BIOLOGY FORM TWO NECTA 2020

Solutions from: Maktaba by TETEA

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1.

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

2

i	ii	iii	iv	v	vi	vii	viii	ix	x
FALSE	True	True	True	False	False	False	True	False	True

3.

i	ii	iii	iv	v
E	C	B	A	D

4.(i)Mucus

(ii)Intercostal muscles.

(iii)Inhalation

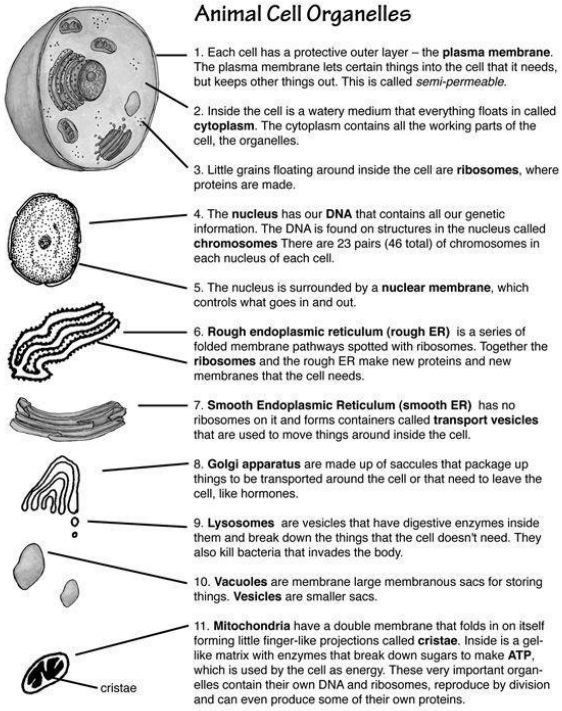
(iv)Anaerobic respiration

(v)pharynx

5(a)

Prokaryotic Cells (Bacteria)	Eukaryotic Cells (Plant and Animal)
• No membrane bound organelles	• Membrane bound organelles such as a nucleus
• Usually unicellular, but Cyanobacteria can be multicellular	• Usually multicellular
• In bacteria and archaea	• In plants and animals
• No lysosomes or peroxisomes	• Has lysosomes and peroxisomes
• No Endoplasmic Reticulum (ER)	• Has an Endoplasmic Reticulum (ER)
• No mitochondria	• Has mitochondria
• No Golgi Apparatus	• Has a Golgi Apparatus
• Smaller ribosomes	• Larger ribosomes

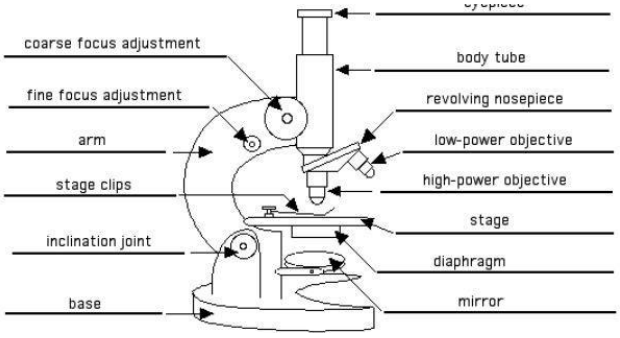
(b)



6(a)

1. No student is to work in the science laboratory without a science teacher present.
2. **All accidents** must be reported to the teacher.
3. Remember at all times that the laboratory is a place for serious work. Horseplay is never tolerated.
4. Do only the experiments assigned or approved by the teacher. Unauthorized experiments are prohibited.
5. **Safety glasses** are required when setting up, performing, and cleaning up after an experiment or when anyone in the room is performing an experiment (this is a **state law**).
6. Fasten long hair back.
7. Do not touch chemicals with your hands. Wash your hands before leaving the laboratory.
8. **Never taste chemicals**.
9. Use proper techniques when observing an odor.
10. Allow ample time for glass to cool.

