BIO 101 and BIO 103
EXAM PAST QUESTIONS

ELITE MEDIA NETWORK
08164824018

Believe in yourself and in what you can do because you are the best version of yourself
@ Okwudili Emmanuel

BIO 101

FIRST SEMESTER EXAMINATION
BASIC BIOLOGY I BIO 101 OPTION C

1. The mineral responsible for building bones is Calcium
2. When an organism have only once cell, it is called unicellular organism
3. Metazoans have many (multicellular) cells in them.
4. Another name for plasmodesmata is plasmodesma
5. Structures in a cell are called Organelles
6. The full meaning of ER is _____ and its function is _____
7. Two types of skeletal tissue include Bone and Cartilage
8. The clothing function in blood is due to coagulation while clotting funct
9. Ground or fundamental tissue include performed by platelets and _____
10. The tissue that transmit electrical message in man is Nervous tissue
11. The function of carrying oxygen from the heart to other parts of animal body is done Red blood cells or tissue.
12. The function of protection in animals' body is performed by Epithelial tissue.
13. Which similar cells are grouped together to perform a function, it is called Tissue

Part 2

14. Give a concise definition of cells
15. List six animal tissues and free tissues
16. State the cells theory

SOLUTIONS

6 ER - Endoplasmic Reticulum < Rough ER (isolation & transportation of protein
Smooth ER (synthesis and transporting lipids & ste

9 Collenchyma, Parenchyma, Schlerenchyma

14 Cell is a basic unit of all living organisms

15 i Blood tissue
ii Nervous tissue
iii Skeletal tissue
iv Muscular tissue
v Reproductive tissue
vi Epithelial tissue

16 CELLS THEORY
* Cells are the basic unit of structure in every living thing
* All living things or organism are composed of one or more cells
* The cell is the basic unit of life in all living things

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Gynaecia

COURSE TITLE: BASIC BIOLOGY I
COURSE CODE: BIO 101

OPTION D

TIME ALLOWED: 45 MINS

INSTRUCTION: ANSWER ALL THE QUESTIONS. FILL IN THE CORRECT ANSWERS IN THE SPACE PROVIDED

1. During mitosis nucleolus begin to disappear at ..... Prophase .....
2. If one side of a DNA molecule contains the following sequence of nucleotides, 3···AUC AGC···5` the complementary sequence on the other side would be 5'TAG TCG 3' .....
3. When DNA polymerase is in contact with guanine in the parental strand, what does it add to the growing daughter strand? ..... Guanine attach itself to Cytosine ..... they are both purines .....
4. A duplicated chromosome has how many chromatids? ..... 2 .....
5. How many chromosomes are in somatic cells of an organism that has a haploid number of 16? ..... 32 .....
6. The majority of meiosis 1 is spent in ..... Prophase 1 .....
7. In RNA Adenine pairs with ..... Uracil .....
8. What is meant by the term homologous chromosomes? ..... they are similar .....
9. The centromere moves toward the poles in ..... Anaphase .....
10. DNA replication is said to be semi conservative because .....
11. How many stop codons are there in the genetic code? ..... 3 stop codons .....
12. Which molecule serves to destabilize the DNA helix in order to open it up, creating replicating fork? .....
13. What is the term used to describe the process by which a segment of DNA is copied to produce two daughter DNA molecules ..... DNA Replication .....
14. What term is used to describe the process by which a segment of DNA is copied to produce a molecules of messenger RNA? ..... Transcription .....
15. Which of the molecules of RNA would you find an anticodon ..... t .....
16. What amino acid is coded by the triplet of bases AUG ..... Methionine .....
17. Proteins are complex biological molecules comprising of ..... 20 amino acids .....
18. Translation occurs in the ..... cytoplasm (RNA) ribosome .....
19. Given a single strand of DNA 3`···CTA GCA CGA···5, construct mRNA chain which will be made for the strand ..... 5'GAU CGU GCU 3' .....
20. Which of the RNA molecules serves as an adaptor molecule during protein synthesis ..... ~~RNA (transcription)~~ tRNA (transfer RNA) .....

