

SYLLABUS FOR COMPUTER BASED RECRUITMENT TEST (CBRT)
FOR THE POST OF SUPERINTENDANT OF FISHERIES
UNDER
DIRECTORATE OF FISHERIES
(Advt No. 09 Year 2022)

- I. General English including Grammar - 10 marks**
- II. General Knowledge, Current Affairs and Events of National and International Importance - 10 marks**
- III. Logical Reasoning and Analytical Ability - 25 marks**
- IV. Core: - 30 marks**

Aquaculture

Definition, scope and History of aquaculture. Various Systems of aquaculture. Extensive, semi-intensive, intensive and super intensive aquaculture in different types of water bodies. Pre-stocking and post stocking pond management. Major candidate species and Criteria for selection of candidate species for aquaculture. Water and soil quality in relation to fish production and estimation of productivity. Physical, chemical and biological factors affecting productivity of ponds. Nutrition, health management and economics. Fresh Water aquaculture, coastal aquaculture, Mari culture and brackish water aquaculture

Finfish and Shellfish: Anatomy, Taxonomy, Physiology and Biology. Breeding and Hatchery Management. Diseases and Management.

Fish Nutrition and Feed Technology: Nutritional requirements of cultivable fish and shellfish. Feed: formulation and manufacturing. Forms, additives, storage, evaluation, Feeding devices and methods. Non-conventional feed ingredients and anti-nutritional factors. Digestive enzymes, feed digestibility. Factors affecting digestibility. Nutritional deficiency diseases.

Culture of Fish Food Organisms : species of phytoplankton and zoo plankton as food organisms of freshwater and marine species. Tropic potentials- proximate composition of live feed. Biology and culture requirements of important live food organisms. Green algae, blue-green algae, spirulina, diatoms, infusoria, rotifers, cladocerans, tubifex, brine shrimp, chironomids. Culture of earthworms, bait fish and forage fish.

Fish Microbiology and Quality Assurance : Micro-organisms in fish; intrinsic and extrinsic parameters of fish that affect microbial growth. Characteristics of psychrophiles, halophile and thermophiles, their role in spoilage, food poisoning. Determining incidence and types of microorganisms and their products in fish. Types of spoilage of fish, semi processed and processed fishery products, Indices of fish sanitary quality, Concept of Quality Management; TQM, SSOP, GMP; ISO and Codex Alimentarius; HACCP, Microbiological standards and criteria, BIS and codex standards for fish and fishery products.

Refrigeration and Fishing Equipment's : Fishing vessel auxiliary systems, Fish finding equipments, Fish processing equipments. Different types of ice making machinery, brine tank, brine solution; leak detection arrangements; operation of various machinery used in freezing; machinery for sausage making, canning, fish products, by-products and packaging.

Marine Fisheries Basic concepts of Marine Biology. Classification and definition of fishery zones and fishery resources of world. Overview of marine fisheries resources of the world and India. Major exploited marine fisheries of India, their developmental history and present status. Potential marine fishery resources of the India's EEZ. GIS and Remote sensing in marine capture fishery. Ecology and Biodiversity.

Fisheries Extension Education : Introduction, concepts, objectives and principles; History and role of fisheries extension in fisheries development. Fisheries extension methods, important TOT programs in fisheries, role of NGOs and SHGs in fisheries; Fisheries co-management; Adoption and diffusion of innovations, adoption and diffusion process, adopter categories and barriers in diffusion of fisheries innovations; Extensions program planning and evaluation.

Fisheries Economics :Introduction, positive and normative economics, environmental economics, resource, scarcity, farm-firm relationships, production etc. Micro-economics and Macro-economics for development of fisheries. Seafood Export Regulations; Fisheries Subsidies and WTO. Fisheries Trade and Environment; Intellectual Property Rights (IPR) and different forms. Patents and patenting process, Agreement on TRIPS. Bio-piracy. GMOs in fisheries.

Fisheries Administration and Legislation Organizational set up, Functions and powers of fisheries administration at the Centre and state levels. International agencies and organizations for promotion of fisheries worldwide. Objectives, functions and authority of fishery regulatory agencies like Coastal Regulatory Zone (CRZ) and Aquaculture Authority of India.

Current Trends and Recent Advancements in the field of fisheries.

Note:

Duration for C.B.R.T : 90 Minutes

Maximum Marks for C.B.R.T : 75 Marks