



California Cosmetology Operator

Solution key

April 6, 2026

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Online timed practice

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1. Which of the following describes a first-degree (superficial) burn?

- A. Full thickness damage through all skin layers
- B. Blistering and damage into the dermis
- C (correct). Redness and minor pain affecting only the epidermis, no blistering**
- D. Charring and nerve damage

Rationale: A first-degree burn affects only the epidermis. It presents as redness, minor pain, and no blistering. Common examples include mild sunburn.

2. The pH of the hair and scalp is approximately:

- A. 7.0 — neutral
- B. 8.5–9.5 — alkaline
- C (correct). 4.5–5.5 — slightly acidic**
- D. 2.0–3.0 — strongly acidic

Rationale: The natural pH of hair and scalp is slightly acidic at 4.5–5.5. This slightly acidic environment keeps the cuticle closed and the scalp healthy.

3. What is the technical term for split ends?

- A. Hypertrichosis
- B (correct). Trichoptilosis**
- C. Pityriasis
- D. Alopecia

Rationale: Trichoptilosis is the technical term for split ends, which occur when the protective cuticle is worn away and the inner cortex of the hair shaft splits.

4. Which EPA registration category indicates a disinfectant is effective against both bacteria and viruses?

- A. Quaternary ammonium compound at any concentration
- B. Disinfectant labeled for household use only
- C. Bacteriostatic disinfectant
- D (correct). Hospital-grade or broad-spectrum disinfectant**

Rationale: The EPA registers disinfectants by efficacy level. A hospital-grade or broad-spectrum disinfectant label indicates effectiveness against both bacteria and viruses, making it suitable for non-porous salon implements per California Board of Barbering and Cosmetology rules.

5. What is the purpose of wearing gloves when applying chemical services?

- A. They improve grip on tools during chemical services
- B. Required only when using bleach products
- C (correct). Protect from chemical burns, skin sensitization, and absorption of harmful chemicals**
- D. They eliminate the need for an SDS review

Rationale: Gloves protect the practitioner from chemical burns, skin sensitization, and absorption of potentially harmful chemicals during color, perm, and relaxer services.

6. Hair texture is determined by the:

- A. Porosity of the hair shaft
- B. Color depth of the melanin
- C. Elasticity of the cortex bonds
- D (correct). Diameter of the individual hair strand**

Rationale: Hair texture (fine, medium, coarse) is determined by the diameter of the individual hair strand. Fine hair has a smaller diameter; coarse hair has a larger diameter.

7. What is a scalp massage most beneficial for during a shampoo service?

- A. Removes product buildup from the scalp
- B (correct). Stimulates blood circulation to nourish hair follicles**
- C. Reduces scalp oil production
- D. Opens the cuticle for better product penetration

Rationale: Scalp massage stimulates blood circulation to the scalp, which nourishes the hair follicles and encourages healthy hair growth. It also relaxes the client.

8. Which of the following best describes a bactericide?

- A. A chemical that inhibits bacterial growth without killing them
- B. A natural antibacterial derived from plants
- C (correct). A chemical that kills bacteria**
- D. A product that removes bacteria without chemicals

Rationale: A bactericide kills bacteria. A bacteriostat only inhibits growth. Salon disinfectants must be bactericidal, virucidal, and fungicidal to meet Texas TDLR requirements.

9. What is the recommended safety precaution before applying any chemical relaxer?

- A. Applying developer to open the cuticle first
- B (correct). Performing a scalp/hairline analysis and applying a protective base**
- C. Applying heat to the scalp to open follicles
- D. Pre-softening the hair with a clarifying shampoo

Rationale: A scalp and hairline analysis identifies any cuts, abrasions, or scalp sensitivity that could cause chemical burns. A protective base is applied to the scalp and hairline before relaxer application.

10. Under California law, a licensed cosmetologist may perform which of the following services without an additional license?

- A. Chemical services only with a cosmetology license
- B. Haircutting and styling only
- C. Nail services require a separate license in all cases
- D (correct). Haircutting, styling, chemical services, facials, and basic nail care within BBC scope**

Rationale: A California Cosmetology Operator license authorizes the licensee to perform all cosmetology services including haircutting, styling, chemical services, facials, and basic nail care within the scope defined by the BBC.

