

NAME:

MATRIC NO:

DEPARTMENT:

SIGNATURE:

ANSWER ALL QUESTIONS

1. Mention the protozoa that lack cell wall but posses pellicle... Euglena
2. The scorpion pince's 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... protoblastic grade of organization
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... Parachymula larva
11. Which phylum contains animals that are Pentaradially symmetrical? Echinoderma
12. The first group of invertebrate to develop a true nervous system are... Platyhelm
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
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-OROWORUKWO 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 etc
Chordata.....elongated bilaterally symmetrical bodies, Triploblastic animals, possess internal skeleton, a 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
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, Mesogloca, 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
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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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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 (ii) Both breath by gills*
 - (b) Earthworm and Ascaris lumbricoids. *Both are bilaterally symmetrical.*
 - (c) *Both have soft body*
3. Mention two parasitic adaptations of
 - (a) Nematodes (i) *mouth has cutting plates* (ii) *body covered with cuticle & resist digestion by host enzymes*
 - (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) *Diplopeltichthyes* (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 (Crustacean)*
 - (d) Mollusca (i) *Snails* (ii) *Mussels*
 - (e) Nematoda (i) *Roundworms* (ii) *hookworms, Filaria*
 - (f) Annelida (i) *Leeches* (ii) *Earthworms*
 - (g) Platyhelminthes (i) *Tapeworm* (ii) *Liver Fluke*

- (h) Coelenterata (i) ...Jelly Fish (ii) sea anemone
8. Name the seven phyla of protozoa (i) Apicomplexa (ii) Acanthospora
 (iii) Myxozoa (iv) Microspora (v) Ciliophora
 (vi) Labyrinthomorpha (vii) Sarcomastigophora
9. Mention
 (a) Two phyla of protozoa that possessed either flagella, Pseudopodia or cilia
 (i) Ciliophora (ii) Sarcomastigophora
 (b) One class of protozoa that is plant Phytomastigophorea and one class that is animal Zoomastigophorea
 (c) Four cells in sponges
 (i) Pinacocytes (ii) Amoebocyte
 (iii) Porocytes (iv) Choanocytes
10. What do you understand by
 (i) Phagocytosis
 (ii) Metamorphosis Is the prechanges in development in which the early stages do not look like the adult form
 (iii) Conjugation Is a simple type of sexual reproduction in which nuclear material is passed from one cell to another
 (iv) Symmetry
11. State three peculiar features of each of the following
 chondrichthyes (i) Agnatha (ii) Jawsless Fishes (iii) Paired fins Found both in Fresh water and marine waters
 (ii) Chondrichthyes (i) lacks swim bladder (ii) cartilaginous skeleton (iii) Have five to seven gill slits
 (iii) Osteichthyes (i) Possess swim bladder (ii) Bony skeleton (iii) Gill covered with operculum
12. (a) The Arthropods are bilaterally symmetrical and are segmented into three parts namely (i) Head (ii) Thorax (iii) Abdomen
 (b) Animals in the phylum platyhelminthes can be divided into three groups namely (i) Turbellaria (ii) Trematoda (iii) Cestoda
 (c) The mosquito possesses a piercing mouth parts called proboscis and the mouth parts altogether form a strong stylet which ease penetration in to the skin
13. (a) State three reasons why plant classification is necessary
 (i) It makes the study of the whole plant variety easy & convenient
 (ii) It saves time & avoid confusion during plant research
 (iii) It provides information about plants in a specific geographical region
14. 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 the other unites with the two egg cells to form the triploid endosperm
15. (a) With the aid of diagram trace the route taken by nature pollen grain to effect fertilization
 (b) Briefly describe the female reproductive part of the flower
- 15(a)
-
- 15(b)
- The Gynoecium are the female reproductive parts of flower
 It consists of carpels
-
- The stigma received the pollen grains
 It passes through the style to the ovary which contains the ovules
 which houses the female gamete

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
(iii) 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 hypogeal germination
(i) In Epigeal the cotyledone is raised above the surface of the soil while (ii) In Hypogeal 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

