

**CAMEROON GENERAL CERTIFICATE OF EDUCATION BOARD**  
**General Certificate of Education Examination**

0710 BIOLOGY 1

JUNE 2020

ADVANCED LEVEL

Centre Number	GCE REVISION
Centre Name	
Candidate Identification No.	<a href="http://www.gcerevision.com">http://www.gcerevision.com</a>
Candidate Name	

Mobile phones are NOT allowed in the examination room.

**MULTIPLE CHOICE QUESTION PAPER**

One and a half hours

*INSTRUCTIONS TO CANDIDATES*

Read the following instructions carefully before you start answering the questions in this paper. Make sure you have a soft HB pencil and an eraser for this examination.

1. USE A SOFT HB PENCIL THROUGHOUT THE EXAMINATION.
2. DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

*Before the examination begins:*

3. Check that this question booklet is headed "0710 Biology 1 – ADVANCED LEVEL".
4. Fill in the information required in the spaces above.
5. Fill in the information required in the spaces provided on the answer sheet using your HB pencil:  
**Candidate Name, Exam Session, Subject Code and Candidate Identification Number.**  
Take care that you do not crease or fold the answer sheet or make any marks on it other than those asked for in these instructions.

*How to answer the questions in this examination*

6. Answer ALL the 50 questions in this Examination. All questions carry equal marks.
7. Each question has FOUR suggested answers: A, B, C and D. Decide which answer is appropriate. 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.  
For example, if C is your correct answer, mark C as shown below:  
[A] [B] [C] [D]
8. Mark only one answer for each question. If you mark more than one answer, you will score a zero for that question. If you change your mind about an answer, erase the first mark carefully, then mark your new answer.
9. Avoid spending too much time on any one question. If you find that a question is difficult, move on to the next question. You can come back to this question later on.
10. Do all rough work in this booklet using the blank spaces in the question booklet.
11. **At the end of the examination, the invigilator shall collect the answer sheet first and then the question booklet. DO NOT ATTEMPT TO LEAVE THE EXAMINATION HALL WITH IT.**

Turn over

1. What is the role of the alcohol fermentation pathway?
- A It produces lactic acid.
  - B It produces ADP for the electron transport chain.
  - C It replenishes CO<sub>2</sub> for the light independent reaction.
  - D It replenishes NAD<sup>+</sup> so that glycolysis can produce Pyruvate.

2. Goats are herbivores. What is the trophic level of a goat in an ecosystem?
- A Secondary producer.
  - B Primary producer.
  - C Primary consumer.
  - D Secondary consumer.

3. The end products of translation are
- A amino acid.
  - B polypeptides.
  - C lipids.
  - D RNA.

4. Which of the following carries the code that determines the sequence of amino acids in a protein?
- A rRNA.
  - B tRNA.
  - C mRNA.
  - D DNA polymerase.

5. Which of the following factors affect the distribution of living organisms in the soil?
- A Climatic factors.
  - B Geological factors.
  - C Edaphic factors.
  - D Biotic factors.

6. Which of the following is true of chordates?
- A Early developmental cleavages are spiral.
  - B They are protostomes.
  - C The first unfolding of the archenteron forms the anus.
  - D Early developmental cleavages are determinate.

7. Primary succession will occur after:
- A the formation of a new volcanic island.
  - B destruction of the colonizing animals.
  - C the climax community is established.
  - D a fire burns the existing community.

8. A change in the gene sequence from ABCDEF to ADCBEF occurs as a result of:
- A polyploidy.
  - B translocation.
  - C inversion.
  - D substitution.

9. Which of these processes generates the majority of ATP molecules derived from nutrient metabolism?
- A Anaerobic fermentation and glycolysis.
  - B Fermentation and electron transport chain.
  - C Glycolysis and substrate phosphorylation.
  - D Krebs cycle and electron transport chain.

10. The variable component of all DNA molecules is the:
- A base .
  - B deoxyribose.
  - C ribose.
  - D phosphate group.

11. Which of the following is a single bacterial cell?
- A Diplococcus.
  - B Staphylococcus .
  - C Gonococcus.
  - D Streptococcus.

12. The relative large size of the mammalian brain allowing for greater learning association and memory is due to the:
- A cerebellum.
  - B cerebrum.
  - C hindbrain.
  - D midbrain.

13. In genetic engineering fragments of DNA from different organisms are linked together by:
- A helicase.
  - B DNase.
  - C DNA ligase.
  - D endonucleases.

14. An enzyme released in response to a low blood pressure in humans is:
- A renin.
  - B angiotensinogen.
  - C adosterone.
  - D angiotensin.

15. Which of the following structures can be used for vegetative propagation in plants?

- A Flower
- B Anther
- C Corm
- D Ovary

16. A nerve impulse is usually transmitted from a motor neuron to a muscle by:

- A acetylcholine.
- B a hormone.
- C an action potential.
- D  $Ca^{++}$ .

17. The function of bile salts is to:

- A chemically degrade fat.
- B digest fat.
- C emulsify fat.
- D activate the enzymes in pancreatic juice.

18. An haemoglobin subunit about 150 amino acids long would require a coded DNA sequence that contains how many nucleotides?

- A 50
- B 100
- C 150
- D 450

19. A gas that causes asphyxiation by binding to haemoglobin thus preventing oxygen from doing so is:

- A carbon dioxide.
- B carbon monoxide.
- C nitrous oxide.
- D sulfur dioxide.

20. The innermost layer of the eye is the:

- A retina.
- B choroid.
- C cornea.
- D sclera.

