grows at the same rate as the rest of the body
- iii) Growth in which the relative proportions of the organs and the whole body remained the same
- iv) Growth in which the organs grow at different rates from the rest of the body

30. Which of the following is true about parthenocarpy and parthenogenesis?

- i) Parthenocarpy is the development of unfertilized egg to new individual
- ii) Parthenogenesis is the development of unfertilized egg to new individual
- iii) Parthenogenesis is the development of fruit without fertilization
- iv) Parthenocarpy is the development of fruit without fertilization

31. In the eye defect myopia;

- i) The eye ball is large
- ii) The image is produced before the retina
- iii) A blurred image is produced
- iv) Correction is by convex lens

32. During prophase of meiosis 1;

- i) Synapsis occurs
- ii) Bivalents line at the equatorial plane
- iii) Crossing over occurs at points called chiasmata
- iv) Chromosomes decondense and become invisible

33. Which of the following is/are true about Greenhouse effect?

- i) In the absence of greenhouse gases, the earth's temperature will be 33°C colder
- ii) Greenhouse effect is caused by global warming
- iii) Increase in greenhouse gases lead to the formation of polar ice
- iv) Greenhouse gases allow sunlight to pass through, but trap heat radiated from the earth surface

34. Variation in a population of different species is as a result of

- i) Different environmental conditions
- ii) Crossing over and independent assortment in meiosis
- iii) Heredity
- iv) Cell division

35. An epithelial tissue that prevents urine from leaving the bladder

Turn Over

- A) Columnar epithelium
 - B) Pavement epithelium
 - C) Stratified epithelium
 - D) Transitional epithelium
-



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36. CAM plants conserve water by

- A) Opening their stomata during the day
 - B) Closing their stomata during the day
 - C) Opening their stomata both in the day and at night
 - D) Accepting PEP
-

37. Macrophages contribute to the body's defense by

- A) Secreting antibodies
 - B) Secreting histamine
 - C) Producing memory cells
 - D) Invading ingesting organisms.
-

38. In a biotechnological process, the step requiring the search for a suitable microorganism is known as

- A) Selection
 - B) Screening
 - C) Scaling up
 - D) Downstream processing.
-

39. The synthesis of ATP in a cell requires one of the following.

- A) Phosphorylation.
 - B) Carboxylation.
 - C) Photorespiration.
 - D) Hydrogenation.
-

40. Which of the following communities tend

- A) The shrub community
 - B) The herb community
 - C) The pine community.
 - D) The dense shrub community.
-

41. When you bend your arm, the bulge seen at your elbow is part of the ...

- A) Humerus.
 - B) Carpal.
 - C) Radius
 - D) Ulna.
-

Turn Over

For questions 42 to 50 there are two statements, choose;

- A) If both statements are true and the second explain the first.
- B) f both statements are true but the second does not explain the first.
- C) If first statement is true and second statement is false
- D) If first statement is false and second statement is true

	Statement 1	Statement two
42	With fed-batch culture, the period of growth is extended by adding nutrients at high concentration during fermentation	With fed-batch culture, rate of growth can be regulated to keep pace with the rate at which oxygen can be supplied
43	Rhodopsin is made up of protein opsin and retinal, a derivative of vitamin A	Deficiency of Vitamin A leads to poor sight
44	Progesterone secretion in the blood of a female mammal increases after ovulation	Secretion of progesterone takes place in the corpus luteum after ovulation
45	The light dependent stage of photosynthesis determines the rate of the light independent stage	NADH and ATP from the light independent stage catalyse reactions of the light dependent stage
46	Recombinant DNA technology involves the artificial transfer of a piece of DNA from one organism onto the DNA of another organism	In genetic engineering enzymes are used to cut and join DNA strands fragments respectively
47	Glomerular filtrate composition changes as it	In the ascending arm, sodium,
48	A person's blood group depends on the antigens on the surface of their red blood cells.	People with O blood can receive any blood without causing agglutination.
49	The influx of positive Na ions changes the polarization of the cell from negative inside to positive inside at that location on the membrane	During action potential, potassium channels open to allow potassium ions to flow in
50	An epistatic gene suppresses the effect of a gene found only on the same locus	An epistatic gene can also be known as inhibiting gene because of its effect on the hypostatic genes

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