

PLANNING AND MANAGEMENT OF ENVIRONMENTAL PROJECTS

Paper Code: ETEN-404

Paper: Planning and Management of Environment Projects

L	T/P	C
3	1	4

INSTRUCTIONS TO PAPER SETTERS:

MAXIMUM MARKS: 75

1. Question No. 1 should be compulsory and cover the entire syllabus. This question should have objective or short answer type questions. It should be of 25 marks.
2. Apart from Question No. 1, rest of the paper shall consist of four units as per the syllabus. Every unit should have two questions. However, student may be asked to attempt only 1 question from each unit. Each question should be of 12.5 marks

Objective: This course is aimed at providing both basic and advanced exposure to Environmental Project Management so as to enable the manager/ consultant of tomorrow to successfully plan and complete sophisticated projects within the constraints of capital, time and other resources. The course also deals with basic concept of network analysis, O and M works, contract Management etc.

UNIT I

Planning and Layout of Civic facilities like water supply and treatment system, waste water collection treatment, common effluent treatment plant (CETP) and disposal system, solid waste management including engineered landfill sites, functions including regulation by local authorities like water and sanitation Boards, Municipal authority etc., dealing with above mentioned civic facilities.

Project planning, identification, pre-feasibility studies and feasibility report, , administration, legal and financial aspects of management of civic facilities.

Schedules of Labour, materials and equipments, Graphical presentation of earthwork.

Construction Equipments: Equipment for execution and transportation of earth, hauling equipment, hoisting equipment, pile driving equipment, Equipment for pumping water, Dozers and cranes, Scraper, Batching plants, RMC equipment etc.

[T1, T2][No. of Hrs. 12]

UNIT II

Operation and maintenance of water work, waste water treatment facilities and landfill sites, cleaning equipments, precautions, safety equipments, safety practices, emergency maintenance, inspections. record keeping of key activities of OandM.

Monitored data at various stages of treatment facilities, check list, recording of data, reporting and review of performance of various equipments/unit operations of the treatment facilities, sampling requirement, selection of sampling point, test performed in the Laboratory for samples to be taken from various units operations and their effluents, organisation and computerisation of data for decision making and planning interventions.

Instrumentation and controls in water works, waste treatment and solid waste management facilities.

[T1, T2][No. of Hrs. 11]

UNIT III

Network and Network Analysis: CPM, Activity time estimate, earliest event time, Latest allowable occurrence time, Start and finish time of activity, Float, Critical activities and critical path, updating crashing.

Development of PERT network, Network rules, Graphical guidelines for networks, Work breakdown structure, Time estimates and computations using PERT.

Project monitoring using PRIMAVERA or MS Project.

[T1, T2][No. of Hrs. 11]

UNIT IV

Contract Management: scope of work, detailed estimate (Approved Plan), Administrative approval/Estimate sanction, notice inviting tenders and its types, tender, earnest money deposit, security deposit, types of contracts, essentials of legally valid contract between engineer and employers, appointment and authority of engineer for execution of works, public works administration: system of accounts, estimates, Delhi Schedule rates (CPWD), cost adjustment indices sub head, sub works, administrative approval, technical sanction, possession of funds, expenditure sanction, various methods of executing works.

[T1, T2][No. of Hrs. 10]

Text Books:

[T1] Punmia and Khandelwal, "PERT and CPM", Laxmi Publications, New Delhi.

[T2] Peurifoy R.L., Schexnayder C.J, Shapira A., "Construction Planning, equipment and methods", Tata Mc Graw Hill (P) Ltd., New Delhi.

Reference Books:

- [R1] Dutta B.N., "Estimation and Costing in Civil Engineering", UBS Publication Distribution (P) Ltd.,
- [R2] Hinze J., "Construction Contracts", Tata McGraw Hill Education (P) Ltd., New Delhi. (For Unit-IV)
- [R3] CPHEEO, "Manual on Water and Wastewater Treatment", Ministry of Urban Development, New Delhi.
- [R4] CPWD, "Delhi Schedule of Rates", New Delhi.