AGA KHAN UNIVERSITY

For Admission

BACHELOR OF SCIENCE IN NURSING - DIRECT ENTRY (BScN-DE)

Aga Khan University is committed to excellence in teaching, research, and service, and to developing nursing professionals of the highest ethical, clinical, and professional standards.

Eligible candidates for the BScN - DE programme are required to undergo a pre-entry assessment conducted by the University.

This assessment is a two-stage process.

- Stage One consists of a written entrance test comprising Science (Biology & Chemistry) and Mathematics.
- Stage Two involves an oral interview for candidates who perform above the required cut-off (determined by Performance index) in the Science and Mathematics tests.

Final selection is based on the aggregate performance across the two assessment components.

ENTRANCE TEST PROCESS

Aga Khan University (AKU) is committed to a fair, transparent, and merit-based admissions process. To uphold these principles, all eligible applicants are required to sit for an online entrance examination.

Applicants who reside near AKU campuses are encouraged to sit for the tests at designated AKU campuses in:

- Nairobi
- Kampala
- Dar es Salaam
- Pakistan

However, international applicants and those unable to travel may take the examination online from their respective locations.

To ensure equity and preparedness, all applicants will be:

- Trained on how to use the AKU online testing system
- Given an opportunity to attempt mock sessions before the actual tests to familiarize themselves with the system.

IMPORTANT DATES

• **Training**: Tuesday, May 5, 2026

• **Mock Sessions:** Wednesday and Thursday, 6th–7th May 2026

ENTRANCE TEST STRUCTURE

All eligible applicants will be invited to sit for two compulsory assessments on Saturday, May 9, 2026, as outlined below:

Subject	Number of Questions	Weightage
Mathematics	40 questions	30 marks
Science (Biology & Chemistry)	60 questions	50 marks

CUT-OFF DETERMINATION

The cut-off score will be determined based on a performance index out of 80 marks, drawn from:

- Mathematics: 30 marks
- Science (Biology & Chemistry): 50 marks

Applicants who score above the cut-off will be invited to the interview stage, scheduled for Friday, May 29, 2026.

FINAL SELECTION WEIGHTING

Component	Weightage
Mathematics	30 marks
Biology & Chemistry	50 marks
Interview	20 marks
Total	**100** marks

ENTRANCE TEST FORMAT AND EXPECTATIONS

1. The entrance tests assess conceptual understanding, application of knowledge, and analytical thinking.
2. Questions are presented in multiple-choice format (MCQs) with five options per question.
3. Candidates are expected to demonstrate:
    - Scientific reasoning
    - Numerical competence
    - Data interpretation skills
4. Test content is drawn from KCSE, IB, IGCSE, A-Level, and other equivalent international curricula. Some questions may be general in nature.
5. The test is designed to be appropriate and fair for all applicants who meet the minimum entry requirements for the BScN – DE programme.
6. See below a list of key topics that the Science and Mathematics tests will cover.

INTERVIEW FORMAT AND EXPECTATIONS

1. The interview assesses the applicant's suitability for nursing training and the nursing profession.
2. The interview is conducted by a panel of trained clinical assessors to ensure fairness, consistency, and objectivity.

A: CHEMISTRY TOPICS

1. Atomic Structure and Nature of Matter

a) Structure of the atom: protons, neutrons and electrons

b) Isotopes and relative atomic mass (Carbon-12 scale)

c) Electron configuration and energy levels

d) Formation of ions (cations and anions)

e) Periodic table as a classification tool

2. The Mole, Stoichiometry and Quantitative Chemistry

a) The mole as a counting unit

b) Molar mass

c) Empirical and molecular formulae

d) Balancing chemical equations

e) Reacting ratios

f) Limiting reagent

g) Percentage yield / quantitative calculations

3. States of Matter and Gas Laws

a) States of matter (solid, liquid, gas)

b) Kinetic theory of matter

c) Gas laws (Boyle's, Charles', combined gas laws)

d) Molar gas volume

e) Ideal gas behavior

4. Chemical Bonding and structure

a) Ionic bonding

b) Covalent bonding

c) Metallic bonding

d) Dot-and-cross / Lewis structures

e) Intermolecular forces (hydrogen bonding, van der Waals)

f) Relationship between bonding and physical properties

g) VSEPR / molecular shape prediction

5. Periodicity and Periodic Trends

a) Arrangement of elements in periods and groups

b) Periodic trends (atomic size, ionisation energy, reactivity)

c) Group properties (especially Groups 1, 2, 17)

d) Oxidation states

6. Acids, Bases and Salts

a) Acids and bases (definitions)

b) Strong vs weak acids and bases

c) pH scale

d) Neutralisation reactions

e) Salts: preparation and properties

f) Acid–base indicators

7. Energetics / Thermochemistry

a) Endothermic and exothermic reactions

b) Energy changes in chemical reactions

c) Enthalpy concepts

d) Hess's Law

e) Energy level diagrams

f) Fuel and energy considerations

8. Rates of Reaction (Kinetics)

a) Rate of reaction

b) Collision theory

c) Activation energy

d) Factors affecting rate (temperature, concentration, pressure, catalysts)

