

2019

ZOOLOGY

(Major)

Paper : 5.3

(**Endocrinology and Immunology**)

Full Marks : 60

Time : 3 hours

*The figures in the margin indicate full marks
for the questions*

1. Choose the correct answer :

1×7=7

(a) Thyroid hormone synthesis involves the iodination of

(i) tyrosine

(ii) alanine

(iii) tryptophane

(iv) methionine

(b) The hormone which acts through a nuclear receptor is

(i) growth hormone

(ii) insulin

(iii) oxytocin

(iv) thyroid hormone

(2)

- (c) In the adrenal gland, glucocorticoids are secreted by
- (i) zona glomerulosa
 - (ii) zona fasciculata
 - (iii) zona reticularis
 - (iv) medulla
- (d) The binding of an antigen by its antibody involves
- (i) hydrogen bonds
 - (ii) electronic forces
 - (iii) Van der Waals forces
 - (iv) All of the above
- (e) Which antibody is responsible for allergic reaction?
- (i) IgM
 - (ii) IgA
 - (iii) IgF
 - (iv) IgD
- (f) What cells destroy pathogens by engulfing them?
- (i) Cytotoxic T cells
 - (ii) Basophils
 - (iii) Eosinophils
 - (iv) Macrophages

(3)

- (g) Peyer's patches are secondary lymphoid organs found
- (i) in the nasal epithelium
 - (ii) within the wall of the small intestine
 - (iii) in the lining of the stomach
 - (iv) in the lung

2. Distinguish between the following : $2 \times 4 = 8$

- (a) Diabetes mellitus and Diabetes insipidus
- (b) Helper T cells and cytotoxic T cells
- (c) MHC class I and MHC class II molecules
- (d) Corpus luteum and Corpus albicans

3. Write short notes on any *three* of the following : $5 \times 3 = 15$

- (a) Endocrine function of posterior pituitary
- (b) Biosynthesis of thyroxine
- (c) Minerals corticoids
- (d) Immunodeficiency disease
- (e) Pathogen-associated molecular patterns

4. Describe the histology and endocrine functions of mammalian ovary. 5+5=10

Or

Discuss the mechanisms of action of protein hormone. 10

5. Describe the structure of an antibody molecule and write briefly about the function of the different antibody classes. 4+6=10

Or

What do you mean by humoral immune response? Discuss the role of B- and T-lymphocytes in the generation of humoral immune response. 2+8=10

6. Distinguish between primary and secondary immunodeficiencies. Write a brief note on the acquired immunodeficiency syndrome. 4+6=10

Or

What is hypothalamohypophyseal axis? Discuss the role of hypothalamic factors in the regulation of endocrine function of the anterior pituitary. 3+7=10

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