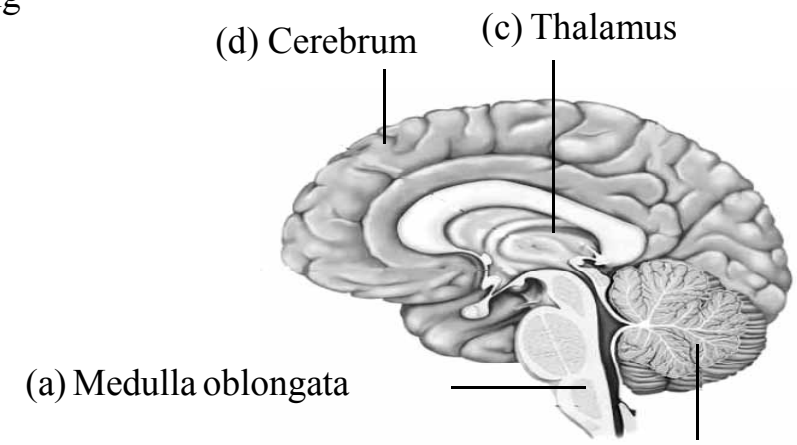
DISTRICT INSTITUTE OF EDUCATION AND TRAINING THIRUVANANTHAPURAM
EVALUATION TOOL FOR CLASS X - 2022 FEBRUARY

Biology - Answer key

Qn.No	Scoring indicators	Score
1.	(c) Gibberellin - Sprouting of leaves	1
2.	The theory of chemical evolution	1
3.	(d) Fungus	1
4	Bombykol, Animals and pheromones	½+½
5.	Haemophilia, Others are lifestyle diseases	½+½
6.	Restriction endonuclease	1
7.	i - Dorsal root	1
8.	(b) Ardipithecus ramidus	1
9.	Urinary bladder contracts, others are actions of sympathetic system	½+½
10.	(a) Parkinsons (b) Destruction of specialised ganglions in the brain./ Production of dopamine, a neurotransmitter in the brain gets reduced.	1 1
11.	While viewing nearby objects - b,c While viewing distant objects - a,d	½+½ ½+½
12.	(a) Crossing over in Chromosomes (b) As a result of crossing over in chromosomes, part of a DNA crosses over to become the part of another DNA. This causes a difference in the distribution of genes. When these chromosomes are transferred to the next generation, it causes the expression of new characters in offsprings.	1 1
13.	(a) Dominant trait - Tall Recessive trait - Dwarf (b) A character is controlled by the combination of two factors. One trait is expressed (dominant trait) and the other trait remains hidden (recessive trait) in the offsprings of the first generation.	½+½ 1+1
14.	(i) - b - 4, (ii) - (a) - 3, (iii) - d - 1	1+1+1
15.	(a) (a) DNA Finger printing / DNA profiling (b) Alec Jeffreys (c) DNA of the skin, hair, nail, blood and other body fluids obtained from the place of murder, robbery etc., is compared with the DNA of suspected persons. Thus, the real culprit can be identified from among the suspected persons through this method.	1 1 1
16.	(a) (i) - Rod cell (ii) - Cone cell (b) Rod cell - Rhodopsin Cone cell - Photopsin /Iodopsin (c) In the presence of light, the pigments present in photoreceptors, dissociate. This chemical change leads to the formation of impulses. These impulses are transmitted to the cerebrum through optic nerve and this enables vision.	½+½ ½+½ 1
17.	(a) Cortisol (b) Aldosterone (c) Maintains the salt- water level by acting in kidneys./ Maintains blood pressure.	1 1 1
18.	(a) B, D (b) Insulin and glucagon (c) C, E (d) Increased appetite and thirst and frequent urination	½+½ ½+½ ½+½ 1

19.	(a) Pinna (b) Carries sound waves to the tympanum. (c) Ear ossicles (d) Protects the tympanum by balancing the pressure on either side of the tympanum.	1 1 1 1
20.	(a) (i) Those with no favourable variations (ii) Natural selection (iii) Favourable variations are transferred to the next generation. (iv) Accumulation of variations inherited through generations. (b) Theory of Natural Selection (c) Charles Robert Darwin	½+½ ½+½ 1 1
21.	Monocyte - Engulfs and destroys germs. Basophil - Stimulates other white blood cells. Eosinophil - Synthesizes chemicals required for the inflammatory responses. Lymphocyte - Identifies and destroys germs specifically.	1 1 1 1
22.	(a) Diphtheria (b) *Corynebacterium diphtheriae* (c) Cells in the mucus membrane which are destroyed by the toxins produce an ash coloured thick coating in the throat within two or three days. (d) Antitoxins which act against the toxins are used to protect the uninfected cells. But, if the disease becomes severe the patient cannot be recovered through medication. So vaccination is the best preventive method.	1 1 1 1
23.	For drawing  	1 1+1 1+1
24.	(a) Vaccines are the substances used for artificial immunization. (b) Any one of the components from alive or dead or neutralised germs, neutralised toxins or cellular parts of the pathogens will be the component of each vaccine. (c) Component of each vaccine act as antigens that stimulate the defense mechanism of the body. Antibodies are formed in the body against them. These antibodies are retained in the body which in future protects the body from the pathogen responsible for the same disease. (d) (i) O.P.V - Polio (ii) B.C.G - Tuberculosis	1 1 1 1 1