9. Chemical Equilibrium

a) Reversible reactions

b) Dynamic equilibrium

c) Le Châtelier's principle

d) Industrial applications (e.g. Haber process)

10. Redox and Electrochemistry

a) Oxidation and reduction (electron transfer)

b) Oxidation numbers

c) Electrochemical cells

d) Electrolysis

e) Applications (metal extraction, electroplating)

11. Organic Chemistry (Core)

a) Introduction to organic chemistry

b) Hydrocarbons (alkanes, alkenes)

c) Functional groups

d) Homologous series

e) Basic reactions (addition, substitution, oxidation)

f) Polymers (addition polymers at minimum)

B: BIOLOGY TOPICS

1. CONTROL AND COORDINATION

a) Control and coordination in mammals

b) Control and coordination in plants

c) Hormone signaling

2. INHERITANCE

a) Passage of information from parents to offspring

b) Role of genes in determining phenotypes

c) Gene control

d) Multiple Alleles

e) Pedigree charts

3. SELECTION AND EVOLUTION

a) Variation

b) Natural and artificial selection

c) Evolution

d) Extinction

e) Speciation

4. GENE TECHNOLOGY

a) Principles of gene technology

b) Genetic technology applied to medicine

c) Genetically modified organisms in agriculture

5. CLASSIFICATION, BIODIVERSITY, CONSERVATION

a) Classification

b) Biodiversity

c) Conservation

d) Cladistics

e) Dichotomous Keys

f) DNA Barcodes

6. CELL STRUCTURE

a) Microscope in cell studies

b) Cells as the basic units of living things

c) Cell organelles

7. BIOLOGICAL MOLECULES

a) Test for biological molecules

b) Structure and examples of carbohydrates, proteins, lipids and water

c) Nucleic acids

8. ENZYMES

a) Mode of action

b) Factors affecting the action

c) Metabolic pathways

d) Enzyme and feedback inhibition

9. CELL MEMBRANE AND TRANSPORT

a) Fluid mosaic membranes

b) Movement into and out of cells

c) Vesicular transport

10. CELL DIVISION

a) Replication and division of nuclei and cells

b) Chromosome behavior in mitosis and meiosis

c) Non-disjunction---down syndrome

11. NUCLEIC ACID AND PREOTEIN SYNTHESIS

a) Structure of nucleic acids and replication of DNA

b) Protein synthesis

c) Transcription and translation

d) Genetic diseases ---sickle anaemia

12. TRANSPORT IN PLANTS AND MAMMALS

a) The circulatory system

b) Transport of oxygen and carbon dioxide

c) The heart

d) Structure of transport tissues in plants

e) Transport Mechanisms

f) Oxygen dissociation

g) Bohr Shift

12. GAS EXCHANGE

a) Structure and functions

b) Ventilation

c) Lung capacity

13. IMMUNITY

a) The immune system

b) Antibodies and vaccination

c) Zoonses

14. RESPIRATION

a) Energy: Structure of ATP, RQs and Respirometers

b) Stages of aerobic and anaerobic respiration…Glycolysis, Krebs cycle and Electron Transport Chain

15. PHOTOSYNTHESIS

a) As an energy transfer process

b) Limiting factors to the process

c) Action spectrum, Photolysis and Calvin cycle

16. EXCRETION

a) Structure of kidneys and nephrons

b) Urine formation

17. HOMEOSTASIS

a) Homeostasis in mammals

b) Homeostats in plants

C: MATHEMATICS TOPICS

1. Numbers and Algebra

a) Quadratic expressions and equations

b) Logarithms

c) Powers and roots

d) Limits and accuracy

e) Algebraic fractions

f) Algebraic equations

g) Sequences and series

h) Indices

i) Ratio, proportion and rates

j) Linear programming

k) Linear equations-simultaneous equations

2. MEASUREMENTS AND GEOMETRY

a) Similarity, L.S.F, A.S.F & V.S.F

b) Symmetry

c) Transformations

d) Area and volume

e) Coordinates lines, midpoint and parallel lines.

f) Angle properties

g) Graph

h) Trigonometry

i) Speed and acceleration

j) Time

3. STATISTICS AND PROBABILITIES

a) Statistics

b) Probability

4. CALCULUS

a) Differentiation

b) Integration