**2022**

**ZOOLOGY (Honours)**

**Paper Code : ZOOL-H-DC 9**

**[Animal Physiology : Life Sustaining System]**

**(CBCS)**

Full Marks: 25 Time: Two Hours

*The figures in the margin indicate full marks.*
*Candidates are required to give their answers in their own words as far as practicable.*

1. Answer any *eight* questions : ½×8=4

(a) Give an example of an areolar tissue.

(b) Haversian canals are found in long human bones. (True/False)

(c) Nissl granules found in cyton of a neuron are composed of _____. (Fill in the blank)

(d) The state of sustained muscle contraction resulting from a rapid succession of nerve impulses is called _____. (Fill in the blank)

(e) The other name of Factor X for blood coagulation is _____. (Fill in the blank)

(f) Active reabsorption of glucose occurs in the _____. (Fill in the blank)

(g) The term homeostasis was introduced by _____. (Fill in the blank)

(h) Animals which tolerate a narrow range of variation in salinity are _____. (Fill in the blank)

(i) Contraction of heart starts at the _____ node which is called pacemaker. (Fill in the blank)

(j) The type of cartilage present in intervertebral discs is called fibrocartilage. (True/False)

(k) Write the normal value of resting membrane potential of a neuron.

(l) Give an example of respiratory pigment.

2. Answer any *two* questions : 2½×2=5

(a) Draw schematically the scheme of cascade reactions leading to blood coagulation.

(b) Write in brief on counter-current theory of urine concentration in mammals.

(c) Write a short note on the oxygen dissociation curve of haemoglobin.

(d) Differentiate between squamous and columnar epithelium.

3. Answer any *four* questions : 4×4=16

(a) State the salient histological features of a mammalian bone. What is the difference between compact bone and spongy bone? 2+2

(b) Explain the "saltatory mechanism" of nerve impulse conduction along a myelinated nerve fibre with a diagram.

(c) Define cardiac cycle. Explain briefly the regulation of blood pressure. 2+2

(d) Enumerate the different types of connective tissues along with their functions.

(e) Explain briefly the ultrastructure of skeletal muscle with a diagram.

(f) Describe the process of hemopoiesis with emphasis on regulatory steps.

(g) Write a short note on Hamburger phenomenon. What is carbon monoxide poisoning? 2+2

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