

LRNAME: OKON

THEIR NAMES: ESTHER STEPHEN

ATRIC NO: 19/MH501/321

The 2019-2020 coronavirus pandemic is an ongoing pandemic of COVID-19 caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The outbreak was first identified in Wuhan, China, in December 2019. The World Health Organization declared the outbreak to be a public health emergency of international concern on 30 January 2020, and recognised it as a pandemic on 11th March 2020. As of 20 April 2020, more than 2.44 million cases of COVID-19 have been reported in 185 countries and territories, resulting in more than 168,000 deaths. More than 643,000 people have recovered, although there may be a possibility of relapse or reinfection. The virus is said to have its source from bats, possibly through pangolins. The virus is primarily spread between people during close contact, often via small droplets produced by coughing, sneezing, or talking. While these droplets are produced when breathing out, they usually fall to the ground or onto surfaces rather than remain in the air over long distances. People may also become infected by touching a contaminated surface and then touching their eyes, nose, or mouth. The virus can survive on surfaces for up to 72 hours. It is most contagious during the first three days after the onset of symptoms, although spread may be possible before symptoms appear and in later stages of the disease. Common symptoms include fever, cough and shortness of breath. There is no known vaccine or specific antiviral treatment. Primary treatment is symptomatic and supportive therapy.

The pandemic has led to severe global socioeconomic disruption, the postponement or cancellation of sporting, religion, political and cultural events. The pandemic has led to one of the largest global recessions in history, with more than a third of the global population being in lockdown.

The effects of the lockdown and restrictions of movement on Nigerians are as follows; Businesses will be shutdown. Only hospitals, medical and healthcare-related establishments, food establishments, etc will be open and monitored. Nigeria has a very high self-employment rate. This therefore shows that the various individuals will suffer loss. The three affected states are some of the most populated states in Nigeria, hence demand for food will be high and as such, the price of food would be increased. Nigeria which solely depends on the crude oil for its economy will suffer as there are no more exportation and importation going on.

NAME: OKON, ESTHER STEPHEN

REGISTRATION NO: 19/MHS01/321

DEPARTMENT: MBBS

QUESTION 1

PLANT KINGDOM

DIVISION	CLASS
Thallophyta	Phycotinae (Algae) Mycotinae (Fungi)
Bryophyta	Hepaticae (Liverworts) Musci (Mosses)
Pteridophyta	Psilotinae (Psilotum) Lycopodiinae (Lycopodium, Selaginella) Equisetinae (Horsetails) Filicinae (Ferns)
Spermatophyta	Gymnospermae (Gymnosperms) Angiospermae (Angiosperms)

QUESTION 2

Importance of Algae to man are as follows;

1. Algae have high iodine content therefore prevent goitre.
2. Algae have been used for centuries, especially Asian countries, for their purported powers to cure or prevent illnesses.
3. Algae serves as food for man.
4. Brown algae yield alginic acid which is used to stabilize emulsions and suspensions.
5. Agar is used in the food industry to stabilize pie fillings and preserve canned meat and fish.
6. They are used as indicators of environmental problems in aquatic ecosystems.

QUESTION 3

UNICELLULAR FORM OF ALGAE

Chlamydomonas represents the unicellular and motile form of green algae. They are found in stagnant water usually along with other forms. Flagella are the structures for mobility.

The cell is bounded by a cellulose cell wall; contains organelles e.g. nucleus, mitochondria, stigma, cup-shaped chloroplast, pyrenoid.

- i. The nucleus carries the genetic programme of the cell;
- ii. The stigma is for photoreception.
- iii. The mitochondria mediate the elaboration of energy molecules.
- iv. Manufactured sugar is processed into starch on the pyrenoid.

QUESTION 4

In chlamydomonas, reproduction can either be vegetative (asexual) or sexual.

Vegetative reproduction: results in production of daughter cells in which the amount and quality of genetic material in the nucleus of the mother cell is maintained in the daughter cells. Thus, if the amount of genetic material in the mother cell nucleus is n , the daughter cells also have a quantity of genetic material.

This kind of cell division which maintains the quantity and quality of genetic material is called mitotic divisions. It is responsible for increase in number of cells in unicellular organisms and for increase in size in multicellular organisms. In chlamydomonas, a cell about to divide loses its flagella. The cell undergoes mitotic division leading to two nuclei; cell walls are elaborated which delimit cytoplasm around each nucleus i.e. two daughter cells (zoospores) are released. Increase in the population of cells in a colony is achieved by repeated mitotic divisions.

Contd.

