

BIO 102

BASIC BIOLOGY

MR FSB SERIES 0906948256

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DEPARTMENT OF APPLIED AND ENVIRONMENTAL BIOLOGY

COURSE TITLE: BASIC BIOLOGY II

SECOND SEMESTER

NAME:..... COURSE CODE: BIO 102 TEST DATE:.....

MATRIC NO:..... DEPARTMENT:.....

SIGNATURE:.....

ANSWER ALL QUESTION

1. Mention the protozoa that lack cell wall but posses pellicle. Euglena
2. The scorpion pincers are modified for catching or tearing of prey
3. Metamerically segmented, bilaterally symmetrical animals bearing jointed appendages these are character of phylum Arthropoda.
4. Free living platyhelminthes form belong to the class Turbellaria.
5. The periodic shedding of the exoskeleton is referred to as Moulting.
6. Cephalothorax is usually covered dorsally by the Carapace.
7. The protozoa are characterized by protokinesis. Grade of organization single cell.
8. Sleeping sickness in man is caused by the trypanosome by the bite of the infective Tsetse Fly.
9. Sea Urchin and Starfish belong to phylum Echinodermata.
10. Larval of sponge is known as Parenchymula larva.
11. Which phylum contains animals that are Pentaradially symmetrical? Echinodermata
12. The first group of invertebrate to develop a true nervous system are Plathelminthes.
13. Lung books are the respiratory organs of Spider.
14. Jelly fish and corals belong to the phylum Cnidaria.
15. Head foot and visceral mass- This combination of characteristics is a diagnostic of Mollusca.
16. Statocysts are sense organs of Cnidaria.
17. Roundworms belong to the phylum Nematoda.
18. Phylum Arthropoda contain the largest group of organisms.
19. Nematocysts are the specialized cells found in the members of the phylum Cnidaria.
20. Polychaetes are distinguished from other annelids because of the presence parapodia.

RIVERS STATE UNIVERSITY OF SCIENCE AND TECHNOLOGY
NKPOLU-OROWOKWO PORT HARCOURT
DEPARTMENT OF APPLIED AND ENVIRONMENTAL BIOLOGY
SECOND SEMESTER EXAMINATION

COURSE TITLE: BASIC BIOLOGY II COURSE CODE: BIO 102

TIME: 1hr

NAME:

MATRIC NO:

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INSTRUCTION: Attempt all questions in the spaces provided

1. State the major diagnostic feature of members of the following phyla:
Arthropoda.....Segmented bodies, jointed appendages or legs
Cnidaria.....Body is made up of two layers, radial symmetry, stinging cells
Protozoa.....Unicellular, microscopic, reproduce asexually by binary fission
Annelida.....Long & cylindrical body, external & internal segmented bodies
Platyhelminthes.....multicellular, flat worms, do not have body cavity
Echinodermata.....Triploblastic animals, spiny skin, no head nor brain
Porifera.....live in colonies, do not move about but attached to rocks
Chordata.....elongated bilaterally symmetrical bodies, Triploblastic animals, possess internal skeleton, well developed central nervous system with brain and spinal cord, they have notochord
2. What do you understand by:
(i) Bilateral symmetry is a symmetry in which one longitudinal line cut down through the centre will produce the mirror images of each other
* (ii) Polymorphism.....
(iii) Coelom is the body cavity enclosed by the mesoderm
(iv) Regeneration is the ability of an organism to grow back a lost body parts
(v) Cephalization is the centralisation of sense organs in the head region.
3. Give examples of animals at the following levels of organization:
(i) Protoplasmic level.....Paramecium
(ii) Cellular level.....Sponge
(iii) Tissue level.....Hydra
(iv) Organ-system level.....man
4. State the odd term among each of the series of terms below:
(i) Enteropneusta, Bivalvia, Gastropoda, Cephalopoda.....Enteropneusta
(ii) Madrepore tube feet; Nematoda, Stone canal.....Nematoda
(iii) Paramecium, Trypanosoma, Euglena, Trichonympha.....Euglena
(iv) Gastrovascular cavity, Mesoderm, Mesogloea, Tentacle.....Mesoderm
(v) Hemichordata, Cephalochordata, Urochordata; Ophinoidea.....Ophinoidea
5. By means of an annotated diagram only show the parts seen in vertical section of a sponge, and the direction of water flow in life, (Draw on the slip of this page).

