

3/ZOO-200 (Th) Syllabus-2023

2 0 2 4

(December)

FYUP : 3rd Semester Examination

MAJOR

ZOOLOGY

**(Introductory Cell Biology
and Genetics)**

ZOO-200

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 prokaryotic and eukaryotic cells
- (b) Pleiotropy
- (c) Central dogma of molecular biology
- (d) Differences between benign and malignant tumours
- (e) Microtubules
- (f) Nucleosome model of chromatin

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(Turn Over)

2. Describe the ultrastructure of the Golgi complex with the help of a diagram. Add a note on its key functions. 7+4=11
3. (a) Describe the morphological structure of a eukaryotic chromosome. 7
(b) Classify chromosomes based on the position of centromere. 4
4. (a) What is linkage? Explain the types of linkage with suitable examples. 2+4=6
(b) Explain the different types of structural aberrations in chromosomes. 5
5. Describe the ultrastructure of fluid mosaic model of plasma membrane with the help of suitable diagrams. Mention the important functions of plasma membrane. 5+2+4=11
6. What is cell cycle? Explain the different phases of cell cycle with the help of suitable diagrams. 2+7+2=11
7. (a) Explain the inheritance of multiple alleles with reference to ABO blood groups in humans. 6
(b) Explain co-dominance and incomplete dominance with examples. 5

8. Write on any *two* of the following : $5\frac{1}{2} \times 2 = 11$

- (a) Ribosomes
- (b) Stages of prophase I of meiosis
- (c) Sickle-cell anaemia
- (d) Differences between back cross and test cross

Marks : 50

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 : $3 \times 4 = 12$

- (a) Differences between prokaryotic and eukaryotic cells
- (b) Plasmids
- (c) Central dogma of molecular biology
- (d) Differences between benign and malignant tumours
- (e) Microtubules
- (f) Secondary model of chromatin