12. The study which deals with the scientific principles of classification is called **Taxonomy**.
13. Define the term species? **Group of organism that can breed with each other.**
14. Mention the seven taxonomic categories. (i) Kingdom (ii) Phylum (Division)
(iii) Classes (vi) Order (v) Families (vii) Genus (viii) species
15. State two rules of classification. (i) The first word must begin with capital letter is the genus (ii) The second word begins with lower-case letter is the species (iii) The genus & species must be italicized or underlined
16. Give the scientific and common names of any four organisms you know
(i) KINGDOM → ANIMALIA PLANTAE ANIMALIA PLANTAE
COMMON NAME → Rat Maize Dog Rice
SCIENTIFIC NAME → Rattus rattus Zea mays Canis Oryza sativa
domesticus sativa
17. The man who introduced the binomial system of classification. A Swiss scientist CAROLUS LINNÆUS (1707-1778) in the year 1735 (plants), 1758 (animals)
18. State two characteristics of protozoa. → OR CAROLUS LINNÆUS
(i) They are unicellular, motile organism (ii) They reproduce asexually by binary fission
19. List one difference between the phytomastigophora and zoomastigophora. **Phytomastigophora possessed chlorophyll and can make their own food while zoomastigophora are animal like and cannot make their own food**
20. Name two medical importance of protozoa
21. Name two features of sponges (i) They live in colonies (ii) They do not move about but are attached to rocks or shells (iii) primitive multicellular
22. Name the examples of animals that belong to phylum coelenterate.
(i) Jelly Fish (ii) Hydra (iii) coral (iv) sea anemone
23. Name two Nematodes parasites you know. (i) Roundworm (ASCARIS)
(ii) Hookworms (iii) Guinea worms
24. What are pseudo-coelomates? **Organisms that lacks body cavity e.g. roundworm, hookworm, threadworm, guinea worm.**
25. Name two acelomatic organism you know.
(i) Leeches (ii) Tubeworms (iii) Earthworms
26. State two differences between the annelids and nematodes. (i) Annelids have true body cavity while Nematodes lacks body cavity. (ii) Annelids have long and cylindrical bodies while Nematodes have round cylindrical bodies
27. State two economic importance of the annelids.
(i) They loosen the soil and makes it well aerated
(ii) Dead worms enrich the soil (iii) The burrows created by earthworm enhance water drainage through the soil.

(28i) Identify specimen a-f

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

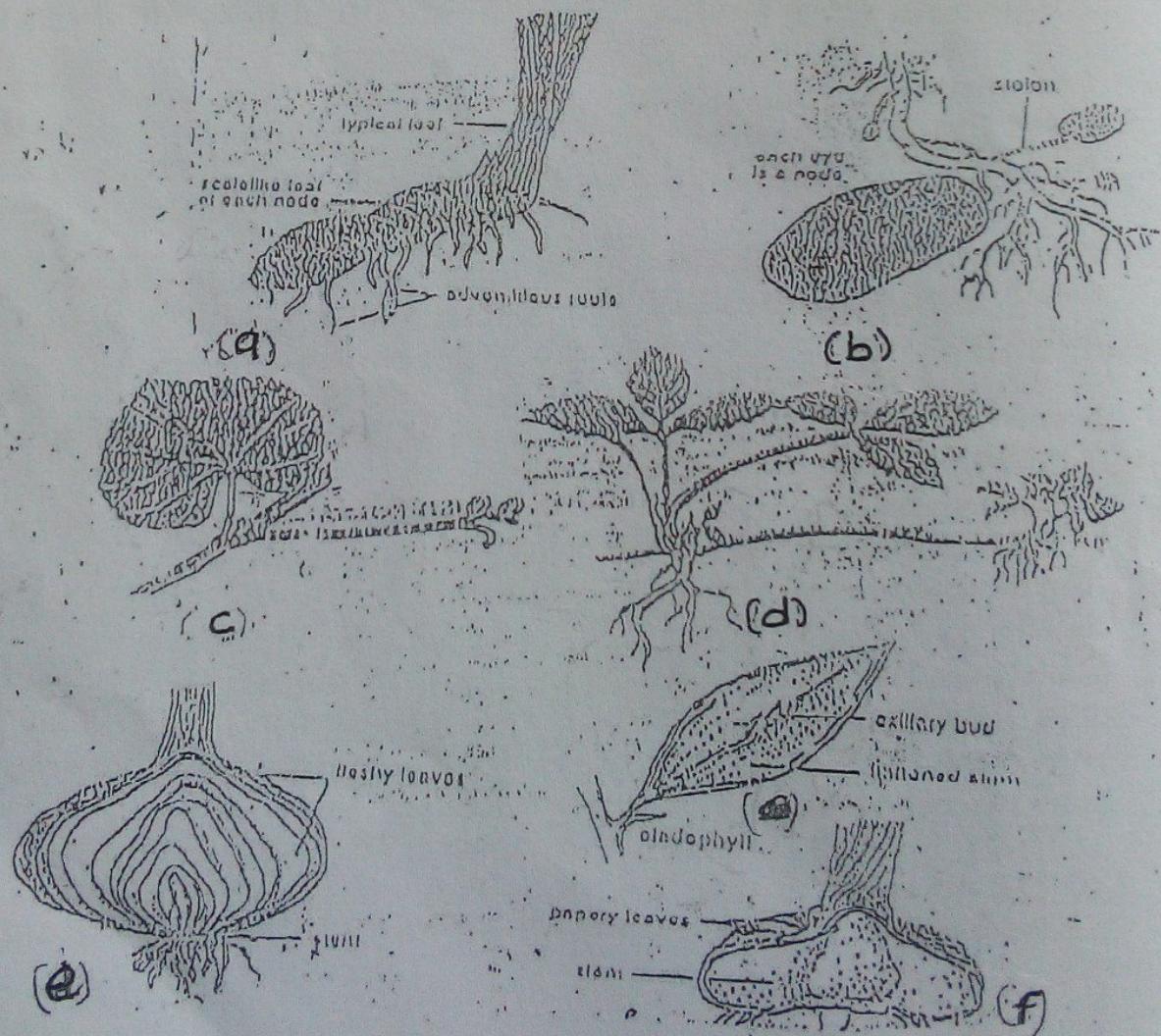
i) State two differences between specimen a and c