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BIO 101 (MOLECULAR BIOLOGY) SOLUTIONS

OPTION

1. During mitosis nucleolus begin to disappear at prophase
2. If one side of a DNA molecule contains: 3` AUC AGC···5`
   Complementary DNA (cDNA) will be 5' TAGTCG 3'
3. Guanine (G) attaches itself cytocine (C). They are both pyramidine
4. A duplicated chromosome has two chromatids — chromatids
5. No. of haploid cell = 16 i.e (n)
   Where n is haploid ···somatic cell (2n) = 2x16 = 32 chromosomes
6. The majority of meiosis 1 is spent in prophase 1
7. In RNA strand, Adenine (A) pairs with Uracil (U) A ↓ U or A ⋮ U
8. Homologous chromosomes are similar or like chromosome pairs. It c be dominant (AA) or recessive (aa). It can be observe in late prophase
9. The centromere moves towards the poles in Anaphase
10. DNA replication is said to be semi conservative because "old strand DNA to be replicated are not totally removed but modified".
11. Given the following DNA strand, how many stop codons are there

STOP: {UAA}, {UAG}, {UGU} (1, 2, 3) START CODON: {AUG} (1)

start codon is one
stop " " three

Codons are read in group of threes
∴ There are 3 stop codons

(PLS NOTE: There are about 64 Codons for protein synthesis)

12. Molecule that serves a function of destabilizing the DNA helix in orde open it up and create replicating fork is the: Helicase(these breaks base pairs).
13. The process of copying DNA segment to produce two (2) daughter D molecule is called: DNA Replication.
14. Transcription is the process by which a segment of DNA is copied produce a molecule of messenger RNA.
15. messenger RNA (mRNA)
16. AUG codes for an Amino acid is called Methionine
17. Proteins are complex biological molecules comprising of Twenty Amino Acid.
18. Translation occurs in the Cytoplasm by tRNA
19. Given a single strand of DNA 3` CTA GCA CGA 5` construct the mR chain .....
    5' GAU CGU GCU 3'

messanger RNA (mRNA) is the molecule you can find an anticodon

20 During protein synthesis rRNA(ribosome RNA) serves as an adaptor
NOTE: tRNA serves as the actual

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Staphylococcus

DEPARTMENT OF ANIMAL AND ENVIRONMENTAL BIOLOGY

RIVERS STATE UNIVERSITY

PORTHARCOURT

FIRST SEMESTER EXAMINATION, 2020/2021 SESSION

COURSE TITLE: BASIC BIOLOGY 1 COURSE CODE: BIO 101

CREDIT UNIT: 3 TIME ALLOWED: 1 HRS TEST (C.A)

NAME OF CANDIDATE .....

MATRICULATION NUMBER.....

DEPARTMENT.....

INSTRUCTION: Answer all the questions. All questions carry equal marks.

1. The branch of microbiology that studies the function and diversity of microbes in their natural habitats is called.....Environmental Microbiology.....
2. Mention 2 human gut microbiota. ...Staphylococcus species.....and...Streptococcus Species
3. The vast majority of viruses possess either... DNA ...or... RNA .....but not both.
4. Viruses are unicellular, microscopic, prokaryotic organisms that reproduces by binary fission . True or false.
5. The beginning of microbiology started with the invention of..... Microscope .....
6. Meiosis/Mitosis cell division produces gametes with half number of chromosomes.
7. Centrioles are involved in the formation of Cilia and flagella
8. Epidermal tissue is the protective outer covering of the animal body and plays the same function as the epithelial tissue in plants.
9. Cambium is present in the vascular bundle of dicotyledonous stem but absent in monocotyledonous stem.
10. Shuffling of genes occur during Meiosis / Meiotic cell division.
11. The ribosomes are mainly manufactured in the Cytoplasm of the cell
12. Leucoplast are colourless plastids while Chloroplast plastids are coloured.
13. In Mitosis cell division, a single cell divides to form two identical cells.

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14 Calcium phosphate makes the vertebrate bone extremely hard.

15 The Nucleus is the brain box of the cell.

16 Invasive species is a species from "elsewhere" that causes harm to human economy or standard of living.

17 List two types of food chain. Saprophytic food chain, parasitic food chain

18 list two benefits of microbial activities. i) They are involved in food fermentation e.g yorghurt, alcohol & beverages production ii) Recycling of nutrient such as nitrogen, Sulphur, carbon etc. for plant use.

