

Kathmandu University (KU)

KUCAT-CBT — School of Engineering / Science Entrance Examination

OFFICIAL EXAM FORMAT & SYLLABUS 2026

1. Examination Format

Exam	KUCAT-CBT — Kathmandu University Common Admission Test (Computer-Based Test)
Duration	2 hours (120 minutes)
Total Questions	120 MCQs — 3 parts × 40 questions
Total Score	0 – 2220 (adaptive scoring, see section 5)
Marking	Adaptive difficulty 1–5; NO fixed negative marking (harder = more points)
Mode	Computer-Based Test (CBT) — NOT available online
Test Centers	Lalitpur, Dhulikhel, Biratnagar, Butwal, Pokhara
For Programs	PCM (Physics/Chemistry/Maths) for Engineering & Science; PCB where Biology is required

2. Subject-wise Weightage

Physics	40 questions — one per syllabus topic
Chemistry	40 questions — one per syllabus topic
Mathematics	40 questions — one per syllabus topic (PCM track)
Biology	40 questions — one per syllabus topic (PCB track, where applicable)
Total	120 questions

3. Detailed Syllabus by Subject

3.1 Physics — 40 Topics

1	Physical Quantity	21	Wave motion
2	Kinematics	22	Sound
3	Dynamics	23	Electromagnetic waves
4	Energy	24	Simple Electrostatic Phenomenon
5	Rotational motion	25	Charge flow
6	Gravitation	26	Resistance
7	Structure & Properties of Matter	27	Effect of Current
8	Elasticity	28	Capacitors
9	Viscosity	29	Magnetic field
10	Surface tension	30	Force on conductor
11	Heat & temperature	31	Magnetic materials
12	Transmission of heat	32	Electromagnetic induction
13	Kinetic theory of gases	33	Alternating current
14	Thermodynamics	34	Electron
15	Reflection	35	Photons
16	Refraction	36	Electronic
17	Speed of light	37	Atoms
18	Dispersion of light	38	Nucleus
19	Optical Instruments	39	Radioactivity
20	Photometry	40	Elementary particles

3.2 Chemistry — 40 Topics

1	Language of Chemistry	21	Hydrogen, Oxygen & Nitrogen
2	Gaseous state of matter	22	Carbon
3	Liquid state of matter	23	Sulphur & its compounds
4	Solid state of matter	24	Halogen & halogen acids
5	Laws of Stoichiometry	25	Introduction to Metals
6	Avogadro's Hypothesis	26	Alkali & alkaline earth metals
7	Atomic structure	27	Coinage metals
8	Quantum numbers	28	Heavy metals
9	Chemical bonding	29	Introduction to Organic Chemistry
10	Oxidation & Reduction	30	Hydrocarbons
11	Acids, Bases & Salts	31	Organic halogen compounds
12	Acidimetry & Alkalimetry	32	Alcohols
13	Periodic Table	33	Ethers
14	Electrochemistry	34	Carbonyl Compounds
15	Electrode potential	35	Carboxylic Acids
16	Chemical Kinetics	36	Amines
17	Chemical Equilibrium	37	Aromatic Hydrocarbons
18	LeChatelier's Principle	38	Aniline & Nitrobenzene
19	Chemical Thermodynamics	39	Carbohydrates, Proteins, Nucleic Acids, Lipids
20	Entropy & spontaneity	40	Polymers, Pesticides, Dyes, Drugs

3.3 Mathematics — 40 Topics

1	Representation of Data	21	Integration
2	Measures of Location & Spread	22	Volume of revolution
3	Probability	23	Polynomial
4	Permutation & Combination	24	The Modulus function
5	Probability Distributions	25	Exponential & Logarithmic function
6	Binomial Distributions	26	Differentiating Exponential & Logarithmic Functions
7	Expectation & Variance of a random variable	27	Differentiating Trigonometric Functions
8	Normal Distribution	28	Determinants
9	Surds & indices	29	Matrices
10	Functions & Graphs	30	Equation of Straight Lines
11	Quadratics & Inequalities	31	A pair of lines
12	Differentiation	32	System of linear equations
13	Application of Differentiation	33	System of Linear Inequalities & Graphs
14	Sequences	34	Complex Numbers
15	Binomial Theorem	35	Limits & Continuity
16	Trigonometry	36	Coordinate Space
17	Extending Differentiation	37	Plane
18	Vectors	38	Concept of Sets
19	Geometric Sequences	39	Relation
20	Second Derivative	40	Functions

3.4 Biology — 40 Topics (PCB track only)

1	Introduction to Biology	21	Animal Nutrition & Digestive system
2	Cell, cell-division & life components	22	Respiratory system
3	Origin of Life	23	Circulation of body fluids
4	Theory of Evolution by Natural Selection	24	Excretion & osmoregulation

5	Human Evolution	25	Nervous system
6	Heredity & variation	26	Endocrine system
7	Regulation of replication, transcription & expression	27	Animal reproduction & embryonic development
8	Concept of Taxonomy	28	Amniocentesis
9	Monera	29	Growth, Repair, Regeneration, Ageing & Death
10	Viruses	30	Animal Behaviour
11	Protista	31	Concept of ecosystem
12	Mycota	32	Environmental pollution
13	Plantae	33	Green-house effect & global warming
14	Morphology, Reproduction, Growth & Development of Flowering Plant	34	Conservation of Natural resources
15	Photosynthesis	35	Pesticides
16	Transpiration	36	Bio-fertilizers & biological pest control
17	Animalia	37	Biotechnology
18	Study of Earthworm	38	Domestication of plants & crop improvements
19	Study of Frog	39	Bioenergy
20	Animal Tissues	40	Mental health, addiction & community health

4. Eligibility & Application

Academic Requirement	10+2 level (or equivalent) with aggregate GPA ≥ 2.0 (50% in percentage scale)
Subject Stream	PCM for Engineering/Science; PCB where the program requires Biology
Test Track	Candidates are tested in PCM or PCB for the entire offered program
Application	Single application — one candidate may appear in KUCAT-CBT only once
Application Fee	Rs. 2,000 (payable via eSewa/Khalti)
Application Portal	apply.ku.edu.np/cbt

5. Merit, Scoring (Adaptive) & Admission

- Adaptive test: each part starts with a difficulty level 1 question.
- Answering correctly raises the next question's difficulty by 1; incorrectly lowers it by 1.
- At level 5 correct, or level 1 incorrect, difficulty stays the same.
- Scoring: level 1 = +11 points, rising by 2 per level (level 5 = +19). Score range 0–2220.
- No skipping and no going back to submitted questions; candidates may switch parts (subjects) anytime.
- Scores shown on screen at the end of the test.
- Admission offered by rank at KUCAT-CBT (KU merit list — no centralized counselling).
- B.Arch candidates: separate aptitude test after CBT results.

6. Important Dates & Notes

Registration	Announced with the admission call (admission criteria document)
Application Deadline	As stated in the admission call
Exam Date & Center	As printed on the admission card (date, time, center)
Result	Shown on screen immediately at the end of the test