11. What is alopecia?

- A (correct). Hair loss**
- B. An allergic reaction to color chemicals
- C. A fungal scalp infection
- D. Excessive hair growth

Rationale: Alopecia is the medical term for hair loss, which can be caused by genetics, hormonal changes, medical conditions, or traction from tight hairstyles.

12. Which of the following describes hair that has been chemically over-processed?

- A. Tightly closed cuticle with low moisture absorption
- B. Extremely low porosity and high elasticity
- C. High shine and smooth cuticle
- D (correct). Extreme porosity, poor elasticity, gummy texture when wet**

Rationale: Over-processed hair has a damaged, weakened cuticle and cortex, resulting in extreme porosity, lack of elasticity, breakage, and a gummy feel when wet.

13. The four basic haircut shapes are:

- A (correct). Solid, graduated, layered, and combination**
- B. Blunt, tapered, feathered, and textured
- C. Rounded, square, oval, and triangular
- D. One-length, stacked, uniform, and graduated

Rationale: The four foundational haircut shapes are: solid (one-length), graduated (stacked), layered, and combination. All modern haircuts are based on or derived from these four.

14. Which chemical product is prohibited from use in California nail salons?

- A. Acetone nail polish remover
- B (correct). Liquid methyl methacrylate (MMA) monomer**
- C. UV gel nail products
- D. Hydrogen peroxide developer

Rationale: Liquid methyl methacrylate (MMA) monomer is prohibited by the BBC in California nail salons because it is difficult to remove, can penetrate the dermis, and has been associated with serious health risks.

15. What does the term "on-the-scalp lightener" mean?

- A. A lightener mixed with developer only — no powder
- B. A lightener used only on previously colored hair
- C (correct). A lightener formulated to be applied directly to the scalp safely**
- D. A lightener that activates only at high temperatures

Rationale: On-the-scalp lighteners (bleaches) are formulated to be applied directly to the scalp. Off-the-scalp lighteners are stronger and can cause scalp burns if applied there.

16. What does "sanitation" mean in the context of a salon?

- A (correct). Reduce microbial contamination to safe levels but not eliminate all pathogens**
- B. Remove all physical debris from a surface
- C. Kill all bacteria but not viruses
- D. Destroy all microbial life including spores

Rationale: Sanitation reduces microbial contamination to safe levels but does not eliminate all pathogens. It is a lower level than disinfection or sterilization.

17. A comedone is:

- A (correct). A clogged hair follicle — open (blackhead) or closed (whitehead)**
- B. A superficial fungal skin condition
- C. A bacterial skin infection
- D. A type of skin tumor

Rationale: A comedone is a clogged hair follicle. Open comedones (blackheads) are oxidized; closed

comedones (whiteheads) are covered by skin. They are a primary feature of acne vulgaris.

18. What is the purpose of using a toner after lightening hair?

- A. Protect the scalp during a bleach application
- B. Add warmth and golden tones after lightening
- C. Darken the hair to the desired final level

D (correct). Neutralize unwanted warm/brassy tones after bleaching

Rationale: Toners deposit color to neutralize unwanted warm (brassy/yellow) tones after bleaching, achieving a desired final color level such as ash, platinum, or beige blonde.

19. In California, a client complaint against a licensed cosmetologist is filed with:

- A. The California Attorney General's office
- B. The Better Business Bureau
- C. The local county health department

D (correct). The California Board of Barbering and Cosmetology (BBC)

Rationale: Client complaints about licensed cosmetologists in California are filed with the California Board of Barbering and Cosmetology (BBC), which investigates and takes disciplinary action if warranted.

20. Which of the following is the correct order for hand washing in a salon setting?

- A. Apply soap, wet hands, lather 10 seconds, rinse, air dry
- B. Apply hand sanitizer instead of soap and water
- C. Wet hands, rinse, apply soap, lather 5 seconds, dry

D (correct). Wet hands, apply soap, lather 20 seconds, rinse, dry with clean towel

Rationale: Proper hand washing requires wetting hands first, then applying soap and lathering for at least 20 seconds, rinsing thoroughly, and drying with a clean towel. This sequence ensures maximum pathogen removal.

