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Reinforced Cement Concrete Structures Drawing — Complete Syllabus

BTEUP Diploma in Civil Engineering • 4th Semester • Session 2026-27
Subject 4.7 (Practicum/Practical) • Total 100 Marks • 3 Credits • L 1 - P 4

Note: The PDF gives no unit-wise periods or marks distribution for this subject — its content is a list of drawings (see Practical Work). No unit table is given, so none is recorded.

Examination Scheme

Code	Paper	Type	L - P	Credits	Internal	External	Total
4.7	Reinforced Cement Concrete Structures Drawing	Practicum/ Practical	1 - 4	3	Practical 60	Practical 40 (3 hrs)	100
RCC Structures Drawing Total				3	60	40	100

What This Subject Aims To Do

To learn the concept of limit state design of tension and compression members and steel beams, understand the design of RCC beams and columns, and draw their reinforcement details with bar bending schedules.

Practical Work

- Reinforcement details from the given data for the following structural elements with bar bending schedules.
- General instruction and rules, Drawing 1 — lap, joint, development drawing: length, rings, hook etc.
- Drawing No. 2: RC Slabs — one way slab, two way slab and cantilever slab.
- Drawing No. 3: Beams — singly and doubly reinforced rectangular beams and cantilever beam (all beams with vertical stirrups), T beam, tapered beam.
- Drawing No. 4: Columns and footings — square, rectangular and circular columns with lateral ties and their isolated sloped column footings, column and beam junction.
- Drawing No. 5: Portal frame — three bay two storey RC portal frame with blow up of column beam junctions.
- Drawing of cantilever retaining wall showing details of all the members and reinforcement.
- Drawing of Intze type water tank showing details of all the members and reinforcement.

Reference Books (as listed in the syllabus)

- Shah, V. L., and Karve, S.R., Limit State Theory and Design of Reinforced Concrete Structures, Structures Publications, Pune, 2014.
- Sinha N.C., and Roy S.K., Fundamentals of Reinforced Concrete, S. Chand & Co., New Delhi.
- Krishna Raju, and N. Pranesh, R.N., Reinforced Concrete Design Principles and Practice, New Age International, Mumbai.
- Pillai, S.U., and Menon, Devdas, Reinforced Concrete Design, McGraw Hill Publications, New Delhi.
- Varghese, P. C., Limit State Design of Reinforced Concrete, Prentice Hall India Learning Private Limited, Delhi.

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Source: BTEUP 2nd 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.