

THE UNITED REPUBLIC OF TANZANIA
NATIONAL EXAMINATIONS COUNCIL
CERTIFICATE OF SECONDARY EDUCATION EXAMINATION

033/1

BIOLOGY 1
(For Private Candidates Only)

Thursday, 11th October 2012 a.m.

Time: 3 Hours

Instructions

1. This paper consists of sections A, B and C.
2. Answer **all** questions in sections A and B and **one (1)** question from section C.
3. Read each question carefully before you start answering it.
4. Except for diagrams that must be drawn in pencil, all writing should be done using a blue or black pen.
5. Calculators are **not** allowed in the examination room.
6. Cellular phones are **not** allowed in the examination room.
7. Write your **Examination Number** on every page of your answer booklet(s).

SECTION A (20 Marks)

Answer all questions in this section.

1. For each of the items (i) - (x), choose the correct answer from among the given alternatives and write its letter beside the item number.
- (i) Moss and liverworts are held in place by slender root like structures called:
A hyphae B sporophytes C capsule
D gametophyte E rhizoids.
- (ii) Which of the following structures carries hereditary material?
A Cytoplasm B Nucleus C Ribosome
D Membrane E Golgiapparatus.
- (iii) Night blindness is a deficiency disease caused by lack of
A vitamin C B vitamin K C vitamin D
D vitamin A E vitamin B.
- (iv) In plants xylem carries water and mineral salt from the soil to the
A roots, stems and leaves B stem and leaves C roots only
D stem and roots E stem only.
- (v) Plant in mutual relations with nitrogen fixing bacteria receives
A ammonium B amino acids C nitrate
D nitrite E protein.
- (vi) Grasses are known as producers because they
A have green leaves B grow in the soil
C contain chlorophyll D make their own food
E make organic matter.
- (vii) Which of the following is the end product of protein?
A Amino acid B Glucose
C Peptide D Pepsin
E Glycerol.
- (viii) The function of an enzyme is to change the
A chemical reactions B equilibrium of the reactions
C material reactions D rate of chemical reaction
E directions of reactions.
- (ix) The role of the auditory ossicles of the middle ear is to
A pass on the sound vibrations B integrate the sound vibrations
C magnify the sound vibrations D stimulate the sound response
E receive the sound vibrations.

- (x) Which of the following list contains the symptoms of malaria?
- A Anemia, cold, and diarrhea
 - B Vomiting, dizziness and periodic fever
 - C Shivering, dizziness and loss of weight
 - D Loss of weight, dizziness and vomiting
 - E Diarrhea, vomiting and coughing.

2. Match the responses in **List B** with the phrases in **List A** by writing the letter of the correct response from **List B** beside the item number of **List A** in your answer booklet. Each choice in column B may be used once or not at all.

List A	List B
(i) They consist of cell wall made up of chitin materials.	A Animalia
(ii) Have dry bodies with horny scales.	B Osteichthyes
(iii) Have scaly and moist bodies.	C Amphibia
(iv) They breathe through lung books.	D Coelenterata
(v) Consists of organisms which some parts of their bodies are covered by feathers and scales.	E Arachnida
(vi) Their bodies are covered with hairs and respiration is by lungs.	F Reptilia
(vii) External and then internal gills are present in their larval stages.	G Mammalia
(viii) They consist of exoskeleton to prevent desiccation.	H Fungi
(ix) They consist of cell membrane only no cell wall.	I Diplopoda
(x) They consist of cell wall made up of cellulose materials.	J Vetebrata
	K Chondrichthyes
	L Arthropoda
	M Chordata
	N Aves
	O Plantae

SECTION B (60 Marks)

Answer all questions in this section.

With exception of questions 4 and 6 which carry 6 marks each, the rest of questions carry 8 marks.

3. Figure 1 represents the development of embryo during pregnancy. Study the diagram and answer the questions that follow:

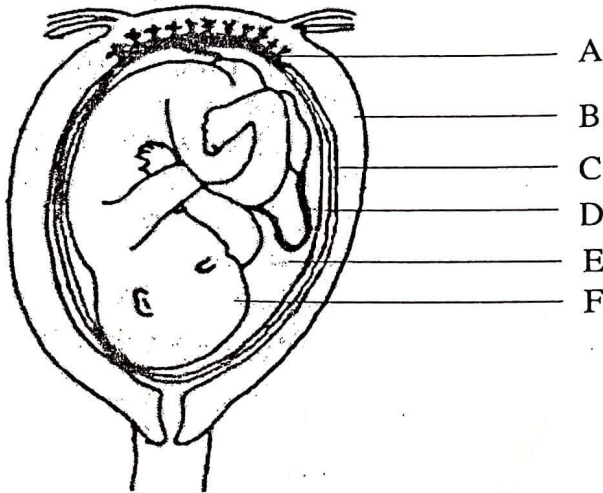


Figure 1

- (a) Name the part labeled A, B, C, D, E and F.
- (b) Briefly explain four functions of part A and one function of part E.
4. (a) (i) Define the term Biology.
(ii) Name the two main branches of Biology.
- (b) State the importance of studying Biology.
5. (a) Explain the meaning of the following terms:
(i) Analogous structure.
(ii) Fossil.
- (b) (i) Outline two differences between Larmack's and Darwin's theories of evolution.
(ii) Explain the meaning of the terms "natural selection" and "survival of the fittest" as used in evolution.
6. (a) Differentiate the following terms.
(i) Egestion from excretion.
(ii) Vasodilation from vasoconstriction.
- (b) Briefly explain how vasodilation and vasoconstriction regulates body temperature.

7. (a) (i) Mention the type of teeth found in human being.
(ii) Draw a well labelled diagram of a tooth used for grinding food materials.
- (b) State one function of each part of tooth labelled in (a) (ii) above.
8. (a) Differentiate between the tissue and the system.
- (b) Draw a neat well labelled diagram of a plant cell.
9. (a) In what ways do the following differ from one another?
(i) Seed dormancy and seed viability
(ii) Hypocotyl and epicotyl.
- (b) (i) State two methods used by the farmer to break seed dormancy before sowing.
(ii) Briefly explain two conditions that are necessary for seed germination.
10. (a) (i) What do you understand by the term "locomotion"?
(ii) Briefly explain how insects and birds are adapted for locomotion.
- (b) Name six major components of the human skeleton and briefly explain one function for each.

SECTION C (20 Marks)

Answer one (1) question from this section.

11. Describe the symptoms and control measures of any three common infectious diseases of the respiratory system in human.
12. Elaborate the mode of transmission and symptoms of cholera and suggest five ways in which the disease could be controlled.
13. Explain the importance of providing care and support to people living with HIV/AIDS and the effect of discrimination and stigma toward people with HIV/AIDS in the community, family and at school.