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SARDAR PATEL UNIVERSITY

B. Sc. GENETICS IIIrd Semester

Theory Examination - JUNE 2022

US03CGEN22 – ANIMAL PHYSIOLOGY

16th June 2022 (Thursday), 12:00 p.m. to 2:00 p.m.



Total Marks: 70

- Note:** (1) All the Questions are compulsory.
 (2) Figures on the right indicate marks.

Q.1 Choose the correct option

1 x 10 = 10

- (i) Which of the following is the function of white blood cells?
 [A] Transport oxygen [B] Maintain homeostasis
 [C] Produce hemoglobin [D] Defend against infection
- (ii) Where does haematopoiesis take place?
 [A] Pancreas [B] Lungs
 [C] Bone marrow [D] Liver
- (iii) The lymphatic system consists of all the following except:
 [A] blood [B] lymph nodes [C] lymphatic vessels [D] lymph
- (iv) During inspiration the diaphragm _____
 [A] Expands [B] Contracts [C] No change [D] Relaxes
- (v) Oxygen is mainly transported as _____
 [A] Oxyhemoglobin [B] Hemo-oxyglobin
 [C] Hemoglobin [D] Oxynoglobin
- (vi) Which gland is located just superior to the kidneys?
 [A] Pituitary [B] Adrenal [C] Pancreas [D] ovaries
- (vii) Which of the following is steroid hormone?
 [A] FSH [B] LH [C] Insulin [D] Estrogen
- (viii) _____ is commonly known as Hookworm.
 [A] Ancylostoma duodenale [B] Eenterobius vermicularis
 [C] Ddracunculus [D] Ascaris lumbricoides
- (ix) Tree frog is an example of _____ adaptation.
 [A] cursorial [B] arboreal [C] volant [D] burrowing
- (x) Electric organs are found in.....
 [A] Amphibians [B] Fish [C] Reptiles [D] Mammals

①

Q-2 Do as directed

1 x 8 = 8

Fill in the blanks

- 1) _____, is a medical condition in which the blood pressure in the arteries is persistently elevated.
- 2) _____ gland produce Calcitonin, which helps regulate blood calcium levels.
- 3) The posterior pituitary gland secretes _____ hormone, which reabsorbs water from the collecting duct in the kidney to maintain equilibrium of water.
- 4) Dracunculus, is a nematode that causes dracunculiasis, also known as _____.
- 5) _____ is a technique used by bats, dolphins and other animals to determine the location of objects using reflected sound.

State true or False:

- 6) A person can expel all the air from the lungs.
- 7) The two distinct heart sounds during the cardiac cycle are lub and dup.
- 8) Endocrine glands secrete products into the ducts and transfer it into body cavities.

Q-2 Attempt any TEN of the following:

2 x 10 = 20

- i. Write the types of anticoagulant.
- ii. Name the primary and secondary lymphoid organs.
- iii. Name the clotting factors involve in blood clotting.
- iv. Brief about tuberculosis.
- v. Write the chemical classes of hormones.
- vi. Enlist the hormones secreted by pancreas.
- vii. Enlist the hormones secreted by posterior pituitary gland.
- viii. What is arboreal adaptation?
- ix. Define mimicry with example
- x. Name the disease caused by Leishmania and Balantidium coli.
- xi. Brief about Burrowing adaptation
- xii. What is Camouflage? Give example.

Q-4 Attempt any FOUR of the following:

4 x 8 = 32

- I. Give an overview of composition of blood and enlist the functions of blood components.
- II. Give a detail account on human heart.
- III. Write an explanatory note on Bronchi and lungs.
- IV. Explain the mechanism of exchange and transport of oxygen and carbon dioxide.
- V. Describe the location and structure of Anterior Pituitary gland with its secretion and disorder.
- VI. Give a detailed account on Testes and ovaries as endocrine glands.
- VII. Explain in detail life cycle and pathogenicity of *Trypanosoma gambiense*
- VIII. Explain in detail about Desert adaptations.

*****X*****