



MANECKJI COOPER EDUCATION TRUST SCHOOL,
JUHU TARA ROAD, MUMBAI - 400049

PRELIMINARY EXAMINATION - SEMESTER 2

STD: X

SUBJECT: BIOLOGY

DATE: 03-03-2022

MARKS: 40

TIME: One and a half hours

Answers to this Paper must be written on the paper provided separately.

You will not be allowed to write during the first 10 minutes.

This time is to be spent in reading the Question Paper.

The time given at the head of this paper is the time allowed for writing the answers.

Attempt all the questions from Section A and any three from Section B.

The intended marks for questions or parts of questions are given in brackets [].

SECTION A

(Attempt all questions)

Question 1.

Name the following by choosing the correct answers to the questions from the given options. (Do not copy the question, write the correct answer only.) [10]

(i) Function of eustachian tube is to:

- (a) Equalize the air pressure on either side of the ear drum
- (b) Keep middle ear in proper shape
- (c) Keep off dirt from the middle ear
- (d) Provide air to ear ossicles

(ii) Hepatic portal system connects:

- (a) Digestive system to liver
- (b) Kidney to liver
- (c) Kidney to digestive system
- (d) Liver to kidneys

(iii) The substances found in excess in the urine of a diabetic patient:
(a) Amino acids
(b) Glucose
(c) Creatinine
(d) Bilirubin

(iv) The number of spinal nerves in human being are:
(a) 21 pairs
(b) 12 pairs
(c) 31 pairs
(d) 42 pairs

(v) The structure which controls the master gland:
(a) Adrenals
(b) Liver
(c) Medulla oblongata
(d) Hypothalamus

(vi) The opening through which light enters the eye:
(a) Iris
(b) Pupil
(c) Retina
(d) Choroid

(vii) Knitting without looking is:
(a) Natural Reflex
(b) Conditioned Reflex
(c) Both Natural and Conditioned reflex
(d) Involuntary action

(viii) The innermost layer of the meninges is:
(a) Pia mater
(b) Arachnoid
(c) Grey mater
(d) Dura mater

(ix) Lymph only contains:

- (a) RBCs
- (b) Blood platelets
- (c) Leucocytes
- (d) Haemoglobin

(x) A sympathetic system response is:

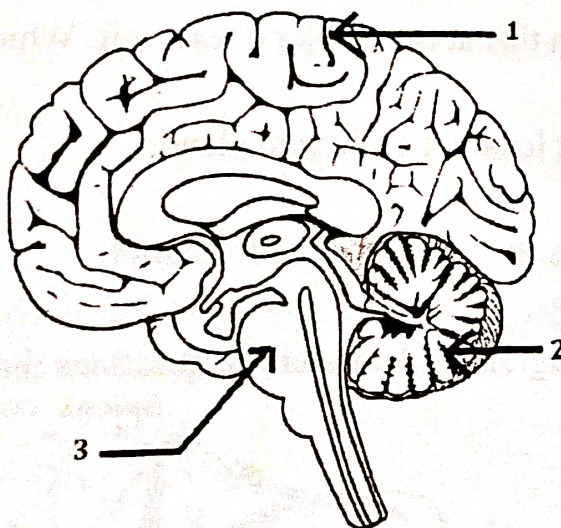
- (a) Pupils dilate
- (b) Heart rate increases
- (c) Bladder relaxes
- (d) Salivation increases

SECTION B

(Attempt any 3 questions from this section)

Question 2.

- (i) State the location of the adrenal glands. Name one hormone secreted by the adrenal medulla. [2]
- (ii) Explain Myopia. How can it be rectified? [2]
- (iii) Given below is a diagram of a human brain. Label the parts 1, 2 and 3. [3]



(iv) State the biological terms for the following:

[3]

- (a) The point of contact between the terminal branches of the axon of a neuron with the dendrites of another neuron.

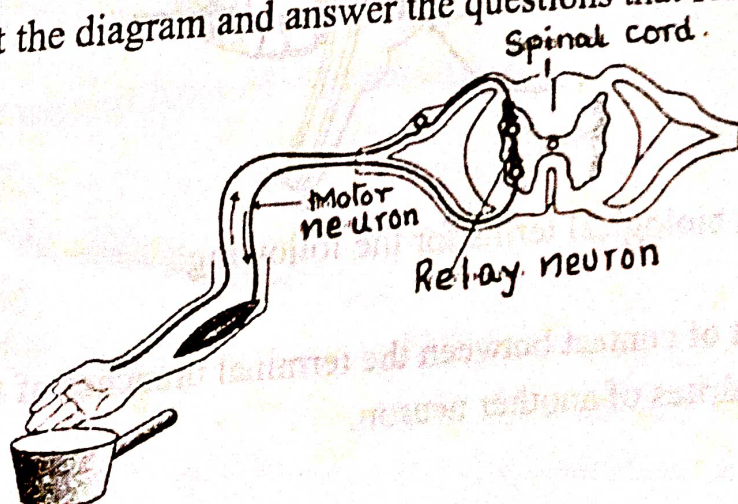
- (b) The part that sends impulses which starts the heartbeat.
- (c) Hormones which stimulate other endocrine glands to produce their specific hormone.

Question 3.

- a) Mention two differences between Atrial systole and Ventricular systole.
(Chambers that contract, Valves that close) [2]
- b) Where is the pancreas located? State one of its secretion. [2]
- c) Draw a neat labelled diagram of the urinary system label any two parts. [3]
- d) Identify the structure in the human ear that carries out the functions mentioned below. [3]
 - i) Converts vibrations into nerve impulses.
 - ii) Amplifies sound vibrations.
 - iii) Concerned with dynamic equilibrium.

Question 4.

- a) State the organ that acts as a blood reservoir. Which WBC does it produce? [2]
- b) Give the exact location of thyroid gland. [2]
- c) Name the steps involved in urine formation. [3]
- d) Look at the diagram and answer the questions that follow. [3]



i) Define the phenomenon seen above.

ii) State the arrangement of neurons in the spinal cord.

iii) Name the structure that protects the spinal cord.

Question 5.

a) State one organic and one inorganic constituent of urine.

b) Define diapedesis.

c) Answer the questions given below based on the structure of the human eye.

i) Identify the pigment found in the sense cells sensitive to light.

ii) Name the thin membrane covering the front part of the eye.

iii) Give Reason: 'Blind spot is the region of no vision'.

d) Give the full form of the following.

i) PCT

ii) CSF

iii) AVN

Question 6.

a) Identify the type of nerve (Sensory / Motor / Mixed).

[2]

i) Auditory nerve

ii) Spinal nerve

b) Define micturition and name the condition that causes increased production of urine.

[2]

c) Name the biological term for

[3]

i. The cells that initiate blood clotting.

ii. Identify the mineral which helps in blood clotting.

iii. State the enzyme that helps in coagulation.

d) Complete the following table by filling in the blanks (i) to (iii).

[3]

GLAND	HORMONE SECRETED	EFFECT OF UNDER SECRETION
(i)	Cortisone	(ii)
Anterior Pituitary	(iii)	Dwarfism