

ADVANCE ZOOLOGY VIII (ZOOGEOGRAPHY AND PALEONTOLOGY)

CREDIT HOURS: 3+1

Objectives:

The course imparts knowledge and concepts of evolution mainly based on the past fossil records. The fossil records also provide the information regarding the distribution of animals in the past eras. This course provides information on the distribution of animals and their associations in the past; thus, to rationalize their relationship in the present time.

Course Contents

Zoogeography: Branches of zoogeography (descriptive, chorology, faunistics, systematic, biocoenotic, causal, ecological, historical, experimental and applied zoogeography). Animal distribution (cosmopolitan distribution, discontinuous distribution, isolation distribution, bipolar distribution and endemic distribution) Barriers and dispersal. Zoogeographical regions (division, geographic ranges, physical features, climates, faunas and affinities of Holarctic (Palaeartic, Nearctic regions), Oriental, Ethiopian, Australian, and New tropical Regions. Palaeogeography (Theories of Continental drift and Plate tectonics).

Principles of Paleontology: Earth, Shells of earth; (atmosphere, hydrosphere, biosphere and lithosphere). Rock, types of rocks (Igneous rocks, sedimentary rocks and metamorphic rocks) Fossil, types and uses of fossils, nature of fossils. Processes of fossilization. Geological time scale. Pre-Cambrian life. Post Cambrian life (Palaeozoic life, Mesozoic life, Cenozoic life). Geochronometry (Uranium/Lead dating, radiocarbon dating, methods), evolutionary history of man, elephant, horse and camel, Paleoecology, Paleomagnetism.

Evaluation Criteria

Examination	Type	Marks
Internal Examination	Sessional Work	15%
	Mid-Semester	25%
External Examination	Final Semester	60%

Books Recommended

Zoogeography:

Ali, S.S. (1999). *Palaeontology, Zoogeography and Wild Management*. Hyderabad, India: Nasim Book Depot.

Darlington, P. J. Jr. (1963). *Zoogeography*, John Wiley and Sons.

De Beaufort, L. F. (1951). *Zoogeography of the Land and Inland Waters*. Sidgwick and Jackson.

Paleontology:

Ali, S.S. (1999). *Palaeontology, Zoogeography and Wild Management*. Hyderabad, India: Nasim Book Depot.

Brouwer, A. (1977). *General Palaeontology*, London: Oliver and Boyd.

Dunbar, C.O. (1969). *Historical Geology*, New York: John Wiley and Sons Inc.

Gilbert, L. I. & Colbert, E.H. (1980). *Evolution of Vertebrates*, New York: John Wiley and Sons Inc.

ADVANCE ZOOLOGY VIII (ZOOGEOGRAPHY AND PALEONTOLOGY) PRACTICALS

1. Study Of fauna of various zoogeographical regions.
2. Study of mould, cast, pseudomorph, coprolite, petrified fossils of plants and animals.
3. Study of invertebrate fossils of coelenterates, trilobites, ammonite, brachiopods, molluscs and echinoderms.
4. Study of vertebrate fossils e.g. horse/elephant/camel/bovids.
5. Study and identification of Igneous, Sedimentary and Metamorphic rocks
6. Map work for identification of various zoogeographical regions of the World.

Evaluation Criteria

Examination	Type	Marks
Internal Examination	Sessional Work	15%
	Mid-Semester	25%
External Examination	Final Semester	60%