

Kerala Board
Class X Biology
Sample Paper – 3 (Solution)

1.
 - a. Spinal cord : Spinal reflexes
Cerebrum : **Cerebral reflex**
 - b. Malaria: Plasmodium
Filariasis : **Filarial worm**
2.
 - a. Food vacuoles.
Stomata, hydathodes, lenticels are the respiratory parts in plants. .
 - b. Synapse
Dendrons, axonites, dendrites, axons are the parts of a neuron.
3. When germs enter into our body through wounds or by any other ways, our body temperature rises up to resist the rapid multiplication of germs. The blood flows into the affected area and white blood cells come out. They engulf the pathogens and destroy them. This process is known as phagocytosis.
4.
 - a. Biological clock – **Melatonin**
 - b. Act as a medicine – **Cortisol**
5.
 - a. Tar, nicotine, carbon monoxide and benzopyrene.
 - b. Bronchitis, Lung cancer.
6.
 - a. Oxytocin.
 - b. Important functions of oxytocine:
 - (i) Helps the contraction of smooth muscles, i.e., the inner lining layer of uterus wall.
 - (ii) Helps in the production of milk.

7.
 - a. Medulla of the adrenal gland secretes adrenaline and noradrenaline which prepares our body in an emergency situation.
 - b. (i) Heart beat increases.
(ii) Breathing rate increases.
8.
 - a. Destroy the taste buds of tongue and reduce the ability to taste.
 - b. Close all pores in the skin causing the deposition of waste on the skin which makes infection.
 - c. Destruction of eardrum leading to deafness.
 - d. Cannot form correct images on the retina and that may affect the lens and vision.
9.
 - a. The normal body temperature of human being is 37 °C. It is favourable temperature for the multiplication of germs.
 - b. When the temperature rises up to the boiling temperature (100 °C), microbes get destroyed. When the temperature is reduced to 0° C, they become inactive but do not get destroyed.
10.
 - a. Lungs.
 - b. Liver.
 - c. Skin.
 - d. Kidney.
11.
 - a. Edward Jenner.
 - b. Louis Pasteur.
 - c. Alexander Flemming.
- 12.

| Diseases | Symptoms | Reasons |
|-----------------------|--------------------------------|-----------------|
| Nephritis | Dark coloured and turbid urine | Infection |
| Chronic renal failure | Anaemia and loss of weight | Diabetes |
| Kidney stone | Pain in the lower abdomen | Calcium oxalate |

13.

- a. Posterior lobe of pituitary gland.
- b. Oxytocin and vasopressin present here are originally synthesized from the hypothalamus.
- c. Posterior lobe of pituitary gland does not secrete any hormone. Oxytocin and vasopressin are synthesized from the hypothalamus and stored in the posterior lobe of pituitary gland.

14.

Place – A

Disease – Dysentery

Pathogen – *Entamoeba histolytica*

Place – B

Disease – Typhoid

Pathogen – *Salmonella typhi*

Place – C

Disease – Cholera

Pathogen – *Vibrio cholera*

15.

A – Virus

B – Bacteria

A – Virus: When the virus enters into the host cell, they grow and multiply by undertaking the control of genetic mechanism of the cell. Therefore, the virus infected cells are completely destroyed.

B – Bacteria: After entering into the body cell they grow and multiply. When they multiply, certain toxic substances release into the body disrupts the rhythm of cellular activities and destroys them.

16.

- a. Because thalamus is the relay transmission centre of impulses towards the cerebrum and away from the cerebrum.
- b. Functions of thalamus:
 - (i) At the time of sleeping thalamus prevents many impulses.
 - (ii) Narcotics react to the thalamus and prevent pain impulses.

17. Archaeopteryx is considered as the connecting link between reptiles and birds because it shows both reptilian and bird's characters.

Resemblance with reptiles:

- (i) The presence of teeth with pointed mouth.
- (ii) Sharp and pointed nails.

Resemblance with birds:

- (i) Long pointed beak.
- (ii) Wings and feathers.

18.