RIVERS STATE UNIVERSITY

NKPOLU-OROWOKWO PORT HARCOURT

DEPARTMENT OF APPLIED AND ENVIRONMENTAL BIOLOGY

SECOND SEMESTER

2017/2018 SESSION LIKELY EXAMINATION

COURSE TITLE: BASIC BIOLOGY II COURSE CODE: BIO 102 DATE:

NAME:

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SIGNATURE:

INSTRUCTION: Attempt all questions in the spaces provided

1. State the differences between the following pairs
 - (a) Crab and Lobster. *Crab has reduced Abdomen and possess more than one series of gills while Lobster has long Abdomen and does not possess more than one gill*
 - (b) Earthworm and Ascaris lumbricoids. *Earthworm has segmented and elongated round bodies whereas Ascaris lumbricoids has unsegmented and cylindrical bodies*
2. State two similarities of the following pairs
 - (a) Crabs and Lobster. *Both have segmented body (i) Both breath by gills (ii) Carapace covers their thorax*
 - (b) Earthworm and Ascaris lumbricoids. *Both are bilaterally symmetrical.*
 - (c) Both have soft body.
3. Mention two parasitic adaptations of *Body covered with cuticle to resist digestion by host enzymes*
hooks & teeth for attachment
 - (a) Nematodes (i) mouth has cutting plates (ii) flat shape and length of the body provide sufficient area for absorption
 - (b) Tapeworm (i) hooks & suckers for attachment (ii) flat shape and length of the body provide sufficient area for absorption
4. What are the causative agent of the following diseases
 - (i) Elephantiasis. *Wuchereria bancrofti*
 - (ii) Malaria. *Plasmodium spp*
 - (iii) Onchocerciasis. *Onchocerca volvulus*
 - (iv) Echinococcosis. *Echinococcus granulosus*
5. State
 - (a) Two phyla with radial symmetry (i) Cnidaria (ii) Ctenophora
 - (b) One phylum with cellular level of organization. *Poriferans*
 - (c) Five phyla under tissue/organ level of organization
 - (i) Annelida (ii) Nematoda (iii) Mollusca (iv) Arthropoda (v) Echinodermata
 - (d) Three phyla with Bilateral symmetry (i) Chordata (ii) Nematoda (iii) Platyhelminthes
 - (e) Five phyla with true coelom (coelomates) (i) Mollusca (ii) Annelida (iii) Arthropoda (iv) chordata (v) Echinodermata
6. Mention three classes of vertebrate that are fish and live in water
 - (i) Chondrichthyes (ii) Osteichthyes (iii) Agnatha
7. Give two examples of the following phyla
 - (a) Chordata (i) Birds (Aves) (ii) Man (mammals)
 - (b) Echinodermata (i) Star Fish (ii) Sea Cucumber
 - (c) Arthropoda (i) Spider (ii) Crayfish (Crustacea)
 - (d) Mollusca (i) Snails (ii) mussels
 - (e) Nematoda (i) Round Worms (ii) hookworms, Filaria
 - (f) Annelida (i) Leeches (ii) Earthworms
 - (g) Platyhelminthes (i) Tapeworm (ii) Liver Fluke

