

BONUS 2

The Nurse's Normal Lab Values Card

The must-know ranges — and why each one matters.

You'll be expected to know these cold. But numbers stick far better when you know *what they mean*. This card gives the common adult reference ranges plus a one-line clinical anchor for each, so you read a result like a nurse instead of reciting it like a robot. Values are shown in the conventional units used on most licensing exams.

Electrolytes

Test	Normal range	Why it matters
Sodium (Na)	135–145 mEq/L	Fluid balance & nerve/muscle function. Highs & lows cause confusion, seizures.
Potassium (K)	3.5–5.0 mEq/L	Heart rhythm. Both high & low can be fatal — watch the ECG.
Chloride (Cl)	98–106 mEq/L	Moves with sodium; part of acid–base balance.
Calcium (total)	8.5–10.5 mg/dL	Bones, clotting, muscle & nerve. Low → tetany; high → weakness.
Magnesium (Mg)	1.5–2.5 mEq/L	Works with K & Ca; affects heart rhythm.
Phosphate (PO ₄)	2.5–4.5 mg/dL	Moves opposite to calcium.

Kidney & Glucose

Test	Normal range	Why it matters
BUN	7–20 mg/dL	Kidney function & hydration. Rises with dehydration.
Creatinine	0.6–1.2 mg/dL	Best single marker of kidney function.
Fasting glucose	70–100 mg/dL	≥126 (fasting, repeated) suggests diabetes.
HbA1c	< 5.7%	Average glucose over ~3 months.

Complete Blood Count (CBC)

Test	Normal range	Why it matters
WBC	4,500–11,000 /uL	Infection & immune response. High → infection; low → risk.
Haemoglobin (Hgb)	M 13.5–17.5 / F 12–16 g/dL	Oxygen-carrying capacity. Low = anaemia.
Haematocrit (Hct)	M 41–50% / F 36–44%	% of blood that is red cells (approx 3x Hgb).
Platelets	150,000–400,000 /uL	Clotting. Low → bleeding risk.

Arterial Blood Gases (ABGs)

Test	Normal range	Why it matters
pH	7.35–7.45	Acid–base status. <7.35 acidosis; >7.45 alkalosis.
PaCO ₂	35–45 mmHg	Respiratory component (the "lungs" number).
HCO ₃	22–26 mEq/L	Metabolic component (the "kidneys" number).
PaO ₂	80–100 mmHg	Oxygen dissolved in blood.
SaO ₂	95–100%	Oxygen saturation of haemoglobin.

Liver & Coagulation

Test	Normal range	Why it matters
ALT	7–56 U/L	Liver cell injury (more liver-specific).
AST	10–40 U/L	Liver/muscle injury.
Total bilirubin	0.3–1.2 mg/dL	Liver & red-cell breakdown; high → jaundice.
Albumin	3.5–5.0 g/dL	Liver protein & nutrition status.
PT	11–13.5 sec	Clotting; monitored with warfarin.
INR	0.8–1.1 (therapeutic ~2–3 on warfarin)	Standardised PT for warfarin dosing.
aPTT	30–40 sec	Clotting; monitored with heparin.

Quick memory anchor: for ABGs, think **ROME** — **R**espiratory **O**pposite (pH & CO₂ move in opposite directions), **M**etabolic **E**qual (pH & HCO₃ move in the same direction).

Please note: Reference ranges vary between laboratories, textbooks, and countries, and some differ by age, sex, and units (conventional vs SI). Always use the reference range printed on the actual lab report and follow your own curriculum and local guidelines. This card is a study aid, not a clinical decision tool.