19 list four edaphic factors that influence the ecosystem(s). Soil texture - Soil air - Soil pH - Soil water - Soil temperature

20 The development of adaptations or set of adaptations by an organism that leads to creation of new species is called... Speciation

21 If the sequence of one of the strand of DNA is 5' GCA CTT AAC 3' the general sequence of the complimentary strand would be 3' CGT GAA TTG 5'

22 The chemical bonds in DNA by which the sugar component of adjacent nucleotides are linked through the phosphate groups are called Hydrogen bond

23 The three base pair sequence found on an mRNA strand is called the Codon

24 Mention two types of nuclei acid. i) Deoxyribonucleic acid (DNA) ii) Ribonucleic acid (RNA)

25 The DNA molecules is the shape of a Double helix

26 Name two habitats you know. Terrestrial habitat - Aquatic habitat.

27 The study of the relationship between organisms and their environment is termed Ecology

28 Why is DNA often called the blue print of life. It is because it contains the information Hereditary information required for organisms growth, development and reproduction

29 In an ecosystem, the green plants that manufacture their food through photosynthesis are called autotrophs

30 Name two importance of the study of biology. - Crime detection via finger - The knowledge of biology provide cure of diseases.

Good luck!

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BASIC BIOLOGY I (BIO101)
2020/2021 SOLUTIONS

(1) Environmental microbiology
2. i staphylococcus species
ii streptococcus species
3. DNA or RNA
4. False
5. Microscope
6. meiosis/meiotic cell
7. cilia and flagella
8. Epidermal tissue
Epithelial tissue in plants
9. cambium
10. meiosis cell/meiotic cell
11. Cytoplasm of the cell
12. Leucoplast (colourless)
chloroplast (coloured)
13. Mitosis
14. Calcium phosphate
15. Nucleus
16. Invasive species
17. (i) Saprophytic food chain
(ii) parasitic food chain
18. (i) They are involved in food fermentation e.g yorghurt, Alcohol & beverages production
(ii) Environmental clean-up such as bio-remediation
(iii) Recycling of nutrient such as Nitrogen, sulphur, Carbon etc for plant use (Extra point)
19. i soil texture
ii soil air
iii temperature of the soil
iv soil PH
v soil water

Speciation
20.
21. 3' TTG GAA CGT 5'
22. Hydrogen bond
23. Codon
24. i Deoxyribonucleic acid (DNA)
ii Ribonucleic acid (RNA)
25. Double helix
26. i Terrestrial habitat
ii Aquatic habitat
iii Arboreal habitat
27. Ecology
28 It is because it contains the information (hereditary information) required for organisms growth, development, survival and reproduction
29. Authotrophs
30. i Biology help us to investigate the environmental factors that threaten human existence
ii crime detection via finger print
iii Biology supports Agricultural development/yields
iv. The knowledge of biology provide cure of diseases

STUDY THE QUESTIONS BELOW

35. The three consecutive events that takes place when cell divides are (Karyokinesis, cytokinesis and cell separation)
(36) Meiosis is otherwise known as-(Reduction division)
(37) — refers to the number of sets of chromosomes (ploidy)
(38) All other chromosomes have homologues except - (Sex chromosome X, Y)
(39) The three major events during mitosis are (i chromosomes condense ii spindle fibres Form iii chromosomes are captured by spindle
(40) Muscle cells comprise of i — ii — iii — (skeletal, Cardiac and smooth cell types)
(41) Smooth muscles are also called — or — (visceral or involuntary muscles)
(42) Epithelial cells are present in i — ii — iii — (ducts, organs of animals, internal cavities & exposed body surfaces)
(43) Fungus can either be a mild or — (yeast

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Rivers State University Port Harcourt, BIO 101 Basic Biology 1. First Semester Examination
2019/2020 Academic Session

Name ———— Matric no. ————

Department ————

SECTION A (Each question carries two marks; Total 70 marks)

1. Cells are grouped into two broad categories and types. Name the two groups of cells?

   A. Prokaryotic —— Cells
   B. Eukaryotic —— Cells

2. Name the three basic cell structures
   A. ~~Cytoplasm~~ Plasma Membrane
   B. ~~Sytoplasm~~ Cytoplasm
   C. ~~Centrosome~~ Nucleus.

