

5M/ZOO-302 (Th) Syllabus-2023

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(Nov-Dec)

FYUP : 5th Semester Examination

MAJOR

ZOOLOGY

**(Introductory Developmental Biology
and Endocrinology)**

ZOO-302

Marks : 56

Time : 3 hours

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

Answer Question No. **1** which is compulsory
and *any four* from the rest

1. Write on any *four* of the following : 3×4=12

- (a) Differences between invagination and involution
- (b) Parthenogenesis
- (c) Classification of hormones with examples

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(Turn Over)

(2)

- (d) List of hormones of the adrenal gland
 - (e) Functions of pheromones
 - (f) Differences between positive and negative hormonal feedback mechanisms
2. (a) Define fertilization. What are the basic steps involved during the process of fertilization (*in vivo*)? 1+3=4
- (b) Describe the mechanism involved in slow block to polyspermy with the help of a suitable diagram. 5+2=7
3. Explain the mechanism of action of steroid hormones highlighting the various steps involved. 11
4. What is gastrulation? With the help of a labelled diagram, explain the process of gastrulation in chick embryo leading to the formation of the primitive streak. 2+(2+7)=11
5. (a) Describe the structure of thyroid gland and list the hormones produced by it. 3+2=5
- (b) Give a detailed account on the biosynthesis of thyroid hormones. 6

(3)

6. With the help of a diagram, explain the process of spermatogenesis. Add a note on the hormonal control of spermatogenesis. (2+5)+4=11
7. (a) List the various hormones produced by the pituitary gland and state their functions. 6
- (b) Briefly discuss the various disorders associated with the pituitary gland. 5
8. Write on any *two* of the following : $5\frac{1}{2} \times 2 = 11$
- (a) Classification of eggs based on the amount and distribution of yolk
- (b) Larval forms of Crustacea
- (c) Neuroendocrine system in insects
- (d) Hormones of the gastrointestinal tract
