ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

First Term Examination - 2018

Class : 10

SUB : Life Science **F.M.75**

DURATION: 2 Hrs30Mins **DATE:25.04.2018**

Group-A

A. **Choose the correct answer:** **1x12=12**

1. Oxytocin is released from
   - I. Pituitary Gland
   - II. Adrenal Gland
   - III. Pancreas
   - IV. Gonads

2. Insulin is produced by
   - I. Alpha cells
   - II. Beta cells
   - III. Ovaries
   - IV. Kidneys

3. The element, which is absent in phytohormones
   - I. Carbon
   - II. Oxygen
   - III. Hydrogen
   - IV. Calcium

4. *Drosera* shows _____ movement
   - I. Chemonastic
   - II. Seismonastic
   - III. Thermonastic
   - IV. Photonastic

5. Morphogenesis is brought about by a balance between
   - I. Auxin and Gibberellin
   - II. Cytokinin and Gibberellin
   - III. Gibberellin and Auxin
   - IV. Auxin and Abscisic Acid

Group- B

A. Fill in the blanks:(any four) **1x4=4**

a) _____ is an organism which has monocular vision
b) Salivation is a _____ reflex
c) _____ is a gaseous hormone
d) The band of nerve fibres between the left and right hemisphere is _____.
e) The non-neuronal cells of the nervous system are called _____.

B.State True or False:(any four) **1x4 =4**

a) The hormone that aids in milk production is progesterone.
b) Cerebrum helps in maintaining balance of the body.
c) Lizards have a monocular vision.
d) Thyroxin is a regulator of BMR.
e) Neurons of the white matter are myelinated.

C. Match the following: **1x4 =4**

Column A	Column B
I. Alpha cells	a. Ciliary body
II. Shock absorber	b. Meninges
III. Ring shaped tissue	c. Cerebrospinal fluid
IV. Protects the brain	d. Brain stem
V. Medulla	e. Islets of Langerhans

D.Give one word for the following: (any four) **1x4 =4**

I. The part of the brain joining the spinal cord and the medulla –
II. Cells that supply myelin for the central nervous system-
III. The neurons exclusively found in brain and spinal cord-
IV. The type of reflex in coughing –
V. Hormone that prevents apical dominance-
VI. The layer of the eye containing blood vessels-

Group – C

A. Answer the following questions:-(any eleven) **2x11 =22**

1. Differentiate between monocular and binocular vision with examples.

2. How is cerebral cortex different from cerebellar cortex?

FOR GOD AND COUNTRY

ST. LAWRENCE HIGH SCHOOL

A Jesuit Christian Minority Institution

Sub: Life Science **Class: X** **F. M.-75**

Duration: 2hrs 30 minutes **Date:25.04.2018**

GROUP-A

A. Multiple Choice Questions (MCQ) :-

1. I. Pituitary gland
2. II. Beta cells
3. IV. Calcium
4. I. Chemonastic
5. I. Auxin and Cytokinin
6. I. Epinephrine
7. IV. Estrogen
8. I.Medulla oblongata
9. I. Iris
10. III. Perineurium
11. IV. Acetylchloride
12. II. Kinetin

GROUP-B

A. Fill in the blanks :- (any four)

a) Lizards/ birds
b) conditioned
c) Ethylene
d) Corpus callosum
e) Glial cells

B. True or False:- (any four)

a) False
b) False
c) True
d) True
e) True

C. Match the following :- (any four)

- Brain is not involved
- Receptor is stimulated by spinal cord, conducted to effector, response is generated.

5. Parietal, Frontal, Occipital, Temporal.

   Decision making – frontal

6. Location- below thalamus above brain stem; ventral part of diencephalon

   Functions-

   - Synthesizes , secretes,neurohormones
   - Controls the secretions from pituitary.
   - Controls the metabolic processes.

7.

Grey matter	White matter
1. nerves are non- myelinated	1. nerves are myelinated
2. no insulation	2. insulation present

8. Functions of Auxin-

   - Phototropism
   - Parthenocarpy
   - Apical growth
   - Initiates rootings in stem cuttings, weedicides, cell division

   Natural auxin – Indole acetic acid, Napthalene acetic acid

9. Geotropism demonstration instrument; observations – stationary and rotating

10. Vision/ hearing/ sleep/wake, arousal, motor control, temperature regulation.

11. Skototropism- Bending of plant roots away from light. Eg – roots.

12.

12. Hormones	Enzymes
1. Released from endocrine glands.	1. released from exocrine glands.
2. carried through blood via ducts	2. released into target organ directly.

13. Heart rate –contractivity of the hear muscles by causing vaso- constriction of arteries and veins.

14. Goitre- swelling (hypertrophy) of a gland in the neck called the thyroid gland.

    Cause- Iodine deficiency

15. Abscissic acid- antiauxin.

Reason- counteracts the auxin activity by initiating abscission.

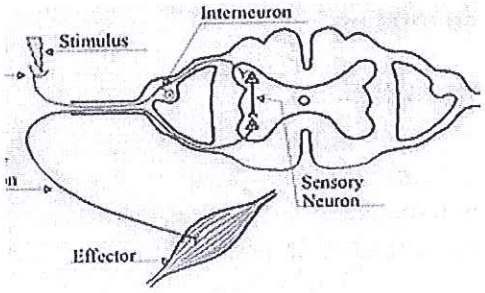
16. Mixed gland because it consists of both endocrine and exocrine functions. Endocrine- insulin and glucagon ; exocrine- trypsin, chymotrypsin, etc.

GROUP-D

1. (Any five) characteristics of phytohormones :
   - They are complex organic compounds containing C,H,O and N.
   - They are both natural and artificial in nature that is produced from the different plant tissue or can be synthesized artificially in the laboratory.
   - They are mostly plant growth regulators.
   - They may antagonistic effect, counteracting each other like auxin and cytokinin.
   - They are both localized and transported in nature , i. e produced at one point and active at some other point after being transported along the conducting tissue by getting solube in water.

2. Structure of Cerebrum-
   Key words – grey matter-white matter; Lobes; hemispheres; corpus callosum; cerebral cortex (0.5x5 = 2.5)
   Functions –
   - language abilities
   - decision making
   - thinking ability
   - problem solving and planning, reception and processing of informations

3.



Pathway of Refex Arc – stimulus- impulse-receptor-sensory neuron- soinal cord – relay neuron- motor neuron- effector- response

4. Functions of synapse – At the synaptic terminal (the pre synaptic ending) , an electrical impuse will trigger the migration of vesicles containing neurotransmitters towards the pre synaptic membrane . The vesicle membrane will fuse with the presynaptic membrane releasing the neurotransmitters into the synaptic cleft. The neurotransmitter molecules then diffuse across the synaptic cleft where they can bind with receptor sites on the post synaptic ending to influence the electrical response in the post synaptic neuron.

Components – presynaptic knob, post synaptic knob, cleft , neurotransmitters .

5. Positive feedback – one hormone stimulates the production of another hormone instead of diminishing.

Flowchart :

Hypothalamus

|

TRH

|

Anterior pituitary

|

TSH

|

Thyroid gland

|

Thyroxine

Production of lesser Thyroxine stimulates the hypothalamus to produce more TRH. Hence the process becomes a positive feedback.