21. Under California law, a cosmetologist found practicing without a current, valid license is subject to:

- A (correct). A misdemeanor — subject to fines and potential criminal charges**
- B. A written warning only
- C. No penalty if unlicensed for less than 90 days
- D. An automatic 30-day suspension

Rationale: Practicing cosmetology without a valid California license is a misdemeanor under Business and Professions Code Section 7317, subject to fines and potential criminal charges.

22. Which of the following conditions requires the licensee to refuse service?

- A. A client with dry, flaky scalp
- B (correct). A client with head lice (pediculosis)**
- C. A client with dandruff
- D. A client with a minor cut on their arm

Rationale: Head lice (pediculosis) is contagious and requires refusal of service until the infestation is treated.

23. What is a texturizing technique used to remove bulk without shortening the overall length?

- A. Razor cutting
- B. Slicing
- C (correct). Point cutting (notching)**
- D. Blunt cutting

Rationale: Point cutting (notching) is a technique where the scissor tips are used to cut into the ends of the hair vertically, removing weight and bulk while keeping length.

24. A 45-degree elevation during a haircut produces:

- A. A blunt one-length cut
- B (correct). A graduated (stacked) effect — shorter at nape, longer above**
- C. A uniform layer throughout
- D. No layering, just a straight horizontal line

Rationale: Cutting hair at a 45-degree elevation from the head creates a graduated (stacked) effect — shorter in the nape, longer as the hair progresses upward.

25. The three primary hair colors on the color wheel used in cosmetology are:

- A (correct). Red, yellow, and blue**
- B. Blue, green, and violet
- C. Red, orange, and yellow
- D. Orange, green, and violet

Rationale: Red, yellow (gold), and blue are the primary colors. They cannot be created by mixing other colors together. All other hair color tones are derived from combinations of these three.

26. Hydrogen peroxide developer volume indicates:

- A. The amount of ammonia in the color formula
- B. How long the developer takes to process
- C. The pH of the developer
- D (correct). The oxidizing strength and amount of lift the developer provides**

Rationale: Developer volume indicates its oxidizing strength. 10 volume lifts ~1 level, 20 volume lifts ~1–2 levels (most common for gray coverage), 30 volume lifts ~2–3 levels.

27. The cortex of the hair contains what bonds that give hair its shape?

- A (correct). Hydrogen bonds and disulfide bonds**
- B. Salt bonds only
- C. Covalent and ionic bonds only
- D. Peptide bonds only

Rationale: The cortex contains disulfide bonds (permanent) and hydrogen bonds (temporary). Permanent waves and chemical relaxers work by breaking and reforming disulfide bonds.

28. What is the term for the natural pigment that gives hair its color?

- A (correct). Melanin**
- B. Sebum
- C. Collagen
- D. Keratin

Rationale: Melanin is the pigment produced by melanocytes in the hair follicle. Eumelanin produces brown/black tones; pheomelanin produces red/yellow tones.

29. What is the primary chemical used in most chemical hair relaxers?

- A. Hydrogen peroxide
- B. Ammonium thioglycolate
- C. Potassium hydroxide
- D (correct). Sodium hydroxide (lye)**

Rationale: Sodium hydroxide (lye) is the strongest chemical relaxer. It permanently straightens hair by breaking disulfide bonds and restructuring the hair in a straight position.

30. The purpose of a cuticle softener or remover in a manicure service is to:

- A. Harden the cuticle for easier removal
- B (correct). Break down dead cuticle skin so it can be pushed back or removed safely**
- C. Strengthen the nail plate before applying gel
- D. Disinfect the cuticle area before a nail service

Rationale: Cuticle softeners (usually alkaline products containing potassium hydroxide) break down

the dead skin of the cuticle, making it easier to push back or remove without damage to the nail.

31. What is the primary protein that makes up the hair shaft?

- A. Melanin
- B. Collagen
- C (correct). Keratin**
- D. Elastin

Rationale: Keratin is the fibrous protein that forms the structure of hair, skin, and nails. Hair is approximately 95% keratin.

