

# Cosmetology State Board Exam

QUICK REFERENCE CHEAT SHEET | NIC / State Board

## CHEMICAL SERVICES QUICK REFERENCE

Service	Key Chemistry
Permanent Wave	Ammonium thioglycolate (ATG) breaks disulfide bonds; neutralizer (H <sub>2</sub> O <sub>2</sub> ) reforms bonds
Relaxer (lye)	NaOH (sodium hydroxide) -- strongest; requires no mixing; pH 12-14
Relaxer (no-lye)	Calcium hydroxide + guanidine carbonate; milder; pH 9-11
Hair Color (oxidative)	Developer (H <sub>2</sub> O <sub>2</sub> ) + color cream; permanent; lifts and deposits simultaneously
Bleach / Lightener	H <sub>2</sub> O <sub>2</sub> + persulfate boosters; removes melanin; no pigment deposit
Semi-permanent	No developer; coats cuticle only; fades with shampooing
Demi-permanent	Low developer; deposits only; lasts 4-6 weeks

## HAIR STRUCTURE

Layer	Description
Cuticle	Outermost; overlapping scales; first layer affected by chemicals
Cortex	Middle layer; melanin granules; disulfide bonds; strength and elasticity
Medulla	Innermost core; not always present; no known function in chemical services
Follicle	Opening in scalp; determines curl pattern
Sebaceous Gland	Produces sebum (natural oil) attached to follicle

## SANITATION & INFECTION CONTROL

Level	Definition	Examples
Sterilization	Destroys ALL microorganisms including spores	Autoclave
Disinfection	Destroys most pathogens (not spores)	Barbicide, EPA-registered disinfectant
Sanitation	Reduces microorganism count	Soap and water, hand washing
Tools requiring disinfection	Combs, brushes, shears, clippers -- after each client	EPA-registered solution
Contact time	Follow label -- typically 10 min immersion	Do NOT shortcut contact time

## EXAM-DAY TIPS

- + pH scale: 0-6.9 = acidic; 7 = neutral; 7.1-14 = alkaline. Hair is naturally 4.5-5.5.
- + Before any chemical service: always perform a strand test AND patch test.
- + Porosity: low = resistant cuticle; high = damaged cuticle; affects processing time.
- + Elasticity test: wet hair should stretch 40-50% and return; poor elasticity = breakage risk.
- + Infection control: clean THEN disinfect -- disinfectant cannot penetrate through debris.
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