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5202

M.Sc. (Final) EXAMINATION, 2016

ZOOLOGY

Paper II

(Vertebrate Endocrinology Immunology and  
Molecular Biology)

Time allowed : Three Hours

Maximum Marks : 100

Part A (खण्ड 'अ') [Marks : 20]

*Answer all questions (50 words each).*

*All questions carry equal marks.*

सभी प्रश्न अनिवार्य हैं । प्रत्येक प्रश्न का उत्तर पचास शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

Part B (खण्ड 'ब') [Marks : 50]

*Answer five questions in all (250 words each)*

*selecting one question from each Unit.*

*All questions carry equal marks.*

प्रत्येक इकाई से एक प्रश्न चुनते हुए, कुल पाँच प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

P.T.O.

**Part C (खण्ड 'स')**

[Marks : 30]

*Answer any two questions (300 words each).*

*All questions carry equal marks.*

कोई दो प्रश्न कीजिए । प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो । सभी प्रश्नों के अंक समान हैं ।

**Part A**

(खण्ड 'अ')

1. Answer the following :

**Unit I**

(इकाई I)

- (i) Define hormones with suitable examples.
- (ii) Which hormone is also called as "Flight or Fight" hormone.

**Unit II**

(इकाई II)

- (iii) Define hormone receptor.

- (iv) Enlist the hormones involved in carbohydrate metabolism.

**Unit III**

**(इकाई III)**

- (v) Hormone which exert inhibitory influence on hormone-releasing hormone (GHRH).
- (vi) Name *five* peptide hormones.

**Unit IV**

**(इकाई IV)**

- (vii) Write functions of the following :

(a) Memory B Cells

(b) Macrophage.

- (viii) Differentiate between innate and acquired immunity.

**Unit V**

**(इकाई V)**

- (ix) Define Okazaki fragments.
- (x) Name cell organelles where DNA replication occurs, except Nucleus.

**Part B**

**(खण्ड 'ब')**

**Unit I**

**(इकाई I)**

2. Describe functions and disorders of pituitary hormones.
3. Describe anatomy, structure and function of pancreatic islets of Langerhans.

**Unit II**

**(इकाई II)**

4. Classify hormones on their chemical nature.

5. Explain role of hormone in homeostasis.

**Unit III**

**(इकाई III)**

6. Explain the role of hormones in reproduction.
7. What is post-translational modification and how is it important in functionality of hormones ?

**Unit IV**

**(इकाई IV)**

8. Describe structure of various types of antibodies.
9. Describe antibody mediated effector functions.

**Unit V**

**(इकाई V)**

10. Write differences between prokaryotic and eukaryotic replication.
11. List various small RNAs and their functions with in cells.

**Part C**

(खण्ड 'स')

**Unit I**

(इकाई I)

12. Describe the following :

- (a) Hypothalami-Pituitary Adrenal Axis
- (b) Hypothalami-Pituitary Gonadal Axis.

**Unit II**

(इकाई II)

13. Describe mechanism of action of Hormones with special emphasis on signal transduction.

**Unit III**

(इकाई III)

14. Write an essay on synthesis, storage, release and transport of the adrenocortical hormones.

**Unit IV**

**(इकाई IV)**

15. What is the sequence of events in a typical immediate hypersensitivity reaction ? What is the late phase reaction and what is it caused by ?

**Unit V**

**(इकाई V)**

16. Describe various models that explain how transcription is regulated in prokaryotes and eukaryotes.