3. Name one the critical function so vital to the existence of life that all cells perform it

   Metabolism

4. The E.R in plant cells has its own DNA and Ribosomes

5. Nerve cells or neurons are composed of three parts
   A. Cell body / or soma
   B. Dendrites
   C. Axon or fibre

6. Blood cells consist of two types
   A. Red blood cell —OR— Erythrocytes
   B. White blood cell —OR— Leucocytes

7. What is a tissue?
   A tissue is a group of cell having similar structure and functions. It can be found in plant and animal

8. Name any 4 organs where epithelial tissues are commonly found in animals
   A. Nostrils — Glandular or epithelial
   B. Mouth — Squamous
   C. Respiratory tract — Columnar epithelial
   D. Kidney tubules — Cuboidal

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9. Which specialized plant cell in the epidermis regulates gas and water exchange in leaves? Guard cells

10. Plant roots are generally composed of three types of tissues
A- Apical meristematic tissue
B- Ground tissue
C- Intercallary meristematic tissue

11. The beginning of Microbiology started with the invention of microscope in 1675

12. Lazzaro Spallanzani discovered that broth can be sterilized by boilin

13. Ferdinand Julius Cohn was the first to show that *Bacillus* can change from its vegetative state to a/an endospore state.

14. Koch's postulate is the criteria for establishing a causal link betwee a microbiology and a disease

15. The major interest of Microbiology includes (i)
(ii)
(iii) ; a
(iv)

16. The branch of Microbiology that studies microbial spoilage of meat and the associat diseases is food microbiology

17. While molds reproduce by producing asexual spores, yeast reproduce by budding

18. The autotrophic bacteria discovered by S Winorgradsky use a particular inorgani as the source of their cellular carbon. nitrogen source

19. List two food products produced through microbial fermentation processes: (i). Cheese (ii)- yoghurt

20. Give two means of limiting the human microbiome so as to maintain good health (i)- Proper oral hygiene
(ii) Bathing at least twice a day

21. Which type of cell division is responsible for the repair of your skin following a sun burn Mitosis (somatic cell)?

22. If a cell with 32 chromosomes divides by meiosis, how many chromosomes will each nucleus contain at telophase 1 (assume cytokinesis has occurred) 16 chromosom

23. Whats the best stage of cell division to study chromosome morphology Metaphase?

24. The points where exchange of genetic materials occurs in meiosis is called crossing over

25. Given a single strand of DNA 3' CTA GCA GCT 5', what will be the mRNA chain which would be made from the strand? 5' GAU CGU CGA 3'

26. RNA is produced in the Nucleus of a cell.

27. DNA replication always occurs prior to Division

28. Habitat is defined as a place an organism naturally live or its dwelling place, while environment means surrounding in which an organism interact or the totality of the factors that influence organisms

29. Two abiotic factors of aquatic systems are

(i) Current, pressure, temperature

(ii) Salinity, tides, waves

30. Soil texture is the degree of coarseness or finess of soil particle

31. Ecologist use Ferry Thermograph to measure water temperature at great depths, while they use Secchi disc to determine transparency of water

32. Planktonic organisms have three adaptations for floating, namely (i) ——— (ii) ——— (iii) ———

33. The term ecosystem was coined by Tansley, a british ecologst in 1935 and is defined as ———

34. Synecology means a type of ecology that deals with a group of population communities of ecosystem in relation to their environment

35. Ecological niche is defined as the functional position and role played by an organism as a member of its community

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Rivers State University Port Harcourt, BIO 101 Basic Biology 1. First Semester Examin

2019/2020 Academic Session

Name_____ Matric no. _____

Department_____

SECTION A (Each question carries two marks; Total 70/marks)

1. Cells are grouped into two broad categories and types. Name the two groups of

   A_____Cells

   B_____Cells

2. Name the three basic cell structures

   A_____

   B_____

   C_____

3. Name one the critical function so vital to the existence of life that all cells perform

   _____

4. The_____in plant cells has its own DNA and Ribosomes

5. Nerve cells or neurons are composed of three parts

   A_____

   B_____

   C_____

6. Blood cells consist of two types

   A_____OR_____

   B_____OR_____

7. What is a tissue?

   _____

   _____

   _____

8. Name any *4* organs where epithelial tissues are commonly found in animals

   A_____

   B_____

   C_____

   D_____

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Rivers State University Port Harcourt, BIO 101 Basic Biology 1. First Semester Examinatio
2019/2020 Academic Session