32. The three main layers of the hair shaft from outer to inner are:

- A. Cortex, cuticle, medulla
- B (correct). Cuticle, cortex, medulla**
- C. Medulla, cortex, cuticle
- D. Epidermis, dermis, cortex

Rationale: The cuticle is the outer protective layer of overlapping scales. The cortex gives hair its strength, elasticity, and color. The medulla is the innermost soft core (absent in fine hair).

33. What does SPF (Sun Protection Factor) measure?

- A. How resistant the skin is to UVA rays
- B. The percentage of chemical UV filters in the formula
- C. The moisturizing level of the product
- D (correct). How long a sunscreen extends the skin's natural UVB protection**

Rationale: SPF measures how long a sunscreen extends the skin's natural protection against UVB rays. SPF 30 filters approximately 97% of UVB radiation.

34. A licensee cuts a client and draws blood. What is the correct first response?

- A. Discard all tools and continue with new ones
- B (correct). Stop service, cover wound, remove and disinfect contaminated tools**
- C. Continue the service wearing gloves
- D. Apply antiseptic and continue immediately

Rationale: Service stops immediately. The wound is covered, contaminated tools removed and disinfected, and the area cleaned per bloodborne pathogen protocols.

35. EPA-registered salon disinfectants must be effective against which three categories of microorganisms?

- A. Bacteria and viruses only
- B. Bacteria only
- C (correct). Bacteria, viruses, and fungi**
- D. Viruses and fungi only

Rationale: Salon disinfectants must be bactericidal, virucidal, and fungicidal to meet the minimum safety standard for professional use.

36. Which of the following nail conditions requires the cosmetologist to refuse nail services?

- A. Brittle nails (onychorrhexis)
- B. Nail biting (onychophagy)
- C. White spots (leukonychia)
- D (correct). Onychomycosis (nail fungus)**

Rationale: Onychomycosis (nail fungus) is contagious and requires refusal of service. Implements that contact a fungal infection cannot be safely disinfected and must be discarded.

37. What is the nail matrix?

- A. The visible nail plate above the finger
- B. The nail groove on the sides of the nail
- C. The cuticle that overlaps the nail plate

D (correct). The tissue beneath the base of the nail plate that produces the nail plate

Rationale: The nail matrix is the tissue beneath the base of the nail plate (under the lunula). It contains the cells that produce the nail plate. Damage to the matrix can permanently affect nail growth.

38. Single-use items such as neck strips, cotton rounds, and wooden applicators must be:

- A (correct). Used once then discarded**
- B. Disinfected and stored for reuse
- C. Washed with soap and water between clients
- D. Autoclaved between clients

Rationale: Single-use items are used on one client then discarded. They cannot be disinfected and reused — reuse creates a cross-contamination risk.

39. Safety Data Sheets (SDS) are required to provide information about:

- A. Pricing and wholesale ordering information
- B. Instructions for mixing chemical formulas
- C (correct). Hazard information, safe handling, PPE requirements, and emergency response**
- D. Only the product ingredients and fragrance profile

Rationale: SDS provide hazard information, safe handling instructions, PPE requirements, and emergency response procedures for chemical products.

40. A strand test before a chemical service is performed to:

- A. Measure the hair's natural pH level
- B. Confirm the correct developer volume to use
- C. Check the client's allergy to PPD
- D (correct). Test timing, color result, and hair condition to avoid over-processing**

Rationale: A strand test checks the hair's reaction to the chemical product — including timing, color result, and condition — to avoid over-processing or allergic reaction during the full service.

41. What is the minimum contact time required for most EPA-registered disinfectants to effectively kill pathogens?

- A. 30 minutes
- B (correct). 10 minutes**
- C. 5 minutes
- D. 1 minute

Rationale: Most EPA-registered salon disinfectants require a minimum of 10 minutes of full immersion contact time to achieve label kill claims.

42. Under California law, a cosmetologist may have their license revoked for which of the following?

- A. Missing a single license renewal deadline
- B (correct). Fraud in obtaining the license, repeated violations, practicing while impaired, or gross negligence**
- C. Working in a county other than the one on the license
- D. Using a product brand not listed on the BBC website

Rationale: California Business and Professions Code provides grounds for BBC to revoke or suspend a license including fraud in obtaining the license, repeated violations, practicing while impaired, and gross negligence.

