Annexure 'G'

Syllabus for Field Assistant

	Name of the Subject	Topic Name
a)	**Environmental General knowledge**	• National / International events related to the environment and common understanding of environmental processes, NGT Act, Pollution Indices. • Abiotic and biotic environment. Non-renewable resources. Health hazards due to Environmental Pollution.
b)	**Water / Waste Water / Industrial Waste Water Engineering**	• Estimating sewage discharge, quantity of sewage per capita and its relationship per capita water supplied. design periods. • Unit processes / Operations related to water and waste water treatment, namely Equalization Coagulation; Flocculation; Settling; filtration; Disinfection; Aeration; Adsorption etc. • Physical, chemical and biological characteristics of water and sewage; Activated sludge process and its modifications; treatment ponds and aerated lagoons; Trickling filters; Rotating biological contactors; Sequencing Batch reactor and Membrane Batch Reactor. • Anaerobic digestion; Anaerobic filter and UASB. Nitrification & De- nitrification. • Types of pumps required for pumping sewage such as. centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations – their locations and component parts. • Characteristics and treatment of waste from Textile, Tannery, Dairy, Distillery, Cement Industry.
c)	**Water / Waste Water / Industrial Waste Water Analysis**	• Physical, chemical, and biological characteristics of water, and sewage, performance evaluation of the wastewater treatment system.
d)	**Environmental Impact Assessment**	• Basic concept of Environmental Impact Assessment, Environmental Impact statement, and Environment Management Plan. • Prediction and assessment of impacts on air, water, biota, noise, cultural, and socio-economic environment. • Rapid and comprehensive Environmental Impact Assessment. • Use of GIS in making EIA reports for industries and remote sensing and other software use in EIA studies.
e)	**Environmental Legislations in India**	• Environment (Protection) Act 1986, its amendments, and various rules /notifications made therein. • Environmental Impact Assessment notification, 2006- salient features. • Water (Prevention & Control of Pollution) Act, 1974, Air (Prevention & Control of Pollution) Act 1981.
f)	**Environmental Audit and Safety Audit in Industrial units**	• Environmental Audit and Safety Audit in Industrial units. • On site and off site emergency plan, Disastrous management plan.

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- Types of pumps required for pumping sewerage such as, centrifugal pumps, reciprocating pumps, diaphragm pumps and pneumatic ejectors; Pumping stations – their locations and component parts.

F) Environmental Legislations in India:-

- Environment (Protection) Act 1986, its amendments, and various rules /notifications made therein.
- Environmental Impact Assessment notification, 2006-salient features.
- Water (Prevention & Control of pollution) Act, 1974, Air (Prevention & Control of pollution) Act 1981.

G) Irrigation Engineering:-

- Introduction, water requirement of crops, hydrological cycle, Dams, Canals, dams, canal head works and regulatory works, cross drainage works, hydraulic structures, river training works, water-logging, drainage, ground water recharge, well hydraulics.

H) Engineering Drawing:-

- Basic of Engineering drawings, Basic concepts of CAD/CAM, Engineering drawing softwares.

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