<p>7. Name the seven phyla of protists (i) Axonopyle (ii) Acetospora (iii) Ciliophora (iv) Microspora (v) Chlorophora (vi) Leptothrixithomorpha (vii) Sarcostrophora</p> <p>8. Mention (a) Two phyla of protists that possessed either flagella, Pseudopodia or cilia (i) Ciliophora (ii) Soricomastigophorea (b) One class of protists that is plant Phytomastigophorea, and one class that is animal Zooplastigophorea</p> <p>9. Four cells in sponges Pinacocytes (ii) Amphibocytes (iii) Porocytes (iv) Chondrocytes</p> <p>10. What do you understand by (i) Phagocytosis (ii) Metamorphosis. Is the metamorphosis in development in which the 2. By 5. They do not look like the adult form (iii) Conjugation Is a simple type of sexual reproduction in which the nuclear material is passed from one cell to another (iv) Symmetry</p> <p>11. State three peculiar features of each of the following (i) Jawless Fishes (ii) Lected Paired Fin Fish Fresh water marine fishes (ii) Chondrichtyans (i) Nect. Smith. bolder (ii) Socially gregarious (iii) Have five rows of serrated teeth (iii) Osteichthyes (i) Possess swim bladd. (ii) Bony skeleton (iii) Covered in fl. operculum</p> <p>12. The Arthropods are bilaterally symmetrical and are segmented into three parts namely (i) Head (ii) Thorax (iii) Abdomen</p> <p>13. Animals in the phylum phasmidines can be divided into three groups namely (i) Turballaria (ii) Triloboda (iii) Ceroda</p> <p>14. The mosquito possesses a piercing mouth parts called Proboscis and the mouth parts altogether form a strong Style which ease penetration in to the skin (a) State three reasons why plant classification is necessary (i) It makes the study of plants planter easy & convenient (ii) It saves time & avoid confusion during plant research (iii) It provides information about plants in a specific geographical region</p> <p>15. What is double fertilization. Occur in angiosperm where one sperm cell in the male gamete fuses with the egg cell in the embryo sac to form a zygote while fertilization (b) Briefly describe the female reproductive part of the flower (i) Pollen grain Stigma The Gynoecium are the female reproductive parts of flower (ii) Embryo sac Antipodal cell Synergids Definitive nucleus Dorsal Ventral Minipyle Pistil (fused carpels)</p>	<p>NAME OF MATERIAL SIGNATURE DEPARTMENT</p> <p>1. Name (i) Mono (ii) Fungus State (i) It (ii) At 2. 6. They 3. State (i) It (ii) At 4. Name (i) QV (ii) The 5. State (i) Q.I.F (ii) I 6. State (i) Any (ii) Many 7. Name (i) IT 8. Name (i) IT 9. Name (i) AI 10. Name (i) IT 11. The 12. The 13. The 14. The 15. The 16. The 17. The 18. The 19. The 20. The 21. The 22. The 23. The 24. The 25. The 26. The 27. The 28. The 29. The 30. The 31. The 32. The 33. The 34. The 35. The 36. The 37. The 38. The 39. The 40. The 41. The 42. The 43. The 44. The 45. The 46. The 47. The 48. The 49. The 50. The 51. The 52. 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NKPOLU-ORWORUKWO, PORT HARCOURT
BASIC BIOLOGY II (BIO 102)

OPTION B

Date:

Time: 1½ hours

NAME OF STUDENT:

MATRIC NUMBER:

SIGNATURE:

DEPARTMENT:

1. Name two differences between monocotyledonous and dicotyledonous plant
(i) Monocots bear seeds with one cotyledon each while Dicots bear seeds with two cotyledons (ii) They have Fibrous root system while Dicots have taproot system
2. State two reasons why angiosperms are said to be successful
(i) They can adapt to almost every kind of habitat (ii) They have an abundance of water-conducting vessels
3. State two importance of the shoot system.
(i) It holds the leaves in the best position for receiving sunlight.
(ii) It conduct water and mineral salts from the roots to the leaves.
4. Name the female parts of a flower (i) carpel (pistil) — corolla
(ii) ovary → Gynoecium
5. The pollen tube normally enters the ovule through the
Micropyle
6. State two difference between a fruit and seed.
(i) Fruit has two scars while seed has one scar
(ii) The ovary form the fruit while the ovule form the seed
7. What is meant by the term abscission? It is a process by which leaf, fruit or any other plant organ falls from the plant naturally
8. Mention two anatomical changes that result to abscission.
(i) The leaf turns yellowish or brownish (ii) A layer of cork cells forms just below the abscission layer (a separation layer)
9. Mention two differences between epigeal and hypogean germination
(i) In Epigeal the cotyledone is raised above the surface of the soil while (ii) In Hypogean the cotyledon remains below the surface of the soil
10. What is meant by the term "vivipary"? This is a situation whereby the young develop inside the female's body, when fully developed the young are born alive
11. The regions of active growth in plants are referred to as
Apical meristems