Sexual reproduction: In *Chlamydomonas*, aggregation of cells (clumping) in a colony occurs under favourable conditions. These cells pair by their posterior (flagellated) ends. This pairing is said to be isogamous because the pairing cells (gametes) are morphologically identical. The cytoplasm of the pairing cells fuse (Plasmogamy) and the flagella are lost. The two nuclei fuse (Karyogamy); this situation is essentially a fertilization process so that a zygote is formed. In other words, two cells each with n quantity of genetic material undergo karyogamy to produce a single cell with $2n$ nuclear material. The zygote secretes a thick cell wall called a zygospore and may remain dormant in that state for sometime.

After karyogamy, the zygote undergoes two successive cell divisions, the first division restores the haploid condition by halving the nuclear material in the two resulting nuclei, while in the second division each haploid nucleus undergoes a normal mitotic division. These two divisions which end up with four cells and with n quantity of nuclear material are together known as meiosis. The four products of meiosis are released as haploid zoospores.

QUESTION 5

DIFFERENCES

<i>Pandorina</i>	<i>Volvox</i>
1. It is composed of 8, 16 or sometimes 32 cells	It is composed of 500 to 60000 cells.
2. Sexual reproduction occurs by division of each cell of the colony into 16-32 zoogametes	Sexual reproduction is oogamous.
3. The number of cells held together at their bases to form colony is surrounded by mucilage	The cells are connected with cytoplasmic strands that run through the cells.

QUESTION 6

FUCUS

A genus of brown algae whose species are often found on rocks in the intertidal zones of the sea shores. The plant body is flattened, dichotomously branched thallus with a midrib, a vegetative apex, a reproductive apex at maturity and a multicellular disk with which plant is attached to rock surface. The plant body also has air bladders which is believed to aid the plant to float on the water.

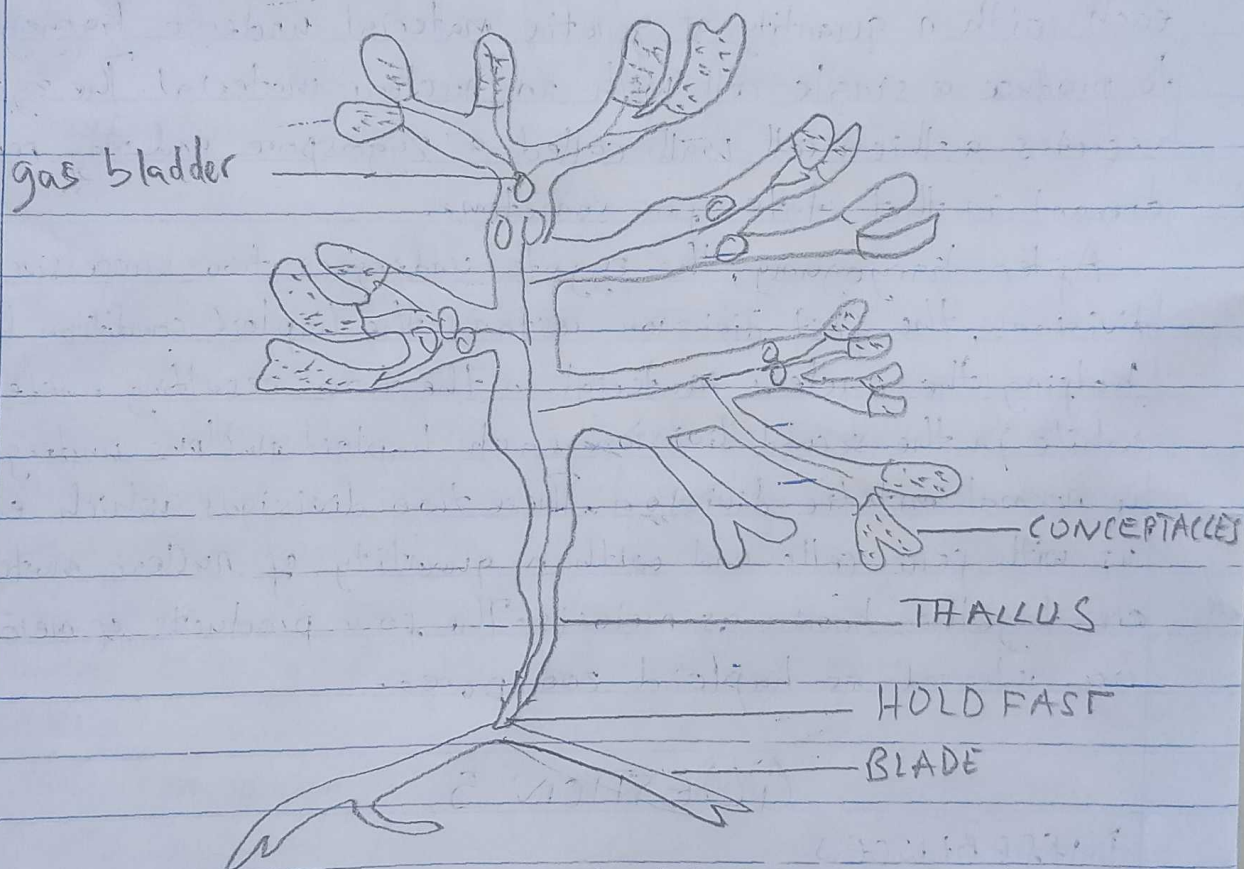


DIAGRAM OF A FUCUS (ROCKWEED)

QUESTION 3 CONTD.

