

2018
ZOOLOGY
ZOO:302
ANIMAL PHYSIOLOGY AND IMMUNOLOGY

Full Marks: 80

Time: 3 Hours

The figures in the margin indicates full marks for the questions :

1) Answer the following multiple choice questions (any eight)

8 X 1 = 8

- a) The most abundant granulocytes in human blood is
 - i) neutrophils
 - ii) monocytes
 - iii) basophils
 - iv) eosinophils
- b) The formation of erythrocytes in foetus takes place in
 - i) liver and spleen
 - ii) red bonemarrow
 - iii) blood plasma
 - iv) all of these
- c) Electrical impulses gather and accumulate in which part of a neuron, in order to initiate an action potential?
 - i) dendrites
 - ii) axon hillock
 - iii) axon terminal branches
 - iv) node of Ranvier
- d) Concanavali A is a plant lectin and can act as

- i) antibody
 - ii) mitogen
 - iii) antigen
 - iv) complement
- e) Alloantigenic forms of immunoglobulins are called
- i) idiotype
 - ii) isotype
 - iii) allotype
 - iv) haplotype
- f) Which of these hormones promotes the appetite?
- i) ghrelin
 - ii) insulin
 - iii) glucagon
 - iv) glucose
- g) A state in which two or more genetically different populations of cells coexist is known as
- i) homeostasis
 - ii) chimerism
 - iii) mixed lymphocyte
 - iv) autoimmunity
- h) Which of the following is an example of a glial cell?
- i) Schwann cells
 - ii) Astrocytes
 - iii) oligodendroglia
 - iv) all of the above
- i) The contractile protein of skeletal muscle involving ATPase activity is
- i) actin
 - ii) myosin
 - iii) troponin

- iv) tropomyosin
- j) Complement can be activated in
- i) 2 different ways
 - ii) 3 different ways
 - iii) 4 different ways
 - iv) none of these

2. Answer the following questions (any five)

2X5 = 10

- a) What is the difference between T and B lymphocytes morphologically?
- b) What is hypersensitivity?
- c) What is properdin pathway?
- d) What is ventilation?
- e) What is Boyle's law?
- f) What is expiration?
- g) What is oxygen therapy?

3. Answer the following questions (any four)

5X4 = 20

- a) Discuss about class switching.
- b) Write about the development of T cell.
- c) Write about the role of complement in innate and adaptive immunity
- d) The upper airways play an important role in protecting the lungs from airborne particles - elaborate the statement.
- e) The mean pressure in the pulmonary arteries rises as cardiac output increases - elaborate the statement.
- f) What is renin-angiotensin system?

4. Answer the following questions:

2X9 = 18

- a) Discuss in detail about the structure of IgG with figure. 9
- or

Discuss about pulmonary circulation and pulmonary disorders.

b) What is Basal Metabolic Rate and how can it be measured?

or

9

Write in detail about the classical pathway of complement activation.

5. Answer the following long type questions:

2X12 = 24

a) Discuss about the role of GIT hormones in digestions. Explain how ADH helps the body to conserve water? **8+4 = 12**

or

What is hypoxia? Discuss about five different types of hypoxia.

2+10 = 12

b) Define tolerance. Write a brief note on tolerance.

2+10 = 12

or

What is hypersensitivity? Differentiate the two major types of hypersensitivity.

2+10 = 12
