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Preface

Urban settlements and growing industrial development, combined with rapid increasing demand for water, are causing more and more water quality problems. More than ninety percent of water quality problems in India are due to indiscriminate discharge of municipal wastes. These waste being biodegradable produce a series of directional but predictable changes in water bodies. Industrial effluents are responsible for pollution to a lesser extent but the effects produced by them may be more serious as nature is often unable to assimilate them. Agriculture is also responsible for degrading the river water quality by generating runoff from animal husbandry units, which contain predominantly organic compounds from the use of mineral fertilizers and chemical pesticides.

The planning of water as a national resource is not merely a question of ensuring the availability of water in the right quantity at the right time for diverse purposes, but also ensuring the right quality for the use in view. Further, for any proper river basin planning, whether long range or short term, before going into alternative plans for development, it is very essential to combine it with water quality problems and hydrological analysis. Such water quality analysis involves use of advanced instruments of water quality testing. A lot of advancement has taken place during last few years in the field of analytical instrumentation and there is a need for exposure of scientific community to modern technologies and techniques to keep pace with the rapid technological advancements. Accordingly, the Training Programme on Hands on Advanced Instruments of Water Quality Testing has been planned to provide an overview of the water quality testing and monitoring instruments to have full knowledge of the latest advancements taken place in analytical instrumentation with focus on concepts and practices.

The training programme is being organized by Environmental Hydrology Division and is primarily aimed to train the personnel engaged in water quality monitoring and assessment. The experts from various organizations such as NIH, IITR, JNU etc. have been selected to provide their inputs in the form of lectures and hands on training on advanced instruments. It would be an appropriate place for synergizing the principles with practices.

I am sure that the training programme will be of great help to the participants. The organizers of the training programme have made their sincere efforts to utilize the best resource persons available for the purpose. The lecture notes provided by the various experts have been compiled by Dr. C. K. Jain, Sc. 'F' and Head of the Environmental Hydrology Division. I sincerely believe that this compilation would be of great significance and useful for understanding and operation of advanced instruments of water quality testing.

Raj Deva Singh
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