# 9.3 Motor systems

Name: _____ Class: _____ Date: _____ **Total: 24 marks**

**KEY WORDS** corticospinal tract • upper motor neuron

## Objective

Separate upper from lower motor neuron signs and localise the level.

## 1 Key knowledge and worked examples

### ■ The tract

Precentral gyrus → internal capsule → pyramids (~85–90 % decussate) → lateral corticospinal tract → anterior horn → muscle ✓.

### ■ Worked example: the two sign sets

UMN: spasticity, hyperreflexia, Babinski, minimal atrophy. LMN: flaccidity, fasciculations, atrophy, areflexia ✓. Basal ganglia scale amplitude; the cerebellum times movement (ipsilateral).

## 2 Practice

**2.1** Where does the corticospinal tract cross, and in what proportion? [3]

**2.2** Give one UMN and one LMN sign you would accept as evidence. [3]

**2.3** A tremor only during movement with dysmetria – which structure? [3]

## 3 Exam-style questions

**3.1** A fictional left C5 cord compression.

Explain why biceps wasting and an absent biceps jerk appear at C5 (LMN at the level) while the left leg below shows spasticity, hyperreflexia and a Babinski sign (UMN below, already crossed). State why the leg signs are IPSilateral. [8]

**3.2** Two fictional patients: one with a rest tremor that improves on movement plus slowness; one with an intention tremor and dysdiadochokinesia.

Assign each to basal ganglia or cerebellum with reasoning. State the expected laterality of cerebellar signs relative to the lesion. [7]