Name---------- Matric no. ----------

Department----------

SECTION B (Each question carries one mark; Total 30 marks)

1 Plant cells found in the xylem consists of 3 types of elongated cells
A-- Xylem fibres
B-- Tracheid
C-- Vessel elements

2. The phloem consist of two types of conducting cells
A-- Sieve cells elements
B-- Parenchyma cells

3. The growing points of plants are called Meristematic tissues
those at the tips of stems and roots are called Apical meristem tissue

4. The ground or fundamental tissue systems of plants consist of three types of tissue
A- Parenchyma
B- Collenchyma
C- Schlerenchyma

5. The phospholipids in the cell membrane consist of an ---------- polar charged (hydrophillic) head and on uncharged (Hydrophobic) tail

6. State three functions of the cell wall in plants
A- It gives rigidity to plant
B- It provide shape to the plant
C- It provide support to the plant

7. Metabolic reactions take place in the Mitochondria of plan animal cells

8. Name the cell organelle that looks like stacks of flattened sacs, which receive distributes proteins made by the Endoplasmic Reticulum and has shippin receiving sides---------- Golgi bodies ----------

9. ---------- Lysosome ---------- contains/stores digestive enzymes, break down bacteria, and worn out cell parts for cells, and release enzymes to break dc recycle cell parts

10. In the first century, Marcus Terentius Varro warned against locating home swamps because "there are bred certain minute creature that can cause s diseases.

11. Using a microscope, Antonie van Leeuwenhoek established that there were fo life that were - Visible to the naked eye.

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12. Ferdinand Iulius cohn classified pacteria into (i) Spherical, (ii) Short
(iii) Spiral, and thread, which is still in use today
13. The criteria for establishing a causal link between a microbe and a disease is know
Koch's Postulate
14. The major interest of microbiology ind
(ii)
(iii)
(iv)
15. Medical Microbiology is a branch of Microbiology that studies pathogenic
microbes and that of microbes in human illness
16. While molds Are filamentous fungi, yeasts are multicellular fungi
17. In the nitrogen cycle, fixation of atmospheric nitrogen is carried out by only
Azobacter or Rhizobium
18. Give one benefit of microorganisms or their activity- Sustaining agriculture
19. Give one example of a microorganism found on the skin (i)- Candida spp
20. Which type of cell division produces genetically identical daughter cells? -
Mitosis
21. How many mitotic divisions are needed for a single cell to make 128 cells
$2^n = 2^7$, $n = 7$
22. In the double helix structure, a certain purine always pair with a certain Pyrimi
23. DNA replication is described as semi- conservative because the daughter
molecules contain one newly synthesized strand and one old synthesized strand
24. Triplet of nucleotide bases that codes for amino acids are called- Codon
25. A food chain is defined as transfer of energy and nutrients
through a successive organisms by repeated process
of eating and being eating
Give 3 example of climatic factors.
26. Give three examples of climatic factors.
(i)- Temperature
(ii)- humidity
(iii)- Pressure
27. What is a Psammosere? It a serial community, a climax
community which is where a plant succession
does not develop any further because it has reached
equilibrium with the environment at a particular climate
28. Oligohaline fishes occur in- Brackish water
29. While Euryhaline fishes live in Estuaries
30. Tall trees of tropical rainforests have Buttress root
roots as adaptation
their heavy timber.

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unding in which an organism interract or the totality of the factors that influences organisms interractions

29. (i) current, pressure, temperature, Oxygen concentration
(ii) Salinity, Tides, waves Density, light penetration and so on.
(9 Factors are mentiond above)

(30) Soil Texture is the degree of coarseness or fineness of soil particles

31. Thermograph (water temp. at great depth)
secchi disc (transparency of water)

32. i.
ii.
iii.

33. Tansley, a British ecologist in 1935
Ecosystem is concerned with the structure and working of ecological systems in relation to space and time or it is the functional relationship that exist btw the biotic & abiotic components.

34. Synecology is type of ecology that deals a group of population communities of ecosystem in relation to their environment.

(35) Ecological Niche is the functional position and role played by an organism as a member of its community OR it is the total sum of an organisms actual dwelling place in the habitat, role in ecosystem, requirement for biotic resources and tolerance ranges for each abiotic factor.

