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Project Management — Complete Syllabus (Open Elective-01, Option B)

BTEUP Diploma in Civil Engineering • 5th Semester • Session 2026-27

Subject 5.6 (Open Elective-01, Option B) • 50 Marks Internal Only • 2 Credits • L 2 • Total NA — not counted in semester total • Choose this OR Disaster Management (OR Advance Skill Development)

Examination Scheme

Code	Paper	Type	L - P	Credits	Internal	External	Total
5.6	Open Elective-01: Project Management	Theory	2 - 0	2	50	—	NA
Open Elective-01 Total				2	50	—	NA

What This Subject Aims To Do

To develop the idea of a project plan — from defining and confirming the project goals and objectives, identifying tasks and how goals will be achieved — and to develop an understanding of key project management skills and strategies.

Unit-Wise Complete Topic List

Unit	Topic	Periods	Marks Share
1	Concept of a Project	5	15%
2	Capital Budgeting Process	5	15%

3	Financial Estimates and Projections	5	20%
4	Basic Techniques in Capital Budgeting	5	20%
5	Project Administration	8	30%

Unit 1 — Concept of a Project (5 Periods, 15%)

Topics: Classification of projects — importance of project management — the project life cycle — establishing project priorities (scope-cost-time), project priority matrix — work break down structure.

Unit 2 — Capital Budgeting Process (5 Periods, 15%)

Topics: Planning — analysis — selection — financing — implementation — review; generation and screening of project ideas — market and demand analysis — demand forecasting techniques; market planning and marketing research process — technical analysis.

Unit 3 — Financial Estimates and Projections (5 Periods, 20%)

Topics: Cost of projects — means of financing — estimates of sales and production — cost of production — working capital requirement and its financing — profitability, projected cash flow statement and balance sheet; break even analysis.

Unit 4 — Basic Techniques in Capital Budgeting (5 Periods, 20%)

Topics: Non-discounting and discounting methods — pay-back period — accounting rate of return — net present value — benefit cost ratio — internal rate of return; project risk; social cost benefit analysis and economic rate of return; non-financial justification of projects.

Unit 5 — Project Administration (8 Periods, 30%)

Topics: Progress payments, expenditure planning, project scheduling and network planning, use of Critical Path Method (CPM), schedule of payments and physical progress, time-cost trade off; concepts and uses of PERT, cost as a function of time, Project Evaluation and Review Techniques/cost mechanisms; determination of least cost duration; post project evaluation; introduction to various project management softwares.

Instead of This Elective — Advance Skill Development

The 5th-semester scheme allows an **Advance Skill Development** certification course to be taken **instead of** Open Elective-01. The course named in the scheme is **Advanced Plumbing (TATA TECH.)**. No detailed contents for this certification course are given in the PDF. Students present a seminar/viva on their Advance Skill Certification along with certificate, project and report.

Reference Books (as listed in the syllabus)

- Project planning, analysis, selection, implementation and review — Prasannachandra — Tata McGraw Hill.
- Project Management — the Managerial Process — Clifford F. Gray & Erik W. Larson — McGraw Hill.
- Project management — David I Cleland — McGraw Hill International Edition, 1999.
- Project Management — Gopala krishnan — Mcmillan India Ltd.
- Project Management — Harry-Maylor — Pearson Publication.

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Source: BTEUP 3rd Year curriculum (folder2627), approved in C.D.C. meeting held on 16.07.2026. Topic lists follow the official syllabus; short explanations are the author's own plain-English summaries, not syllabus text.

Please confirm with your own polytechnic for any local changes.

