

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

**2 0 2 5**

( 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**

( 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

\*\*\*