Rhizome is a monocot (specimen a) while specimen c is a dicot

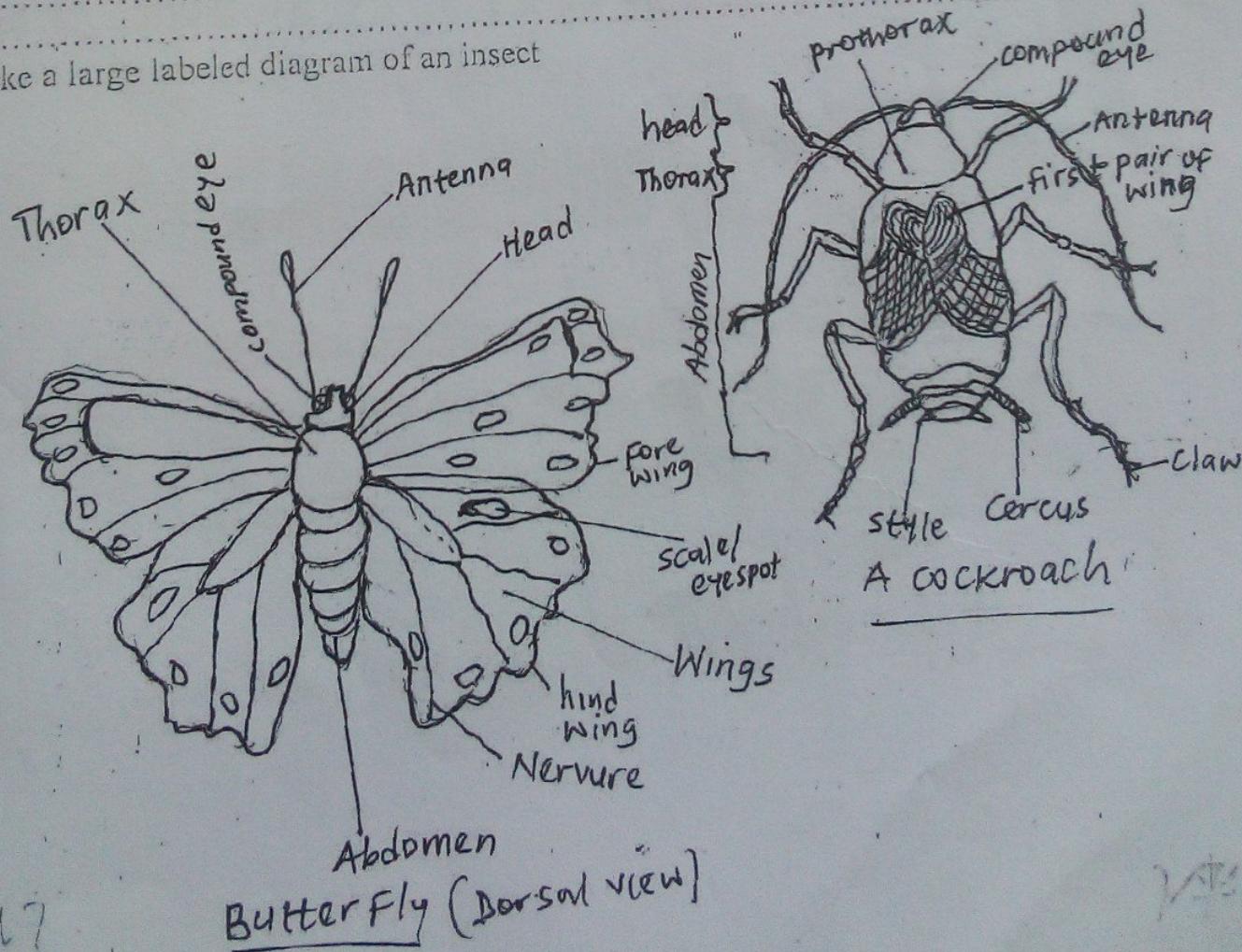
(i) specimen 'a' has adventitious root system while specimen 'c' has a taproot system (ii) 'a' has one seed with one cotyledon while 'c' has two seeds with two cotyledons

