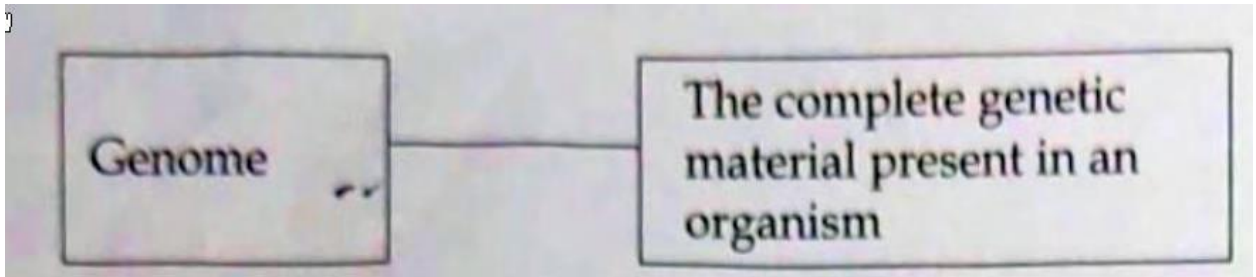


SSLC Exam March 2020- Biology Answer Key

Prepared by Team educationobserver.com

1. The dissociation of visual pigments in the presence of light
2. (i) Guanine
(ii) Phosphate
3. Myxoedema
4. Hugo deVries- Mutation theory
5. Callose
- 6.



7.

Brain	Spinal Cord
Evoke sensation	coordinates the repeated movements during walking, running
Coordinates muscular activities and maintains equilibrium of the body.	Impulses from different parts of the body are transmitted to and from brain through the spinal cord.

8. a) Different species that exist today have a common ancestor.
b) Yes, Comparative morphology gives us enough evidence to prove evolution, Though, The external structure of the organs varies because they are to do different functions, we can observe basic similarities in the structure of internal organs even in living beings of different species. All these give clear evidence that there was a common ancestor for all these living beings.
9. a) A dark yellow colour to the mucus membrane, the nails and the white portion of the eyes of a hepatitis patient because there will be an increase in the level of the bile pigment called bilirubin in blood due to the flow of bile secreted by the liver is blocked.

b) The bacteria causing diphtheria produce toxins that destroy the cells of the mucus membrane. The cells destroyed by the toxins produce an ash coloured thick coating in the throat.

10. a) Axon

b) Myelin sheath in the nerves is formed of Schwann cells. Myelin sheath in the brain and the spinal cord is formed of specialized cells called oligodendrocytes

11.

Sex chromosomes	X,Y
Somatic chromosomes	22 pairs
The chromosome in sperm	22+X, or 22+Y
The chromosome in ovum	22+X

12. i. B-Lymphocytes

ii. Mature in the thymus gland

iii. Stimulate other defense cells / Destroy cells affected by viruses.

iv. Disintegrate the cell membrane of bacteria or kill them / Stimulate other white blood cells, thus help to destroy pathogens.

13. a) identifying the deficient protein and injecting it

b) because it is a genetic disease

14.

- Substances responsible for taste dissolve in saliva
- ☑ The substance reach the taste buds through saliva
- ☑ The taste detecting chemo receptors are stimulated
- ☑ Impulses form in the chemical receptors
- ☑ Impulses reach the brain through the nerves
- ☑ Forms the experience of taste

15.

a)

Inserting DNA in the bacterial cell

Providing a favourable medium for the multiplication of bacteria

Bacteria produce inactive form of insulin.
Producing active insulin from this

b) Medicines can be developed from genetically modified plants and animals, genetically modified animals and plants that naturally blocks certain diseases, pests etc, Genetic diseases can be cured by gene therapy, DNA tests is widely used in criminal investigations.

16.

a) i) TR ii) tr

b) Tall plants with round seeds (TTRR, TTRr, TtRR, TtRr).

Tall plants with wrinkled seeds (TTrr, Ttrr).

Dwarf plants with round seeds (ttRR, ttRr)

Dwarf plants with wrinkled seeds (ttrr)

17. Transmission of rat fever

The bacteria that come out through the urine of rat, dog and some other animals remain alive in stagnant water and moisture. When we touch the water the bacteria enter our blood through wounds.

Precautions against rat fever

Eliminate rats by keeping the surroundings clean by avoiding dumping of decaying substances.

Be careful while stepping into stagnant water, Wear long gloves and gumboot while working in fields and streams. Preventive vaccination is the most effective method to fight against the rat fever.

18. a) i) Sensory neuron ii) Inter neuron

b) No, all reflexes are not under the control of the spinal cord

(iii) cerebral reflexes like We close our eyes or when something falls into it.

19. a) (i) Cercopithecoidea ii) Hominoidea

b) Developed brain, freely movable hands

c) No difference in the number of amino acids in the β chain of haemoglobin in man and chimpanzee

20. i. Insulin

ii. Presence of glucose in urine

iii. Diabetes insipidus

iv. Frequent urination

- v. Somatotropin
- vi. Acromegaly

21. a) i) Cortex : Hormone-Cortisole

ii) Medulla

b) **adrenaline**: Adrenaline / Epinephrine acts along with the sympathetic nervous system during emergencies. This helps to resist or withdraw ourselves from such situations.

Noradrenaline : noradrenaline/ Nor Epinephrine acts along with epinephrine.

c) Maintains blood pressure

Maintains the salt-water level in the body by acting in kidneys.

22. a) When a foreign antigen reaches a person's blood, the recipient's defense activity is stimulated. Then the antigen in the received blood and the antibody in the recipient's blood will react with each other. This results in the clotting of blood. So a person cannot receive any type of blood. One can receive only the blood that matches correctly.

b) When the components of vaccines against a particular disease enter the body, it will act as antigens that stimulate the defense mechanism in the body. Antibodies are formed in the body against them. These antibodies are retained in the body which later on protect the body from the pathogen responsible for the same disease.

23. a) Cornea

b) Pupil

c) Yellow spot

