BIOLOGY FORM THREE ENTRANCE EXAM ZANZIBAR 2017

Solutions from: Maktaba by TETEA

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1.

i	ii	iii	iv	v	vi	vii	viii	ix	x
D	C	C	B	D	B	C	A	D	B

2.

i	ii	iii	iv	v	vi	vii	viii	ix	x
G	R	H	N	C	M	O	A	I	Q

3.(a)Follow, malnutrition.

(b) oesophagus,mouth

(c) tracheal tube,gills.

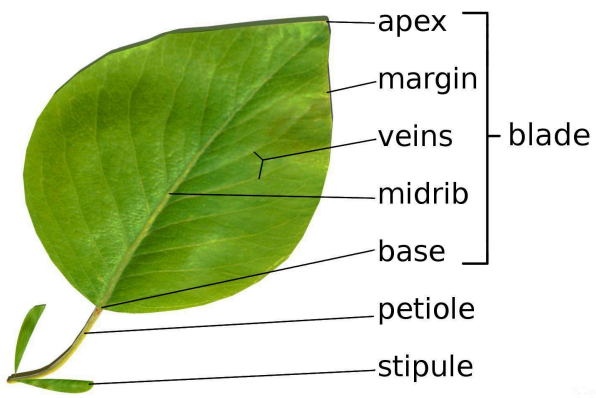
(d)hypothesis, investigation.

(e)specimen,lens.

4.

Chrolopyll	Site for photosynthesis.
Plasma	Dissolves substances in blood.
Bile	Breaks down fats into fatty acids
Haemoglobin	Carry oxygen to transfer
Stomata	Gaseous exchange in plants.

5.(a) Structure of the leaf.

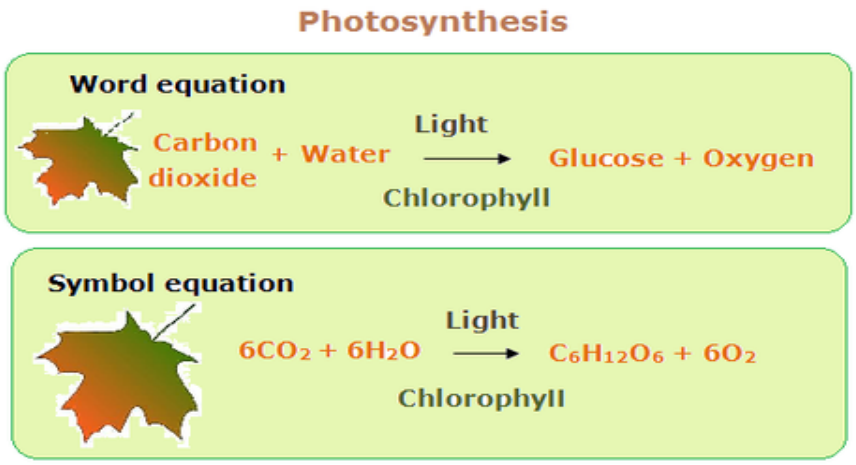


(b)(i) phloem tissues

(ii)xylem tissues.

(iii)cuticle.

(c)Equation of the photosynthesis process.



6(a)Characteristics of Kingdom Protista

The primary feature of all protists is that they are eukaryotic organisms. This means that they have a membrane-enclosed nucleus. Other characteristic features of Kingdom Protista are as follows:

-These are usually aquatic, present in the soil or in areas with moisture.

-Most protist species are unicellular organisms, however, there are a few multicellular protists such as kelp. Some species of kelp grow so large that they exceed over 100 feet in height. (Giant Kelp).

-Just like any other eukaryotes, the cells of these species have a nucleus and membrane-bound organelles.

-They may be autotrophic or heterotrophic in nature. An autotrophic organism can create their own food and survive. A heterotrophic organism, on the other hand, has to derive nutrition from other organisms such as plants or animals to survive.

-Symbiosis is observed in the members of this class. For instance, kelp (seaweed) is a multicellular protist that provides otters, protection from predators amidst its thick kelp. In turn, the otters eat sea urchins that tend to feed on kelp.

-Parasitism is also observed in protists. Species such as Trypanosoma protozoa can cause sleeping sickness in humans.

-Protists exhibit locomotion through cilia and flagella. A few organisms belonging to kingdom Protista have pseudopodia that help them to move.

-Protista reproduces by asexual means. The sexual method of reproduction is extremely rare and occurs only during times of stress.

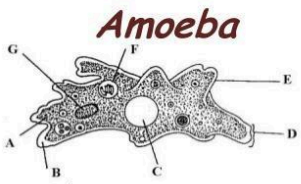
(b)A- food vacuole.