43. What is the correct order of steps when disinfecting tools at a cosmetology or barbering station?

- A. Disinfect, rinse, clean, dry
- B (correct). Clean, rinse, disinfect, rinse, dry**
- C. Rinse, disinfect, clean, dry
- D. Disinfect, clean, rinse, dry

Rationale: Tools must be cleaned before disinfection — disinfectants cannot penetrate organic matter. The correct sequence is: clean, rinse, disinfect, rinse, dry.

44. California BBC inspectors have the authority to enter a licensed cosmetology establishment:

- A. Only with a court order
- B (correct). During business hours without prior notice**
- C. Only on scheduled inspection dates
- D. Only after a formal complaint has been filed

Rationale: California law authorizes BBC inspectors to enter licensed establishments during business hours without prior notice to conduct inspections for compliance with health, safety, and licensing requirements.

45. What is the function of the dermal papilla?

- A. Produces the hair's natural oil (sebum)
- B. Contains melanocytes that produce hair pigment
- C (correct). Supplies nutrients to the hair matrix cells via blood vessels, driving hair growth**
- D. Determines the natural curl pattern of the hair

Rationale: The dermal papilla is a cluster of cells at the base of the hair follicle that contains blood vessels and nerves. It supplies nutrients to the hair matrix cells, driving hair growth.

46. What is the purpose of a patch test (skin allergy test) before a hair color service?

- A (correct). Check for allergic reaction to color chemicals 24–48 hours before the service**
- B. Check if the hair is healthy enough for color
- C. Determine the natural level and tone of the hair
- D. Test if the developer will process the hair evenly

Rationale: A patch test applied 24–48 hours before a color service checks for allergic reaction to the dye's developer or para-phenylenediamine (PPD) components, preventing anaphylaxis.

47. When performing a color retouch service, the new growth is processed first because:

- A. The ends are more resistant to color than new growth
- B. Scalp heat makes the ends process faster
- C. Process the ends first since they need more color
- D (correct). New growth is more porous and processes faster**

Rationale: New growth is more porous than previously colored hair and processes faster. Applying color to new growth first, then pulling through to the ends, ensures even color results.

48. What nail condition is characterized by separation of the nail plate from the nail bed?

- A. Leukonychia
- B. Onychomycosis
- C (correct). Onycholysis**
- D. Paronychia

Rationale: Onycholysis is the separation of the nail plate from the nail bed, starting at the free edge and progressing toward the cuticle. It can be caused by trauma, psoriasis, or fungal infection.

49. HIV is classified as which type of pathogen?

- A (correct). A bloodborne pathogen**
- B. A food-borne pathogen
- C. A waterborne pathogen
- D. An airborne pathogen

Rationale: HIV is a bloodborne pathogen. Accidental cuts are the primary risk in salon settings. Standard disinfection protocols protect against HIV transmission.

50. The three layers of the skin from outermost to innermost are:

- A. Cuticle, cortex, medulla
- B. Dermis, epidermis, subcutis
- C (correct). Epidermis, dermis, subcutis (hypodermis)**
- D. Subcutis, dermis, epidermis

Rationale: The epidermis is the outer protective layer. The dermis contains hair follicles, sweat glands, and sebaceous glands. The subcutis (hypodermis) is the deepest fatty layer.

51. Under California Health and Safety Code, cosmetology establishments must maintain hot and cold running water:

- A. Only licensed medical facilities are required to have running water
- B (correct). Hot and cold running water accessible for sanitation and handwashing**
- C. Water is optional if alcohol-based sanitizers are used
- D. Only cold water is required

Rationale: California law requires cosmetology establishments to have adequate hot and cold running water accessible for sanitation of implements and handwashing, as a basic health and safety requirement.

52. What is the primary route of transmission for head lice in a salon?

- A. Contaminated water in the shampoo bowl
- B. Skin-to-skin contact with the hands
- C (correct). Direct head-to-head contact and shared tools, combs, and linens**
- D. Airborne droplets in the salon

Rationale: Head lice spread through direct head-to-head contact and shared tools, combs, and linens. Proper disinfection prevents salon transmission.