SECTION B SOLUTIONS
BASIC BIOLOGY 1 (30 MARKS)

(1) A. Tracheids
B. xylem Fibres
C. vessel elements

2. A. Sieve elements
B. parenchyma cells

3 Meristematic tissues, Apical meristem tissues

4. A. parenchyma B. collenchyma
C. sclerenchyma

5. Hydrophillic, Hydrophobic tail

6. A. it gives rigidity to plant
B it provide shape to the plant
C. It provide support to the plant

7. Mitochodria
8. Golgi apparatus (9) Lysosome
10. minute creature (11) not visible
12. i spherical ii short rods
iii spiral iv thread
13. Koch's postulate
14. check NO. 15 in section A
15. pathogenic microbes and that of Microbes in human illness. It also involves the study of microbial pathogenesis and epidemology that is related to the study of disease pathology and immunology.
16. multicellular Fungi

BIOLOGY 1 SOLUTION

2019/2020 BIO 101

SECTION A

1 (A) prokaryotic cells
(B) Eukaryotic cells

2. A cuboidal
B squamous
C columnar

3. Mentabolism

4) Endoplasmic Reticulum

5. A. Axon or Fibre
B Cell body or soma
C Dendrites or a system

6. A Red blood cell or Erythrocytes
B White blood cell or Leucocytes

7. A tissue is a group of cells having similar structure and functions. It can be found in plants and animal

(8) A. Nostrils - Grandular epithelial
B. Mouth - squamous ,,
C. Wall of intestine/respiratory tract - Columnar epitheliel
D Kidney tubules - Cuboidal

9. Guard cells

10 A. Apical Meristematic tissue
B. Intercallary meristematic tissue
C. Ground tissue

(11) Microscope in 1675

12. sterilized

13. endospore state

14. a causal link between a microbiology and a disease

15. i) characterisation of i... tious diseases
ii) study of immunity an... roles in prevention and c... diseases
iii) search for chemothe... peutic agents
iv) Analysis of chemical activities of microorga...

16. Food microbiology

17. Budding

18. a particular inorganic nitrogen source

19. i cheese ii yoghurt iii Bu... milk, leavened bread etc.

20. i proper oral hygiene
ii Bathing atleast twice everyday
(iii) By taking prebiotics a... probiotics (Extra)

21. Mitosis (somatic cell di...

22 each nucleus will co... 16 chromosomes

23. Metaphase

24. Crossing over

25. 5'GAUCG'UCGA3'

26. Nucleus

27. Division

28. Habitat is a place o... area where an organism naturally lives or it is a dwelling place that a... organism is likely to be found is sought fo... WHILE ENVIRONMENT is

17 Azobacter or Rhizobium

18. sustaining Agriculture – recycling of Nitrogen, carbon, Sulphur, magnesium etc thereby improving crop yield

19. Staphylococcus spp. Candida spp

20 Mitosis

21 Using 2^n

$2^n = 128$, $2^n = 2^7$ equating powers, $n = 7$, 7 mitotic divisions are needed

22. pyrimidine

23 One old synthesized strand

24. Codon

25 Food chain is the transfer of energy and nutrients through a successive organisms by repeated process of eating and being ~~eat~~ eaten

26 i Temperature
ii humidity, wind
iii pressure, cloud cover

27. Psammosere is a seral community; a climax community which is where a plant succession does not develop any further because it has reached equilibrium with the environment at a particular climate

28. Brackish water (Estuarine)

29. Estuaries and tide pools

30. Buttress roots or stilt roots.

May God Almighty Crown your effort with success.

Read to know and also Read to pass.

God Bless You!!!

OKWUDILI EMMANUEL
(Grace speaks)
Founder, ELITE MEDIA
08164824018.

