

NEW EXAM PATTERN EDITION

VITEEE High-Weightage Chapters & Formula Blueprint

Revised Study Guide Mapping New Negative Marking Rules

This revised booklet helps you adapt your preparation for the new exam pattern. Learn which chapters carry the most weight and discover new accuracy strategies to avoid negative marks.

New Scoring Map

Understand the revised +4 and -1 marking rules completely.

Main Topics

Focus your energy on chapters that bring the highest score value.

Quick Formulas

Keep these formulas memorized perfectly to avoid calculation errors.

VITEEE Revision Toolkit • Updated for New Accuracy Demands • Simple English Edition

1. Revised VITEEE Exam Pattern & Marking Rules

The exam pattern has been completely revised. For the first time, VITEEE has introduced a strict negative marking scheme. This means you can no longer guess answers blindly, as wrong answers will actively lower your total rank.

Here is how the new scoring rules work:

- **Total Questions:** 125 Multiple Choice Questions.
- **Correct Answer:** You get **+4 marks** for every correct answer.
- **Incorrect Answer:** You lose **-1 mark** for every wrong answer.
- **Unattempted Question:** 0 marks (No penalty for leaving a question blank).
- **Total Marks:** The exam is now out of a total of **500 marks**.
- **Total Time:** You have 2 hours and 30 minutes to complete the test.

Subject-wise Question Breakdown (Total: 125 Questions)



Critical Strategy Shift: Accuracy Over Speed

With the new negative marking system, a single mistake causes a 5-mark swing (you lose the 4 marks you could have earned, plus you get a 1-mark deduction). Only answer a question if you can confidently eliminate incorrect choices.

2. High-Priority Topic Matrix

Since mistakes now carry a penalty, you must focus your revision on the most frequently asked chapters. Mastering these areas will give you a strong base of certain, correct answers.

A. Mathematics High-Priority Chapters

CHAPTER / UNIT	EXPECTED QUESTIONS	KEY CONCEPTS TO FOCUS ON	PRIORITY STATUS
Vector Algebra & 3D Geometry	5 - 6 Questions	Scalar/Vector Triple Product, Shortest Distance	Critical
Matrices & Determinants	4 - 5 Questions	Adjoint properties, Cramer's rule, Linear equations	Critical
Integral Calculus	4 Questions	Properties of Definite Integrals, Area under curves	Critical
Probability & Distributions	3 - 4 Questions	Binomial distribution, Bayes' Theorem, Conditional probability	High Priority
Differential Equations	3 Questions	Linear differential equations, Homogeneous forms	High Priority
Complex Numbers	2 - 3 Questions	De Moivre's Theorem, Cube roots of unity, Locus	Medium Priority

B. Physics High-Priority Chapters

CHAPTER / UNIT	EXPECTED QUESTIONS	KEY CONCEPTS TO FOCUS ON	PRIORITY STATUS
Current Electricity	4 - 5 Questions	Kirchhoff's Laws, Potentiometer, Meter Bridge	Critical

CHAPTER / UNIT	EXPECTED QUESTIONS	KEY CONCEPTS TO FOCUS ON	PRIORITY STATUS
Electrostatics	4 Questions	Gauss's Theorem, Capacitors in series/ parallel, Potential	Critical
Optics (Ray & Wave)	4 Questions	Lens maker formula, YDSE fringe width, Brewster's Law	Critical
Magnetic Effects of Current	3 - 4 Questions	Biot-Savart Law, Ampere's Law, Galvanometer	High Priority
Modern Physics	3 Questions	Bohr's model, Half-life equations, Photoelectric effect	High Priority
Semiconductor Devices	2 - 3 Questions	Logic Gates, Zener diode, Transistor gains	Medium Priority

