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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) Low levels of adrenal cortex hormones result in

- (i) Addison's disease
- (ii) Cushing syndrome
- (iii) tetany
- (iv) goitre

(b) The stimulation of intestinal absorption of dietary Ca is the principal biological role of

- (i) thyroxine
- (ii) parathyroid hormone
- (iii) calcitonin
- (iv) norepinephrine

(2)

- (c) The hormone which acts through a nuclear receptor is
- (i) growth hormone
 - (ii) insulin
 - (iii) oxytocin
 - (iv) thyroid hormone
- (d) HIV is a
- (i) bacterium
 - (ii) retrovirus
 - (iii) modernovirus
 - (iv) fungus
- (e) What cells destroy pathogens by engulfing them?
- (i) Cytotoxic T cells
 - (ii) Basophils
 - (iii) Eosinophils
 - (iv) Macrophages
- (f) Which antibody is known to be responsible for allergic reactions?
- (i) IgM
 - (ii) IgA
 - (iii) IgE
 - (iv) IgD

(3)

- (g) Active immunity may be gained by
- (i) natural infection
 - (ii) vaccines
 - (iii) toxoids
 - (iv) All of the above
2. Distinguish between the following : $2 \times 4 = 8$
- (a) Diabetes mellitus and Diabetes insipidus
 - (b) Helper T cells and Cytotoxic T cells
 - (c) Neurohormone and Neurohumor
 - (d) Innate immunity and Acquired immunity
3. Write short notes on any *three* of the following : $5 \times 3 = 15$
- (a) Biosynthesis of thyroxine
 - (b) Endocrine function of posterior pituitary
 - (c) Functions of MHC molecules
 - (d) Mineralocorticoids
 - (e) Autoimmune diseases

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

Or

Discuss the mechanism 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. What are the different types of secondary lymphoid organs? Summarize their functions in the immune response. 2+8=10

Or

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

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