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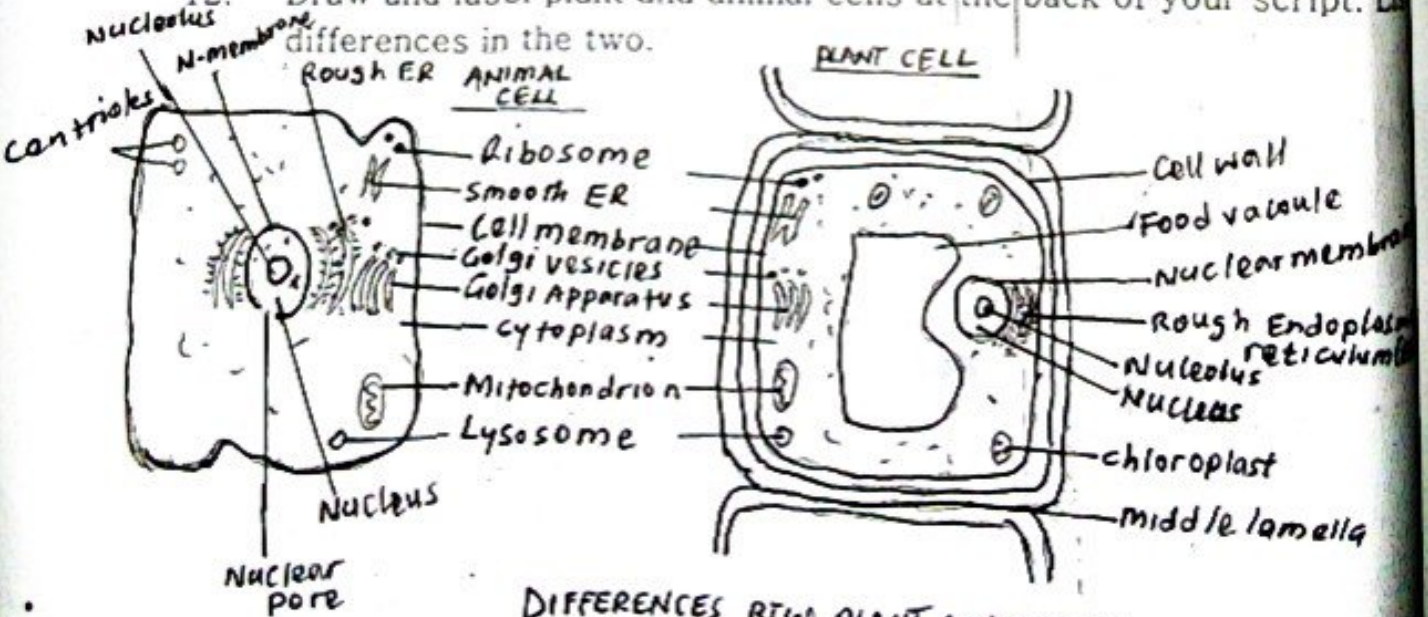
APPLIED AND ENVIRONMENTAL BIOLOGY
FIRST SEMESTER EXAMINATION
PRACTICAL BIOLOGY BIO 103

Instruction: Attempt all Time: 1 hr

1. Biologists are asked not to shade their drawings, why?
It makes the work rough/untidy (Biological drawing is not an Art
2. Why do we use biological stains like safranin during microscope
It makes the specimen more visible/to differentiate the organelles from e
3. Mention one importance of water in the cell during practical It he
the identification of all cell components/organelles becas H_2O is a major
nent of the cell
4. If you put your index finger into our cheek and brush, the cells yo
under the microscope are Squamous epithelial (animal cell) cells.
5. Free hand peeling onions bark shows plant (epidermal cells) cells u
microscope
6. The difference between onions cell and calhchilla cell is in The pre
of cell wall, chloroplast & large valuole in onion cell
7. In practice, we cannot see all cell organelles in light microscope
The light microscope uses light and glass lenses with low resolu
power compared to electron microscope that uses electron beam
magnet
8. The unit for cell
Microns
9. The first scientist to describe the cell
Robert Hooke
10. The cell theory was developed
Mathias Schleiden in 1838 and Theodor Schwann in 1839
11. Invention of compound microscope by Zacharias
12. Draw and label plant and animal cells at the back of your script. Li
differences in the two.



DIFFERENCES BTW PLANT AND ANIMAL CELL

ANIMAL CELL	PLANT CELL
(i) Centrioles present	centrioles absent
(ii) chloroplast absent	chloroplast present
(iii) cell wall absent	cell wall present
(iv) small valuole	large vacuole

You don't have to be great to start, but you have to start to be great. -Zig Ziglar

My dear, I just want to remind you that you have started your journey to greatness and success is sure for you if you diligently follow the path of excellence.

Do your best and leave the rest for God, because I am sure that God, who began the good work within you, will continue his work until it is finally finished on that day when Christ Jesus comes back again. Phil.1.6 (NLT)

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