iii) Name the type of reproduction found in specimen a and e

vegetative reproduction



- (vi) Give four examples of molluses. (i) Snails (ii) periwinkles
 (iii) Oysters (iv) Octopus (v) mussel
29. 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 on 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 pionderous 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, a 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 bodies
 (ii) They have head
 (iii) ...
34. Give two examples of Acrania
35. Make a large labeled diagram of an insect



RIVERS STATE UNIVERSITY
NKPOLU - PORT HARCOURT
SECOND SEMESTER 2016-2018 LIKELY EXAMINATION QUESTIONS
COURSE TITLE: PRACTICAL BIOLOGY II
COURSE CODE: BIO 108
TIME: 1½ HR

INSTRUCTION: ANSWER ALL QUESTION

1. In gram staining, the use of dyes at different time to decide if bacteria can be differentiated by staining procedure when viewed under the microscope, the gram negative shows Pink colour while blue or purple colour indicates gram positive bacteria.
2. The word "Gram" is named after a pathologist called Christian Gram.
3. Acid dyes are negatively charged while basic dye are positively charge and bacteria cell are negatively charged.
4. Three examples of stains are i methylene blue ii safarain iii crystal violet
5. During bacteria identification by staining what is the function of the spirit flame sterilization of inoculating loop
6. Why does Gram positive bacteria holds purple colour Because it has a thicker cell wall
7. The application of alcohol during staining is to Dissolve the lipid (Fat) in the cell wall of Gram negative cell
8. Plants are grouped into two namely i Bryophyta ii Tracheophyta (vascular)
9. One special feature of vascular plant is possession of xylem and phloem
10. The pith gives Firmness to the root while the root hair helps to Absorb water and nutrient from the soil
11. Fauna are while flora are Fauna are animals found in the same location while Flora are plants found in the same location
12. During animal dissection e.g rat what will you do to see the heart of the animal Cut the rib cage

13. Mention two examples of (a) micro fauna i bacteria ii Nematodes
(b) macrofauna i Crab ii. Earthworm
14. The pistil in flower is made up of i stigma ii style iii ovary
15. The anther of a flower bears pollen grain while petals attracts pollinators
16. What are the function of (i) Phloem translocation of food materials (ii) Xylem Absorb H₂O from soil & transports it
17. When you get the animal to be dissected what is the first thing you do?
First suffocate with wool & formalin
18. A group of petals is referred to as corolla while group of sepals referred to as calyx
19. The peduncle of a flower serves as a stalk and hold the receptacle
20. The male part of the flower is called stamen whereas the female part is referred to as pistil
21. The classification of plants into ten divisions was done in accordance to their Evolution.
22. The main distinguish features between the angiosperm and gymnosperm are Angiosperm has enclosed ovules and seeds while gymnosperm has exposed (naked) ovules and seed
23. The angiosperm is divided into monocotyledon and dicotyledon
24. The ovary of a flower later develops into Fruit while the ovule develop into seed
25. The four regions or zones in developing young roots are i The region of initiation ii The root cap iii region of cell division iv The region of maturation
26. The outermost layer of the dicot root is the Epidermis while the cortex consists of several layers of thin-walled parenchyma cells
27. The tangential as well as radial walls of the endodermial cells have a deposition of water impermeable waxy material called suberin
28. In decot root, next to the endodermic is fluid walled parenchymatous cell referred to as pericycle

29. The parenchymatous cells which lie between the xylem and phloem are called conjunctive tissue
30. The differences between monocot root and dicot root is that the dicot root have fewer xylem bundles while monocot root do not undergo any secondary growth
31. An apical meristem at the tips of each stem produces the tissue resulting in the stems increase in length
32. Monocot stem has a Sclerenchymatous hypodermic
33. In dicot stem the pericycle is present on the inner side of the endodermic and above the phloem in the form of semi-lunar patches of sclerenchyma
34. The phloem parenchyma in monocot stems is absent while the vascular bundles are cojoint and closed
35. Modification of the stem permit specialized functions such as Climbing or sforage of food and water.