

BEE Paper-1 — Exam Weightage & Star Rating

BEE Paper-1 · Complete Chapter Notes (v2) · 2014 Guidebook

BEE Paper-1 — Cross-Chapter Weightage Blueprint

Based on full analysis of 3 recent papers: Sept 2025 (25th), Sept 2024 (24th), March 2023 (23rd)

Paper structure (consistent every year):

- Section I — Objective: $50 \times 1 = 50$ marks
- Section II — Short descriptive: $8 \times 5 = 40$ marks
- Section III — Long descriptive: $6 \times 10 = 60$ marks
- Total 150, 3 hours, 64 questions. Pass = 75.



THE BIG INSIGHT (this changes your strategy)

The marks are dominated by **5 numerical-heavy chapters (3, 5, 7, 8, 9)** — and *numericals are exactly what cost you time last year*. Theory chapters (1, 2, 10, 6) are easy/fast but give fewer marks.

So the winning plan = get fast at the numerical chapters, and treat theory chapters as quick guaranteed marks.



CHAPTER WEIGHTAGE (ranked by exam marks, approx. % of 150)

Rank	Chapter	Approx weight	Type	Why it matters
1	Ch 3 — Basics of Energy & Various Forms	~18–22%	Numerical + theory	Dominates objectives: units, electricity (V/I/R/power), calorific value (GCV/NCV), specific heat, pressure, steam/dryness, heat transfer, toe conversions
2	Ch 5 — Material & Energy Balance	~15–18%	Heavy numerical	Mass balance, moisture/drying, evaporator, mole fraction, humidity (RH/DBT/WBT). Always 1–2 shorts + 1 long
3	Ch 7 — Financial Management	~13–16%	Numerical	NPV, IRR, ROI, payback, depreciation. NPV/IRR appear every paper as a 10-marker
4	Ch 8 — Project Management	~10–12%	Numerical + theory	CPM/PERT network (almost always a 10-mark long Q), Gantt, WBS, slack/float
5	Ch 11 — New & Renewable Energy	~10–12%	Mixed	Solar PV, wind ($P \propto v^3$), fuel cell, biomass, geothermal, hydro. Many objectives + a long Q
6	Ch 9 — Energy Monitoring & Targeting	~8–10%	Numerical	CUSUM (recurring 10-marker), baseline, plant energy performance, normalizing factors
7	Ch 4 — Energy Management & Audit	~7–9%	Mixed	Audit types/steps, instruments (stroboscope/fyrite/pitot/ultrasonic), EnMS/ISO 50001, motor loading, benchmarking
8	Ch 1 — Energy Scenario	~7–10%	Theory + 1 formula	Energy intensity, R/P, commercial/non-comm, DSM, ABT (✅ DONE)
9	Ch 2 — Energy Conservation Act	~6–8%	Pure theory	EC Act, BEE, designated consumers, S&L, ECBC, PAT, ESCerts. Easy fast marks
10	Ch 10 — Energy Efficiency & Climate Change	~5–7%	Theory + CO ₂ calc	GHG, GWP, ozone/CFC, carbon sequestration, CO ₂ emission calcs
11	Ch 6 — Energy Action Planning	~2–3%	Theory	Force-field analysis, energy policy, action-plan steps. Smallest — don't over-invest



RECOMMENDED STUDY ORDER (not chapter-number order)

Phase A — Lock the easy theory marks first (fast confidence): Ch 1 ✅ → Ch 2 → Ch 10 → Ch 6

Phase B — Then grind the numerical heavyweights (where the exam is won/lost on time): Ch 3 → Ch 7 → Ch 5 → Ch 8 → Ch 9

Phase C — Mixed: Ch 4 → Ch 11

But you wanted strict chapter order — that's fine too. Either way, **the numerical chapters (3,5,7,8,9) need timed drilling**, not just reading. I'll build extra practice sets for those.



TIME BUDGET FOR THE 3-HOUR EXAM (so you finish — your #1 fix)

- **Section I (50 objectives):** ~45 min → ~50 sec/question. If stuck >1 min, mark & move (no negative marking).
- **Section II (8 shorts):** ~50 min → ~6 min each.
- **Section III (6 longs):** ~75 min → ~12 min each.
- **Buffer:** ~10 min to revisit skipped objectives.
- **Golden rule:** never let one numerical eat 20 min. Bank the easy marks first, return to hard ones.

This blueprint is the master guide. Each chapter's notes are prioritized to match this weightage.