(b)(i)



(ii)part E is the mirror whose function is to reflect light on the stage in order to enable good observation of the specimen.

7.(a)Food chain is the simple because, Within the food chain energy can be passed and transferred from one organism to another.

(b)possible food chains are as follows:-

(i)grasses zebra. Lion. Bacteria.

(ii)grasses zebra hyena bacteria.

(iii)grasses giraffe hyena bacteria

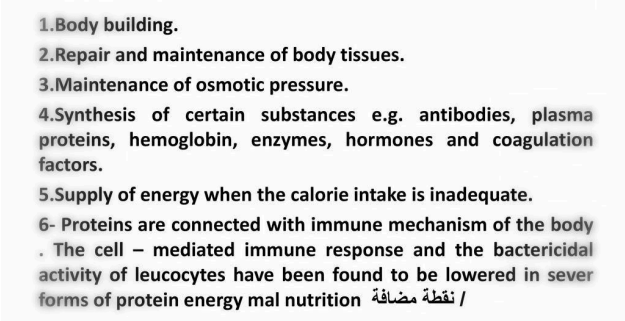
(iv)grasses giraffe. Lion bacteria.

(c)(iii)-Bacteria has a function of decomposingi.

-Grasses has a function of producing food in an ecosystem.

8.(a)Protein is present.

(b)functions of protein



(c)Protein foods

Some food sources of dietary protein include:

lean meats – beef, lamb, veal, pork, kangaroo

poultry – chicken, turkey, duck, emu, goose, bush birds

fish and seafood – fish, prawns, crab, lobster, mussels, oysters, scallops, clams

eggs

dairy products – milk, yoghurt (especially Greek yoghurt), cheese (especially cottage cheese)

nuts (including nut pastes) and seeds – almonds, pine nuts, walnuts, macadamias, hazelnuts, cashews, pumpkin seeds, sesame seeds, sunflower seeds

legumes and beans – all beans, lentils, chickpeas, split peas,

9(a)(i)cotton wool used to clean the wound.

(ii)New razor blade used to cut the dressing materials like bandage.

(iii)Iodine tincture used to clean the wound.

(b)

Importance of first aid:

The importance of first aid is hard to overestimate. Among the major benefits of first aid are the following:

- Providing quick medical treatment until professional assistance arrives.
- First aid helps ensure that the right methods of administering medical assistance are provided.
- Knowledge in first aid also benefits the individuals themselves.
- It affords people with the ability to provide help during various emergency situations.

10.

Natural & Artificial Immune System

Characteristics	Natural Immune System	Artificial Immune System
Definition	A biological organism's defense mechanism against invading objects from its environment or against harmful bodies within itself	Computing system based off of the various principles, processes and theories of the natural immune system
Alternative definition	The first subsystem of the immune system of a vertebrate organism, also called the innate immune system. It is "natural" in that it is present at birth as opposed to the acquired immune system which develops after exposure to a foreign object	Field of study linking immunology and computer engineering also variously called Immunity-Based Systems, Immunological Computation, etc.
Function	Protection against disease	Computational problem solving
Field of study	Immunology, under biology	Artificial Immune Systems (AIS), under artificial intelligence
Kind of system	A biological system, structural and organizational	A computer system, procedural and methodological
Significant aspect	Complex, evolutionary and adaptive	High parallel intelligence enabling simultaneous task execution
Significant capability	Capable of recognition of all objects within the body and categorize as self or nonself	Capable of learning, memory and associative retrieval

11.

-Transport of materials is necessary for animals because due to it the nutrients and oxygen are made available to all the parts of the body. If the transport of necessary nutrients and oxygen does not take place in the body, the body will not be able to survive.

-Helps to remove waste materials from the body of an animal,like carbon dioxide.

-helps to move essential nutrients in the body.

- helps to move hormone in the body.

-helps to distribute foods in different parts of the body.