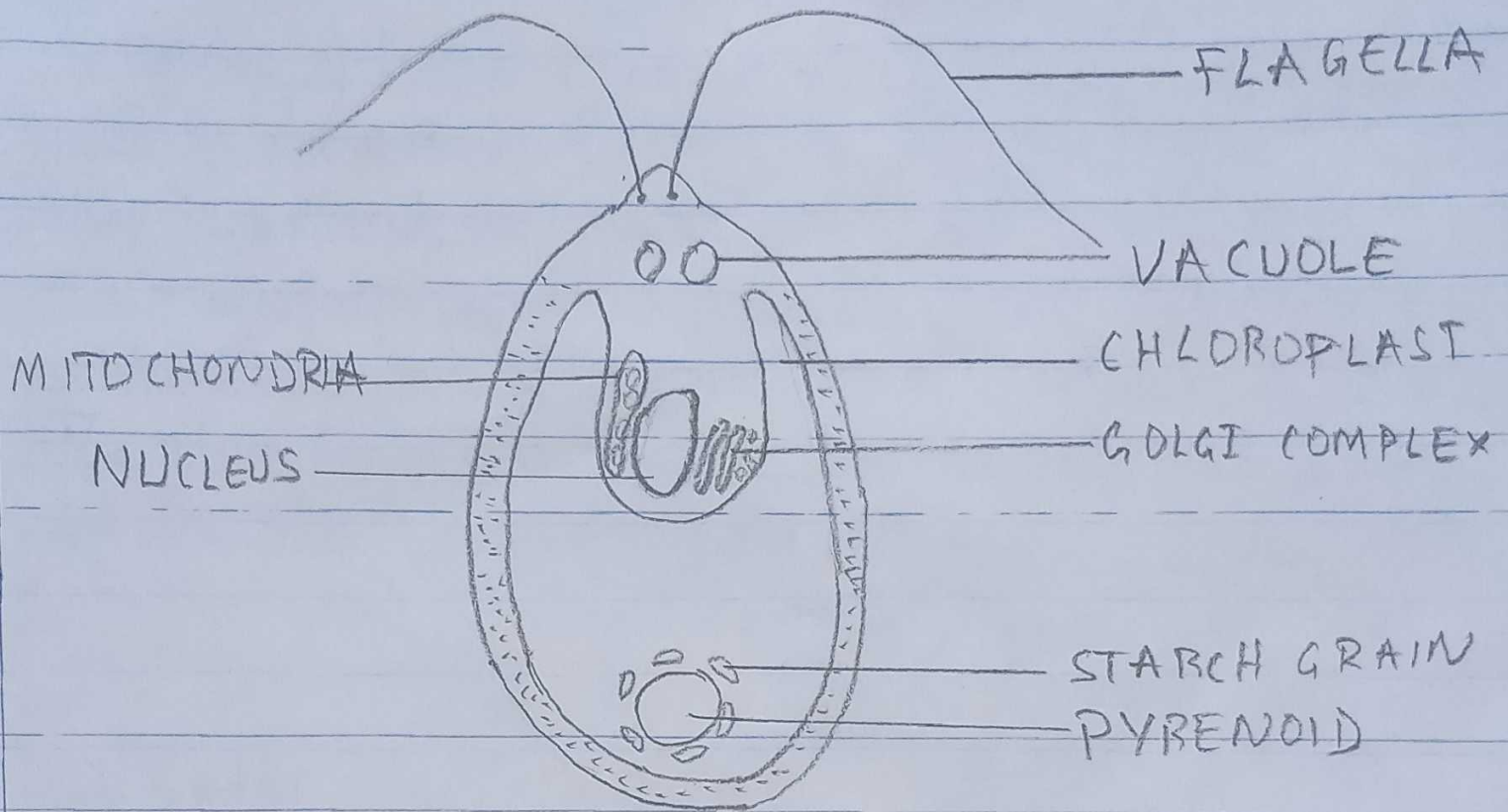


DIAGRAM OF A CHLAMYDOMONAS