B-pseudopodia.

C-Nucleus.

D-contracting vacuole.

(ii)



PART	LABEL	FUNCTION
A	endoplasm	it houses all the cells organelles
B	ectoplasm	since in a gel state it protects the cell
C	contractile vacuole	it expels excess water from the cell
D	pseudopodium	plays a role in locomotion and food capture
E	cell membrane	controls movement of substances into and out of the cell
F	food vacuole	digests engulfed food
G	nucleus	controls activities of the cell

(c)Name:Amoeba

Phylum: protozoa.

(d)Amoeba does not have any regular shape because it constantly changes his structure to form pseudopodia.

the cell membrane of this eukaryotic organism is composed of thin layer of fats and proteins and comprises of cells that changes its structure continuously, it doesn't has any regular shape. Such cells help in the formation of pseudopodia, a structure with which the organism moves as well as catches its prey.

7(a)Blood blood is the tissue that comprises of plasma and cells that circulate through the entire body.

(b)(i)White blood cell.

(ii) platelets.

(c)(i)used to transfer nutrients in different parts of the body.

(ii)used to remove away the waste materials, for example carbon dioxide from the body to the lungs.

(iii)used to transfer oxygen to whole body,also remove away from tissues the carbon dioxide.

(d)The person will die because blood will not be moving throughout the body to supply oxygen and nutrients and to remove waste materials.

(e)-white blood cell is leukaemia.

-Red blood cell is Anaemia.

8(a).methods of waste disposal are:-

(i)Burning

(ii)burying

(iii) recycling.

(b)-Recycling process

-collecting and put into the location.

(c)Effects of improper waste disposal.

-unpleasant smell

-eruption of diseases.

-make environment dirty.

(d)ways to reduce waste.

-reuse of materials.

-Recycling process.

-using cloth in whipping window than using papers.

9(a)

Food Tests – Summary Chart

Test for	Materials	Method	Positive Results
Starch	Iodine Solution	Add iodine to the food sample	A blue/black colour
Reducing sugar (Glucose)	Benedict's Solution	Add to sample and warm gently	A brick red colour
Protein	Copper sulphate ($CuSO_4$) and sodium hydroxide (NaOH) Biuret solution	Add some NaOH to the moist food. Then gently pour $CuSO_4$ solution down the side of the tube	A violet colour
Fat	Brown Paper	Rub the food onto the paper, warm gently to dry and hold the paper up to the light	A translucent spot
Vitamin C	DCPIP	Add to moist food or fruit juice	A change from blue to pink or colourless

(i)starch provides energy to the body.

(ii)proteins build and repair the body.

(iii)Fats helps to keep our bodies warm during cold conditions.

(b)(i)-Fern plant.

S -mushroom

(ii)R-kingdom plantae

-division Filicinophyta.

S-kingdom Fungie

-division Ascomycota.

(iii)R mode of nutrition is to feed on dead-decayed matters(saprophtism)

S mode of nutrition is by photosynthesis.

(iv)R mode of reproduction is sexual reproduction.

S mode of reproduction is asexual reproduction.

10.(a)-Biotic Factors

Biotic factors include any living component of an ecosystem. They include related biological factors, such as pathogens, effects of human influence, and diseases.

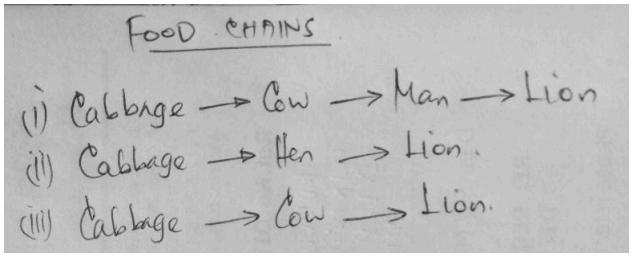
-Abiotic Factors

Abiotic factors are the nonliving components of an ecosystem that an organism or population needs for growth, maintenance, and reproduction. Examples of abiotic factors include sunlight, tides, water, temperature, pH, minerals, and events, such as volcanic eruptions and storms. An abiotic factor typically affects other abiotic factors. For example, decreased sunlight can lower temperature, which in turn affects wind and humidity.

(b)(i)-Food web.

(ii)missing is decomposer.

(c)possible food chains.



(d)(i)producer is cabbage

(ii)predator is lion

(iii)primary consumer is cow

(e)when cabbage removed, the all organisms in the food web will die.

11.(a)Infectious diseases of respiratory system are:-

(i) chickenpox

(ii)covid-19

(iii) Bronchitis.

(iv) Tuberculosis.

(b)MAMNALIAN RESPIRATORY SYSTEM.