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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

(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

- (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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