MAHATMA GANDHI UNIVERSITY

Ph.D. COURSE WORK IN FISHERIES SCIENCES

COURSE II – ADVANCES IN FISHERIES SCIENCES

Unit- 1 Aquatic Environment:

Physico-chemical features of fresh, brackish and seawater systems; aquatic pollution and eutrophication problems; climate change and aquatic ecosystem;-tsunami-impact on aquatic fauna and flora.

Unit – 2: Fisheries resource and management:

Major fisheries resources of fresh water, brackish water and marine waters of India; mangroves-its significance in fish resources production and conservation; DNA bar coding and biodiversity and their utilization; DNA bar coding; conservation of biodiversity; trawl ban and its relevance to fisheries present status of aquaculture in India; emerging trends in aquaculture; environmental issues in aquaculture, problems and solutions.

Unit 3: Genetics and health management of aquatic organisms:

Fish genetics and diseases – hybridization, cryo-preservation of fish gametes-genetic engineering-sex reversal-cloning-transgenic fish-parasites-bacterial, fungal and viral diseases-genetically and environmentally induced abnormalities

Unit 4 : Harvest and post-harvest technology:

Eco-friendly methods of fishing; traditional/motorized/mechanized fishing practices and conflicts; concept of value additions in fish and fishery products; recent advances in post-harvest technology; recent approaches in packaging technology of fishery products; HACCP; fish processing waste disposal, environmental issues and solutions.