For questions 21 to 28, one or more of the responses is/are correct. Choose:

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

21. The theory of punctuated equilibrium assumes that:

- (i) there are periods of time of stability in which the evolutionary change occur.
- (ii) evolution occurs gradually within the lineage.
- (iii) speciation can occur in a very short period of time and is marked by rapid

changes.

- (iv) changes occur within the population for long periods of time.

22. What traditional criterion(s) is are used to differentiate prokaryotes from protozoans?

- (i) Methods of reproduction and motility.
- (ii) Methods of obtaining nutrition.
- (iii) Number of cells.
- (iv) Presence or absence of cell wall.

23. Which of these apply to hormones?

- (i) Large quantities are needed to produce a desired effect.
- (ii) They work interdependently with other hormones.
- (iii) They are produced in the tissues that they affect.
- (iv) Small quantities can produce effects.

24. T-cells are generally involved in fighting:

- (i) cancer cells.
- (ii) transplanted foreign tissue.
- (iii) viral infections.
- (iv) bacterial infections.

25. Facilitated diffusion:

- (i) requires glycoproteins.
- (ii) requires ATP.
- (iii) moves substances against a concentrated gradient.
- (iv) requires a protein carrier.

26. Which of the following organisms have an open circulatory system?

- (i) Grasshopper.
- (ii) Millipede..
- (iii) Crayfish.
- (iv) Earthworm.

27. Which of the following statements refer to the codon?

- (i) The codon is a triplet of bases on messenger RNA.
- (ii) The codon is non-degenerate.
- (iii) The codon base pairs with the anticodon.
- (iv) The codon is a triplet of bases on the transfer RNA.

28. The following processes release CO<sub>2</sub>:
- the Kreb's cycle.
  - alcohol fermentation.
  - the conversion of pyruvate to ethanol.
  - oxidative phosphorylation.
- 
29. The most studied sex linked trait in man is:
- cystic fibrosis.
  - ability to taste PTC.
  - tongue rolling.
  - Red – green colour blindness.
- 
30. Which of the following DNA mutations could be fatal?
- Nucleotide substitution..
  - Nucleotide added or deleted.
  - Inversion of part of a nucleotide.
  - Change of one nucleotide for another.
- 
31. An enzyme is a large organic molecule with a surface geometry that is composed of:
- amino acids.
  - monosaccharides.
  - polysaccharides.
  - glycerol molecules.
- 
32. When populations within the same distribution range reproduce in isolation, it is termed:
- allopatric speciation.
  - sympatric speciation.
  - directional selection.
  - disruptive selection.
- 
33. Humans, great apes and monkeys are placed in which of the following taxonomic categories?
- Genus
  - Family
  - Species
  - Class
- 
34. Which of these lights used for photosynthesis has the shortest wavelength?
- Blue
  - Green
  - Red
  - Orange
- 
35. Which of the following will provide maximum energy to a large population of humans such as in China?
- Fish
  - Chicken
  - Birds
  - Rice
- 
36. An inverted pyramid of numbers arises when we have a:
- predator food chain.
  - producer food chain.
  - parasitic food chain.
  - detrital food chain.
- 
37. Macrophages contribute to the body's defense by:
- secreting antibodies.
  - secreting histamines.
  - producing memory cells.
  - ingesting invading organisms.
- 
38. Which of the following is a characteristic of hormones?
- Large quantities are needed to produce the desired effect.
  - They are biological catalysts.
  - They are produced in the tissue that they affect.
  - Small quantities can produce effects.
- 
39. Which of the following pairs are homologous structures?
- The wings of a bat and the wings of a butterfly..
  - The human arm and the wing of a housefly.
  - The wing of a bat and the fore leg of a horse.
  - The wings of a bird and the wings of cockroach.
- 
40. In a biotechnological process, the step requiring the search for a suitable microorganism is known as:
- selection.
  - screening.
  - scaling up.
  - downstream processing.
- 
41. A function of the allantois is to:
- form the amniotic cavity.
  - fuse with the endometrium and form the placenta.
  - store food for use by the developing embryo.
  - supplies nutrients and dispose of waste for the developing embryo.

For questions 42 to 50 there are two statements. Read through the statements and then choose:

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

**First Statement**

42. All xylem cells are living cells which help to transport water from the soil upto the plant.
43. Perennating organs enable the plants to survive harsh conditions.
44. During spawning both types of gametes are released into the surrounding and fusion is external.
45. Some caterpillars never metamorphosised into butterflies.
46. An epistatic gene, suppresses the effect of a gene found only on the same locus.
47. When CO<sub>2</sub> level increases chemoreceptors in the carotid and aortic bodies are stimulated.
48. Cortical nephrons are found in the cortex and have relatively short loops of Henle.
49. An energy budget for a species shows the percentage of energy which is assimilated by an individual.
50. Amino acid is termed an amphoteric molecule.

**Second Statement**

Xylem contains two types of water conducting cells, tracheids and vessels.

Perennating organs can be used for vegetative propagation in plants.

If the egg is retained within the reproductive system of the female then copulation occurs.

moulting is determined by the concentration of the juvenile hormone.

An epistatic gene can also be known as inhibiting gene because of its effect on the hypostatic genes.

Impulses from the carotid and aortic bodies are sent to the inspiratory centre stimulating inspiration.

When water is in short supply, increase water retention occurs through the cortical nephron.

An individual's energy is used for respiration, some for growth and other metabolic activities.

Amino acids have both acid and basic regions.

**STOP**

**GO BACK AND CHECK YOUR WORK**