DEPARTMENT OF BIORESOURCES
SCHOOL OF BIOLOGICAL SCIENCES
UNIVERSITY OF KASHMIR, SRINAGAR

BACHELOR OF SCIENCE
3rd SEMESTER
DISCIPLINE SPECIFIC COURSE – 3 (CORE - 3)
BRS321C: BIORESOURCES: ANIMAL RESOURCES

CREDITS: THEORY: 4; PRACTICAL: 2
MAX MARKS: THEORY: 60; PRACTICAL: 30
MIN MARKS: THEORY: 24; PRACTICAL: 12

THEORY (Lectures: 60)

Unit: I **(14 Lecture)**

Introduction to Animal Resources: Important animal resources; Aquaculture, cattle, goats, poultry, and sheep in human service; Principles and practices for production of high quality milk, meat and eggs; Scope of meat, fish and poultry processing industry in J&K.

Unit: II **(14 Lecture)**

Livestock: History of domestication; Important methods of selection and systems of breeding in farm animals and poultry birds; applications of inbreeding and out-breeding; Genetic basis of heterosis and its use.

Unit: III **(16 Lectures)**

Aquaculture: Status and prospects; Role of aquaculture in food supply; Agencies involved in promoting academic, research and entrepreneurship in aquaculture; Types of farming systems- extensive, semi intensive and intensive culture; Cage culture; Integrated fish farming with details of paddy-cum-fish culture.

Unit: IV **(16 Lectures)**

Insect resources: Importance and scope of insect based industries; Honey industry, Silk Industry and Lac industry; Advances in insect based industries of J&K and their economic potential; Insects as biosensors; Use of insects in Forensic Science and Biomedicine; Role of insects in pollination.

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Practical Work: 2 Credits

- Study the procedure to ascertain the quality of silk, wool, honey, milk and meat.
- Study of life history of silk worm by rearing.
- Dissection of silk glands of the silk worm larva.
- Identification of culturable fishes in Kashmir valley.
- Demonstration of induced-breeding technology in cultured fishes.
- Identification of various breeds of cattle, buffalo, sheep and goat.
- Study the methods of preparation of different kinds of feed for Fish, Poultry and livestock
- Field trips to an organised poultry farms, fish hatchery, Sericulture research stations and Dairy farms.

Suggested Readings:

- Prost, P.J. (1962) Apiculture. Oxford and IBH, New Delhi.
- Srivastava, C.B.L. (1999) Fishery Science and Indian Fisheries. Kitab Mahal publications, India.
- Dunham R.A. (2004) Aquaculture and Fisheries Biotechnology Genetic Approaches. CABI publications, U.K.
- Atwal, A. S. (1993) Agricultural Pests of India and South East Asia. Kalyani Publishers, New Delhi.
- Atwal, A. S. (1993) Agricultural Pests of India and South East Asia. Kalyani Publishers, New Delhi.
- Hafez, E. S. E. (1962). Reproduction in Farm Animals. Lea & Fabiger Publisher.