GREENLAWNS SCHOOL, WORLI

TERMINAL EXAMINATION: 2016-17

BIOLOGY

Std: X | Marks: 80

Date: 06/10/2016 | Time: 2 hrs

Answer 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. **Section I** is compulsory. Attempt **any four** questions from **Section II**.

SECTION I (40 Marks)

*Attempt **all** questions from this Section*

Question 1

(a) Name the following: [5]

i. The site of light reaction.
ii. Thin membrane that partially closes the opening of vagina in young females.
iii. One neuro-transmitter.
iv. The muscle which guards the urethra.
v. The point where crossing over occurs.

(b) Mention whether the following statements are true or false. Correct and rewrite the false statements: [5]

i. The escape of plant-sap from the cut surface is called guttation.
ii. Wall pressure is the pressure exerted by the cell wall over the cell content.
iii. Gestation is the process of fusion of male and female gamete.
iv. Mitosis is called reduction division.
v. Hormones are chemically protein.

(c) Give one point of difference between the following on the basis of what is given in the brackets: [5]

i. Vas deferens and oviduct (function)
ii. Acromegaly and cretinism (symptoms)
iii. Stoma and stroma (describe its structure)
iv. Myopia and hyperopia (cause of the defect)
v. Karyokinesis and cytokinesis (meaning)

(d) Explain the following terms: [5]

i. Photophosphorylation
ii. Synapse
iii. Semen
iv. Destarched plant
v. Osmosis

(e) Give the exact location of the following: [5]

i. Ciliary body
ii. Proximal convoluted tubule
iii. Centromere
iv. Prostate gland
v. Incus

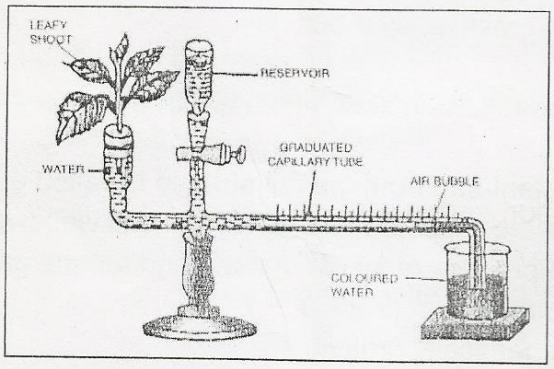
(f) Choose the odd one out and give a reason for your answer: [5]

i. Sneezing, coughing, typing, blinking.
ii. Semicircular canals, cochlea, tympanum, utriculus.
iii. Thymine, pepsin, cytosine, adenine.
iv. Cortisone, adrenocorticotropic hormone, vasopressin, growth hormone.
v. Ovary, ureter, fallopian tube, uterus.

(g) Give reasons: [5]

i. Wooden frames of doors get jammed during the monsoon season.
ii. Throat infections can lead to ear infections.
iii. The renal cortex has a dotted appearance.
iv. Injury to medulla oblongata leads to death.
v. When an ovum gets fertilised, menstrual cycle stops temporarily in a woman.

(h) Given below is an apparatus used to study a particular process in plants. Study the same and answer the questions that follow:



i. Name the apparatus. [1]
ii. Define the phenomenon being studied with the help of this apparatus? [1]
iii. State two limitations of using this apparatus. [1]
iv. What is the role of the air bubble in the experiment? [1]
v. Name the structures in a plant through which the above process takes place. [1]

SECTION II (40 Marks)

*Attempt any **four** questions from this section*

Question 2

(a) Draw a well labelled diagram of a neuron showing the following parts: [3]
Perikaryon, Dendrites, Axon, Node of Ranvier, Myelin sheath

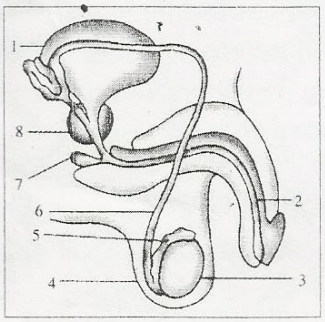
(b) State the function of sensory neuron and a motor neuron. [2]

(c) The diagram below represents a stage in cell division. Study the same and answer the questions: [5]

i. Identify the stage of the cell.
ii. Where does this type of cell division usually occur?
iii. What is the unique feature observed in this stage?
iv. How many daughter cells are formed from this type of cell division?
v. Is the dividing cell shown a plant or animal cell? Give reasons to support your answer.