C. Chemistry High-Priority Chapters

CHAPTER / UNIT	EXPECTED QUESTIONS	KEY CONCEPTS TO FOCUS ON	PRIORITY STATUS
Organic Chemistry	7 - 8 Questions	Named Reactions (Aldol, Cannizzaro, Hoffmann Bromamide)	Critical
Coordination Compounds	3 - 4 Questions	CFT, VBT, Hybridization states, Isomerism structures	Critical
Electrochemistry	3 Questions	Nernst Equation, Faraday's laws, Kohlrausch Law	High Priority
Chemical Kinetics	3 Questions	First-order reactions, Arrhenius equation	High Priority
p, d, and f-Block Elements	3 Questions	Periodic trends, Xenon compound structures	Medium Priority
Biomolecules & Polymers	2 - 3 Questions	Monomer units, peptide bonds, carbohydrate structures	High Priority

3. Core High-Yield Formula Sheets

Keeping formulas perfectly memorized protects you from simple calculation errors that lead to negative marks. Use these cards for quick checks.

A. Mathematics Key Formulas

Matrices: Adjoint Properties

If A is a square matrix of order n, then:

$$|\text{adj}(A)| = |A|^{n-1}$$

$$A \cdot \text{adj}(A) = |A| \cdot I$$

3D Geometry: Shortest Distance

Shortest distance between lines $r = a_1 + \lambda b_1$ and $r = a_2 + \mu b_2$:

$$d = | (a_2 - a_1) \cdot (b_1 \times b_2) | / |b_1 \times b_2|$$

Probability: Bayes' Theorem

Finding path probability for separate events:

$$P(E_i|A) = [P(E_i)P(A|E_i)] / [\sum P(E_k)P(A|E_k)]$$

Calculus: King's Property

Definite integral shift property:

$$\int_a^b f(x) dx = \int_a^b f(a + b - x) dx$$

B. Physics Key Formulas

Electrostatics: Electric Field of a Wire

Field due to an infinitely long straight charged wire:

$$E = \lambda / (2\pi \epsilon_0 r)$$

Current Electricity: Meter Bridge

Balancing condition where l is the balance point:

$$R / S = l / (100 - l)$$

Wave Optics: Fringe Width in YDSE

Fringe width calculation for light interference:

$$\beta = \lambda D / d$$

Modern Physics: Photoelectric Equation

Einstein's maximum kinetic energy formula:

$$K_{max} = hv - \phi_0 = hc/\lambda - \phi_0$$

C. Chemistry Key Formulas

Electrochemistry: Nernst Equation

Cell voltage calculation under non-standard conditions (25°C):

$$E_{\text{cell}} = E^{\circ}_{\text{cell}} - (0.0591 / n) \log Q$$

Chemical Kinetics: First-Order Rate

Rate constant equation for First-Order reactions:

$$k = (2.303 / t) \log([A]_0 / [A]_t)$$

Kinetics: Arrhenius Equation

How temperature changes affect reaction speeds:

$$\ln(k_2 / k_1) = (E_a / R) [(T_2 - T_1) / (T_1 T_2)]$$

Solutions: Raoult's Law

Lowering of vapor pressure in solutions:

$$(P^{\circ} - P_s) / P^{\circ} = X_{\text{solute}}$$

4. English & Aptitude Safe Scoring Strategy

The English and Aptitude sections contain 15 straightforward questions. Since these questions are generally easier than core subjects, they are key to boosting your score safely without risking negative marks.

- **English (5 Questions):** Focuses on simple grammar corrections, pronouns, prepositions, and reading short passages.
 - *Tactic:* Do not rush. Read all four options carefully to identify correct phrasing. Skip if completely unsure.
- **Aptitude - Coding Patterns (5 Questions):** Letter-to-number sequences and word codes.
 - *Tactic:* Write down the alphabet mapped to numbers 1-26 (A-Z) and 26-1 (Z-A) on your rough paper as soon as the test begins. This saves time and ensures an accurate answer.
- **Aptitude - Logic Problems (5 Questions):** Family relationships, directions, and basic logical groupings.
 - *Tactic:* Draw diagram grids or small family trees on your rough paper. Visualizing the question stops you from making silly mistakes.

Smart Question Selection Strategy

Old strategies of guessing everything will now fail. Use this question filter during the exam:

- 100% Confident: Answer immediately.
- Can eliminate 2 wrong choices: Make an educated guess.
- Completely clueless: Skip the question entirely. Leaving it blank gives you 0 marks, which is much better than losing -1 mark!