(28i) Identify specimen a-f

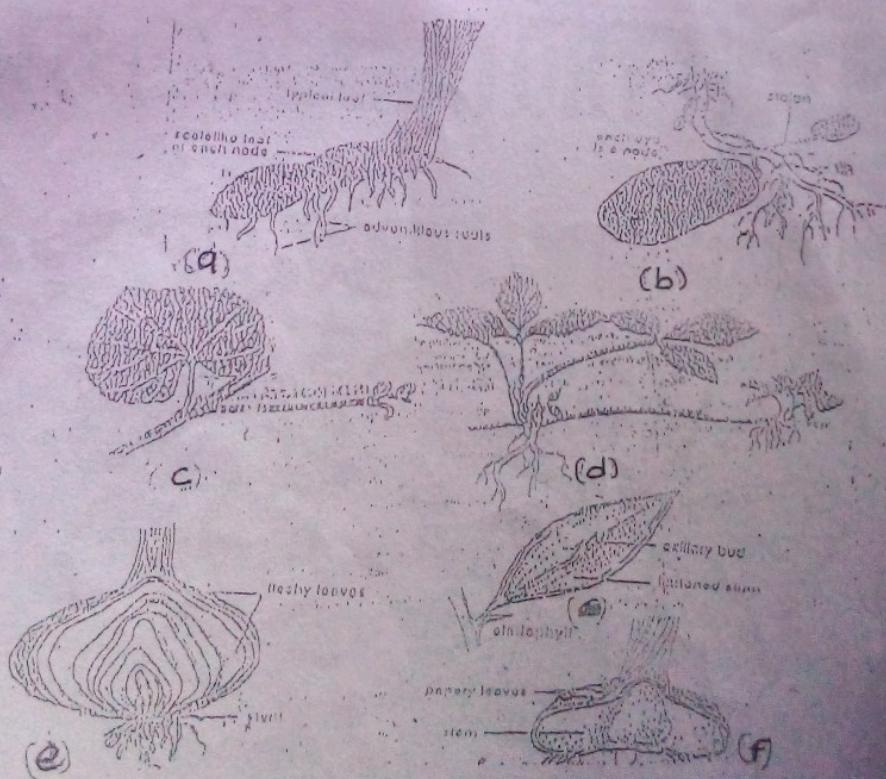
- a..... Rhizome (cannaliby)
- b..... Leguminous plant (groundnut)
- c..... Dicotyledonous plant
- d..... Runner (sweet potato)
- e..... Bulbs (onions)
- f..... Corm (cocoyam)

(ii) State two differences between specimen a and c

..... Rhizome is a monocot (specimen a) while specimen c is advent.

(ii) specimen 'a' has adventitious root system while specimen 'c' has a taproot system

(iii) Name the type of reproduction found in specimen a and c with two cotyledons
..... vegetative reproduction



- v) Give four examples of molluscs. (i) Snails (ii) Periwinkles
 (iii) Oysters (iv) Octopus (v) Mussel
19. State four diagnostic features of arthropods. (i) Segmented bodies (ii) bilaterally symmetrical bodies (iii) triploblastic animals (iv) Their bodies are protected by hard and segmented exoskeleton.
30. Name four economic importance of arthropods. (i) They destroy our foods, clothes, shoes and boxes e.g. cockroach. (ii) Some of them (grasshopper) destroy vegetation or farm land or crops. (iii) Many of them are vectors of deadly diseases such as diarrhoea e.g. housefly. (iv) Some of them destroy large quantities of grains (rice, beans) e.g. weevil
31. Why are echinoderms referred to as pell-mell animals? Their body does not support fast movement, besides they are slow movement because they do not have head nor brain. (movement not properly co-ordinated)
32. What are the features of chordates?
 (i) All chordates have elongated bilaterally symmetrical bodies
 (ii) They are triploblastic animals (iii) They have no notochord at some phase in their life cycle which develops to vertebral column in adult stage
 (iv) They have head, tail, and a digestive system with an opening at both ends of the body
33. State four features which the chordates share with other animal phyla
 (i) Bilateral symmetry
 (ii) They have head
 (iii) ...
34. Give two examples of Aerania
35. Make a large labeled diagram of an insect