Question 3

(a) Given below is the schematic diagram of the sectional view of the human male reproductive system:

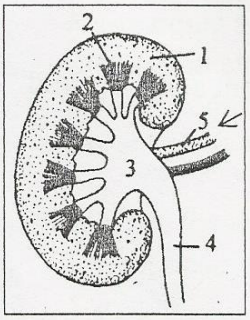


i. Name the parts 1 to 8. [4]
ii. State the function of parts 4 and 5. [2]
iii. What is the difference between the parts 7 and 8. [1]

(b) Draw a neat labelled diagram to show how myopia is corrected. [2]
(c) Name the part of the pituitary gland which is almost absent in humans but much larger and more functional in some lower humans. [½]
(d) Expand FSH. [½]

Question 4

(a) Given below is a section of human kidney as seen from the front:

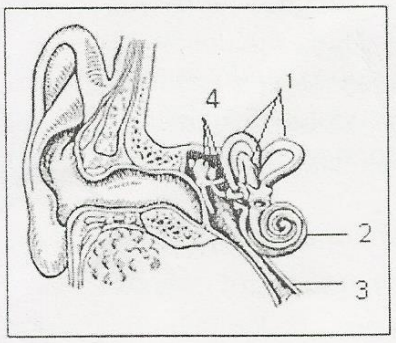


i. Label the parts 1 to 5. [2½]
ii. Is it the left kidney or the right one? Justify. [1]
iii. Is it a longitudinal or a cross-section? [½]
iv. What is ultrafiltration? [1]

(b) State the main function of the following: [5]
i. Placenta
ii. Pons
iii. Leydig's cells
iv. Ear ossicles
v. Cerebrum

Question 5

(a) The given diagram is of human ear. Study the same and answer the questions:



i. Label parts 1 to 4. [2]

ii. Would there be any difference if the three bones of part 4 were replaced by one bone? Why? [1]

iii. Name the fluid which fills the part 2. [1]

iv. Give functions of part 1 and 3. [2]

(b) Mention the source and the function of the following hormones: [2]

i. Glucagon

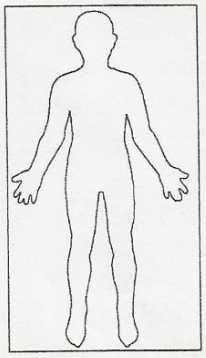
ii. TSH

(c) Mention any two adaptations in leaf for photosynthesis. [2]

Question 6

(a) Given below is the outline of the human body. Redraw the same and then place the following endocrine glands in their correct position and label them:

1. Thyroid 2. Adrenal 3. Pituitary 4. Pancreas



i. State the action of the hormone secreted by thyroid. [1]

ii. Why is adrenaline called – The Emergency hormone? [1]

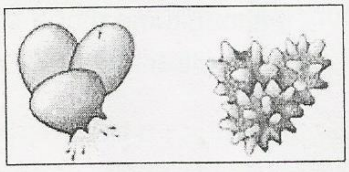
iii. What are tropic hormones? Give an example. [1]

iv. Name the endocrine part of the pancreas. [½]

v. Which part of the forebrain controls the pituitary gland? [½]

vi. What is acromegaly? [1]

(b) Study the diagram below of human RBCs placed in different solutions and explain the processes indicated in the diagrams: [2]



(c) Draw a neat labelled diagram of a mature human sperm. [2]

(d) Name the corresponding parts of the female reproductive system: [1]

i. Penis

ii. Scrotum

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