BIOLOGY 1 2009 - NECTA FORM FOUR

Solutions from: Maktaba by TETEA

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

2.

i	ii	iii	iv	v	vi	vii	viii	ix	x
Q	K	R	A	B	O	E	F	C	

3(a)(i)-hepatic artery

-portal vein

(ii)hepatic artery has oxygenated blood from heart while portal veins has foods from gastrointestinal track.

(b)A Iris, B pupil, C sclera, D cilliay muscles.

(ii)figure 1-Dim light

Figure 2-bright light.

4.(a)reasons for classifying organisms.

Classification is important because:

-It makes the study of such a wide variety of organisms easy.

-It projects before us a good picture of all life forms at a glance.

-It helps us understand the inter-relationship among different groups of organisms.

-To understand and study the features, similarities and differences between different living organisms and how they are grouped under different categories.

-It helps to know the origin and evolution of organisms.

-It helps to determine the exact position of the organism in the classification.

(b)class crustacea -CRAB

class insect -grasshoper.

Class arachnida Scorpion,spider,tick

Class diplopoda millipede

class chilopoda. Centipede.

(ii)-The distinguishing feature of arthropods is the presence of a jointed skeletal covering composed of chitin (a complex sugar) bound to protein. This nonliving exoskeleton is secreted by the underlying epidermis (which corresponds to the skin of other animals).

-Arthropods lack locomotory cilia, even in the larval stages, probably because of the presence of the exoskeleton

-. The body is usually segmented, and the segments bear paired jointed appendages, from which the name

5(a)plants photosynthesis process

-animals Respiration process.

(b) Importances of photosynthesis.

-It is the number one source of oxygen in the atmosphere.

-It contributes to the carbon cycle between the earth, the oceans, plants and animals.

-It contributes to the symbiotic relationship between plants, humans and animals.

-It directly or indirectly affects most life on Earth.

-It serves as the primary energy process for most trees and plants.

6.(a)(i) Albinism is the genetic disorder that results from a lack of the pigment melanin in the skin, hair, and eyes.albinism are recessive,

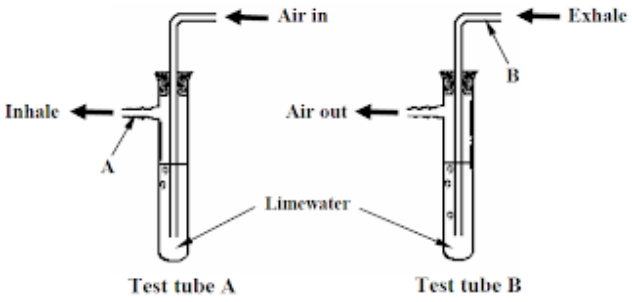
(ii)Tongue rolling is the ability to roll the lateral edges of the tongue upwards into a tube.Rolling the tongue into a tube shape is often described as a dominant trait with simple Mendelian inheritance,

(b)-one parent has a homozygous recessive genotype and the other is heterozygous genotype.

7.(a)Glucose is the carbohydrate produced by photosynthesis. Energy-rich glucose is delivered through your blood to each of your cells.

ATP is the usable form of energy for your cells.

(b)Breathing in through the mouthpiece draws air from the atmosphere in through tube A. Breathing out through the mouthpiece bubbles exhaled air through tube B. After a few breaths the limewater in tube B will turn cloudy as the exhaled air contains more carbon dioxide.



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8.(a)(i)body substance isolation basically means protecting yourself from germs and bacteria found in bodily fluids like blood, urine, mucus, feces, etc.

(ii))Helping a vomiting person

-Have the person drink small amounts of water, sports drinks, or clear liquids.

-Don't give the person solid food until vomiting has stopped.

-When the person can tolerate food, try small amounts of the BRAT diet: bananas, rice, applesauce, and toast.

(b)(i)Hiccups are involuntary contractions of the diaphragm — the muscle that separates your chest from your abdomen and plays an important role in breathing. Each contraction is followed by a sudden closure of your vocal cords, which produces the characteristic "hic" sound.

(ii)Hiccups may result from a large meal, alcoholic or carbonated beverages or sudden excitement. In some cases, hiccups may be a sign of an underlying medical condition

9.(a)(i)plant root

(ii)A phloem, B cambium, C xylem.D vascular bundle, E epidermis, F pitch/ parenchyma.

(b) A transport water and nutrients from the roots of a plant to the tips of the leaves.

C Transmitt foods throughout the plant

10.(a)(ii)it is because they have no any function in the body,due to use and disuse theory.

(ii)the insects can develop some characteristics that adapt that insecticide and hence cannot be destroyed by it. Due to struggle for existance theory.

(b)(i)it is because it helps to make the population to be stable, according to Darwin's.

(ii)isolation causes individuals of an original species to accumulate sufficient genetic differences to prevent them breeding with each other when they are reunited.

