VEER NARMAD SOUTH GUJARAT UNIVERSITY, SURAT

SYLLABUS FOR CBCS AND SEMESTER SYSTEM IN

F.Y.B.Sc. – SEMESTER – I (Theory)

ZOOLOGY PAPER-I (Effective from June- 2011)

UNIT – 1

(a) Scope and branches of zoology
(b) Science of classification (Taxonomy) of animals and its significance.
(c) Taxonomy:
    i. Non chordates to hemichordates: Only general characters with examples.
    ii. Chordates classification: Only general characters with examples of Protochordata to mammals.

UNIT – 2

Tissue systems: Study of various types, their structure and functions.

Epithelial, connective, nervous and muscular tissue

UNIT – 3

Rabbit: Study of External features, as well as structure & functions of following systems

i. Digestive systems ii Respiratory systems

iii Circulatory systems (Including heart) iv Urinogenital systems

v Brain

UNIT – 4 -Genetics:

(1) **Mendelian principles**– Dominance, Segregation, independent-assortment, deviation from Mendelian inheritance. Heredity of some human traits , Pedigree analysis
(2) Concept of gene, multiple alleles (ABO blood groups), pseudo. Alleles.

F.Y.B.Sc. – SEMESTER – I (Practical)

ZOOLOGY PAPER-I (Effective from June- 2011)

(1) Study of Scope and branches of zoology

(2) Study of Classification of Invertebrate :
Phylum- Protozoa, Porifera and Coelenterates:
Amoeba, Paramecium, Bath sponge, Leucosolenia, Hydra, Aurelia,

(3) Study of Classification of Invertebrate:
Phylum - Platyhelminthes, Nemathelminthes and Annelida
Liver fluke, Planaria, Ascaris, Earth worm, Leech.

(4) Study of Classification of Invertebrate :
Phylum -Arthopoda, Mollusca, Echinodermata and Hamichordata
Cockroach, Centipede, Crab, Spider, Bivalve, Sepia, Star fish, Sea cucumber, Sea urchin, Balanoglossus.

(5) To study the Classification of Protochordata, Pisces and Amphibia:
Ascidian, Amphioxus, Lamprey, Scoliodon, Sea horse, Labeo, Frog, Bufo, Hyla, Ichthyophis,

(6) To study the Classification of Class - Reptilia, Aves and Mammalia
Tortoise, Dhaman, Calotes, Sparrow, Parakeet, Cuckoo, Bat, Rat, Rabbit, Whale

(7) Rabbit: Digestive system, Heart, Respiratory system and urinogenital system (To be shown in dissected animal/ models / charts)

(8) Tissue System: Study of various types of tissues with the help of permanent slides- areolar tissue, adipose tissue, Hyaline Cartilage, Mammalian bone, Medulated and non Medulated nerve fiber, epithelial, muscular tissues.

(9) Genetics: Study of Mendel's law through models/ charts/ live specimens.
1. To study the probability of traits in human
2. To study multiple alleles in human blood

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ZOOLOGY PAPER-II (Effective from June- 2011)

UNIT-1

Cytology: Structural organization of cells- Prokaryotes and Eukaryotes

Introduction to cell organelles and cell inclusions.

UNIT-2

Immunology: Introduction and basic concepts of immunology. Cells and organs of immune system. Humoral and cellular immune response. Innate and acquired immunity.

UNIT-3

Parasitology: Basics of parasitology and parasitism. Type and life history of Ascaris

UNIT-4

A - Evolution: Evidence of evolution from comparative functional anatomy- Homologous, Analogous and vestigial organs, connecting link,
Atavism (Reversion)

B - Ethology: Introduction, Scope and patterns of behavior.
Nesting behavior (Weaver bird, Horn bill) and social behavior (honey bees).

Behavioural Disorders.

F.Y.B.Sc. – SEMESTER – I (Practical)

ZOOLOGY PAPER-II (Effective from June- 2011)

(1) Microscopes: principle, working, magnifications and different types: Dissecting, compound, electron and fluorescent microscopes.
(2) Life cycle of Ascaris
(3) Prepare blood smear and blood grouping (A, B, O)
(4) To study homologous and analogous and vestigial organs
(5) To study nesting behavior (Weaver bird, Horn bill) and social behavior (Honey bees).
(6) To study structure of typical animal cell and cell organelles with the help of chart/ photograph/model.

List of Reference books:

1) Prani Vidya (Text Book of Zoology) - Dholakia, Shah, Naik & Others
2) Modern Zoology - R Gupta
3) A textbook of Zoology -R.D Vidyarthi
4) Modern Text Book of Zoology (Invertebrates) - R.L.Kotpal
5) Modern Text Book of Zoology (Vertebrates) - R.L.Kotpal
6) Invertebrate Zoology – E.L.Jordan and Verma
7) Invertebrate Zoology – T.C. Majupuria
8) Chordate Zoology- T.C. Majupuria
9) Chordate Zoology & Animal Physiology- E.L.Jordan and Verma
10) Animal Physiology – M.P. Arora
11) Animal Physiology – Goyal and Shashtri
12) Economic Zoology – Shukla and Upadhyay
13) Hand Book of Economic Zoology-J.Ahsan & Subash Prasad Sinha
14) A T.B. of Practical Zoology Invertebrate-S.S.Lal
15) A T.B. of Practical Zoology Vertebrate-S.S.Lal
16) Practical Zoology-K.C.Ghose & B.Manna
17) A textbook of genetics V.B.Rastogi textbook of cytology V.B.Rastogi
18) Cell Biology, Genetics, Molecular Biology. Evolution, Ecology. P.S. Verma and V.K. Agarwal
19) Cytology, Genetics and Evolution - P.K. Gupta
20) Fundamentals of Genetics- M. P. Arora
21) Genetics. P.S. Verma and V.K. Agarwal
22) Ecology and Environment- P.D.Sharma