SIXTH SEMESTER THEORY

Z.6.2 Ethology, Evolution and Zoo Geography

ETHOLOGY

1. ANIMAL BEHAVIOUR **3 Hrs**

Definition and types of animal behaviour-innate behaviour-taxes, reflexes, instincts and motivation. Learned behaviour- habituation, imprinting and conditioned reflexes

2. SOCIAL ORGANIZATION **2 Hrs**

Features of social organization. Social life in Honey bee & Termites

3. MIGRATORY BEHAVIOUR **3 Hrs**

Migration in fishes : Anadromous and catadromous migration with Hilsa and Anguilla.
Migration in birds :Origin of migration, types of migration, advantages of migration with suitable examples.

4. Parental care -in fishes and amphibians **4hrs**

4. COURTSHIP BEHAVIOUR **2 Hrs**

General principles and significance. Courtship and amphibians and birds,

5. NEST AND NESTING BEHAVIOUR **3 Hrs**

Nest and nesting behaviour in birds with special reference to baya birds

6. COLOURATION AND MIMICRY **3 Hrs**

Definition classification of mimicry-A) Aggressive, protective and warning. B) Batesian and Mullerian mimicry with suitable e.g.,

ORGANIC EVOLUTION

1. INTRODUCTION **3 HRS**

Origin of life-Abiogenesis, biogenesis. Chemical evolution, Stanley Miller's expt

2. **EVIDENCES IN FAVOUR OF ORGANIC EVOLUTION** **3 HRS**

Evidences from anatomy, embryology and palaeontology

3. THEORIES OF ORGANIC EVOLUTION **6 HRS**

Lamarckism ,Darwinism, Mutation theory, Neo-Darwinism and Modern synthetic theory

4. SPECIATION **4 HRS**

Types of speciation(allopatric and sympatric), mechanism of speciation

5. **ZOO-GEOGRAPHY** **5 HRS**

1. Realms and their characteristic fauna

2. Animal distribution : Continuo's & discontinuous with examples

3. Barriers of dispersal

SYLLABUS FOR PRACTICAL ZP-6.2
(BASED ON PAPER Z-6.2:)
ETHOLOGY, EVOLUTION & ZOO GEOGRPAHY)

1. Winking of eyes, knee jerks and spider web experiments to explain innate and learned behaviour.
2. Observation of bee hive, ant colony from curtain and pagoda nests and termite mound.
3. Observation of migratory in birds
4. Observation of courtship behaviour in birds (sparrows, fowl, Peacock, pigeon).
5. Observation of parental care in the animals as studied in the theory (pisces: Hippocampus,Arius, Amphibian:Icthyophis, Birds:Myna,Jacana).
6. Observation of nesting behaviour in the birds
7. Observation of butterflies,Stick insects, leaf insects & Chamelion for the coloration & mimicry.
8. Study of homologous organs- Forelimbs of Frog & bird; mouth parts of cockroach & mosquito, serial homology in crustacea(appendages).
9. Study of analogous organs- vertebrae & cephalopod eye, wing of bird & insect.
10. Study of vestigial organs-appendix, coccyx & molar teeth in man.
11. Study of models of Dinosour.
(Ichthyosaurus,Tyrranosaurus,Brontosaurus,Stegosaurus & Triceratops).
12. Study of Archeopteryx.
13. Study of models of fossil man. (Any 4 available models).
14. Field oriented projects:
    a) Study of nesting and roosting places in birds.
    b) Local treks for nature study: Study of termite mounds & identification of castes/ bee colonies/ ant colonies/ Monkey troops, etc for behavioral study.

Observation of mimicry / coloration in local animals

FORMAT OF QUESTION PAPER FOR
PRACTICAL Z-P.6.1
GENETICS, MOLECULAR BIOLOGY AND BIOTECHNOLOGY

Maximum Marks : 40

Q.1	Squash preparation of salivary gland chromosome of Drosophila/ Chironomous larvae	:	10 x 1 = 10
Q.2	Detection of blood group (A,B,O) and Rh-factor. Give the genetic Significance	:	5 x 1 = 5
Q.3	Genetic problem (monohybrid).	:	05
Q.4	Genetic problem (dihybrid/ multiple alleles)	:	05
Q.5	problem on sex-linked inheritance/ interaction of genes	:	05
Q.6	Viva voce	:	05
Q.7	Record Book	:	05

Key note to the Examiners:
1)For Question no 1-in case of lack material in the college, the candidates are asked to write the characters of salivary gland chromosome with a neat labelled diagram and also to write the Procedure and staining of Salivary gland chromosome of chironomous larvae.