11. BALANCED DIETY.

balanced diet gives your body the nutrients it needs to function correctly.

EFFECTS OF NOTE HAVING BALANCED DIETY.

- being overweight or obese
- tooth decay
- high blood pressure
- high cholesterol
- heart disease and stroke
- type-2 diabetes
- osteoporosis
- some cancers
- depression
- eating disorders

A healthy, balanced diet will usually include the following nutrients:

-vitamins, minerals, and antioxidants

-carbohydrates, including starches and fiber

-protein

-healthy fats

-A balanced diet will include a variety of foods from the following groups:

-fruits

-vegetables

-grains

-dairy

-protein foods

-Examples of protein foods include meat, eggs, fish, beans, nuts, and legumes.

People who follow a vegan diet will focus entirely on plant-based foods. They won't eat meat, fish, or dairy, but their diet will include other items that provide similar nutrients.Tofu and beans, for example, are plant-based sources of protein. Some people are intolerant of dairy but can still build a balanced diet by choosing a variety of nutrient-rich replacements.

Foods to avoid

Foods to avoid or limit on a healthy diet include:

highly processed foods

refined grains

added sugar and salt

red and processed meat

alcohol

trans fats

What's healthy for one person may not be suitable for another.

12.-HIV stands for 'human immunodeficiency virus'. HIV belongs to a group of viruses called retroviruses. HIV attacks white blood cells within the immune system. These cells will stay infected for the rest of their lives. If untreated, HIV will develop into AIDS.

AIDS stands for 'acquired immune deficiency syndrome'. (It's sometimes referred to as 'late stage HIV' or 'advanced HIV disease'.) It is an umbrella term for the illnesses that occur due to having untreated HIV infection for several years, by which point the immune system is severely damaged and unable to fight off infections. The illnesses and symptoms will vary for each person that has AIDS, but may include life-threatening infections and cancers

STI (Sexually Transmitted Infection.are infections that spread from person to person through sexual activity, including anal, vaginal, or oral sex.

Effects of HIV/AIDS to community.

-loss of manpower

-increased boy streat.

-lead to poverty

-underdevelopment

-the government uses too much costs to take care of infected victims

-orphans.

Prevention of transmission of HIV

- Use condoms. Condoms are highly effective at preventing HIV and other STDs like gonorrhea and chlamydia. Learn the right way to use an external condom (sometimes called a male condom) and an internal condom (sometimes called a female condom).

-Talk to your doctor about PrEP. Pre-exposure prophylaxis (PrEP) is daily medicine that can reduce your chance of getting HIV. Taken daily as prescribed, PrEP can stop HIV from taking hold and spreading throughout your body

-Encourage your HIV-positive partner to get and stay on HIV treatment. If taken daily as prescribed, HIV medicine reduces the amount of HIV in the blood (the viral load) to a very low level—so low that a standard lab test can't detect it.

-Reduce your number of sexual partners. This can lower your chances of having a partner who could transmit HIV to you.

-Decide not to have sex. Not having sex (also known as being abstinent) is a 100% effective way to prevent HIV, other STDs, and pregnancy. You can be abstinent at different times in your life for different reasons that may change over time.

-Choose less risky sexual behaviors. Anal sex is the highest-risk sexual activity for HIV transmission. If your partner is HIV-negative, it's less risky if they're the insertive partner (top) and you're the receptive partner (bottom) during anal sex. There is little to no risk of getting or transmitting HIV from oral sex.

13.

Development in adolescence

Adolescence may be defined as that period within the life span when most of a person's characteristics are changing from what is typically considered childlike to what is typically considered adultlike. Changes in the body are the most readily observed, but other, less definitive attributes such as thoughts, behaviour, and social relations also change radically during this period. The rate of such changes varies with the individual as well as with the particular characteristic.

-The bodily changes of adolescence relate to both primary and secondary sexual characteristics. Primary sexual characteristics are present at birth and comprise the external and internal genitalia (e.g., the penis and testes in males and the vagina and ovaries in females). Secondary sexual characteristics are those that emerge during the prepubescent through postpubescent phases (e.g., breasts in females and pigmented facial hair in males).

-In males, there is a continuing enlargement of the testicles, an enlargement and reddening of the scrotal sac, and an increase in the length and circumference of the penis. These changes all involve primary sexual characteristics. Insofar as secondary sexual characteristics are concerned, there is no true pubic hair at this stage, although down may be present.

-In females, prepubescent changes typically begin an average of two years earlier than in males. The first phenomena of female development in this period are the enlargement of the ovaries and the ripening of the ova. In contrast with those of males, these changes in primary sexual characteristics are not outwardly observable. However, changes involving secondary sex characteristics can be seen (e.g., the rounding of the hips and the first phase of breast development).