53. What is the purpose of a base color application in hair coloring?

- A (correct). Depositing color at the roots only to match the existing colored length**
- B. Using high-lift color to dramatically lighten
- C. Applying color to the full length of the hair
- D. Applying a toner to neutralize brassy tones

Rationale: A base color application deposits color at the roots only, matching the existing colored length. It prevents over-processing previously colored hair during a retouch service.

54. As of January 1, 2022, how many training hours are required to qualify for the California Cosmetology Operator written exam?

- A. 1,600 hours
- B (correct). 1,000 hours**
- C. 600 hours
- D. 2,000 hours

Rationale: SB 803 (effective January 1, 2022) reduced the required cosmetology training hours from 1,600 to 1,000. Apprenticeship programs may offer an alternative pathway.

55. The California cosmetology written exam is available in which languages as of 2024?

- A (correct). English, Spanish, Korean, Simplified Chinese, Vietnamese, and Tagalog**
- B. English, French, and Spanish
- C. English and Spanish only
- D. English only

Rationale: Per Assembly Bill 451 (effective January 1, 2024), the BBC is required to offer its written exams in English, Spanish, Korean, Simplified Chinese, Vietnamese, and Tagalog.

56. Under California law, the minimum age requirement to obtain a cosmetology license is:

- A. 16 years old
- B. 21 years old
- C (correct). 17 years old**
- D. 18 years old

Rationale: California Business and Professions Code Section 7316 requires applicants to be at least 17 years old to apply for a cosmetology license.

57. Which of the following is a non-porous surface that can be effectively disinfected?

- A (correct). A metal shear blade**
- B. A wooden cuticle pusher
- C. A fabric cape
- D. A porous sponge applicator

Rationale: Non-porous materials (metal, glass, hard plastic) can be fully disinfected. Porous materials absorb disinfectants unevenly and cannot be reliably disinfected.

58. The term "pathogen" refers to:

- A. A type of allergen found in hair dye
- B (correct). Any microorganism capable of causing disease**
- C. A virus that only affects plants
- D. Any chemical substance found in salon products

Rationale: A pathogen is any microorganism capable of causing disease — bacteria, viruses, fungi, and parasites. Preventing pathogen transmission is the primary goal of salon disinfection.

59. A California cosmetology establishment may employ an unlicensed person to perform which of the following tasks?

- A. Perform blowouts with supervision
- B (correct). Reception, scheduling, and retail tasks only**
- C. Apply color with gloves
- D. Shampoo and condition client hair

Rationale: Under California law, only licensed individuals may perform cosmetology services on clients. Unlicensed employees may perform reception, scheduling, and retail tasks but not any hands-on client services.

60. California SB 803, effective January 1, 2022, created a new license type for professionals who want to provide hairstyling services without chemical services. This license is called:

- A. Cosmetology Apprentice
- B (correct). Hairstylist**
- C. Nail Technician
- D. Esthetician

Rationale: SB 803 created the new "Hairstylist" license — a 600-hour pathway for those who wish to cut, style, shampoo, and blow-dry hair but do not plan to offer chemical services such as coloring or perming.

61. What is the term for excessive, unwanted hair growth on the face or body?

- A (correct). Hypertrichosis**
- B. Monilethrix
- C. Trichoptilosis
- D. Alopecia

Rationale: Hypertrichosis is the general term for excessive hair growth. Hirsutism refers specifically to male-pattern hair growth in women. Both can be caused by hormonal or genetic factors.

62. The California BBC requires that disinfectant solutions used on implements be:

- A. Soap and water is sufficient
- B. Any household bleach solution
- C. Rubbing alcohol only

D (correct). EPA-registered hospital-grade disinfectants per manufacturer instructions

Rationale: California Title 16 CCR requires that disinfectant solutions used on cosmetology implements be EPA-registered hospital-grade disinfectants, prepared and changed according to manufacturer instructions.

63. How often must disinfectant solution in a wet sanitizer jar be changed?

A. Once a month

B (correct). Daily or whenever visibly contaminated

C. After every single use

D. Once a week

Rationale: Disinfectant solution becomes contaminated over time and loses efficacy. It must be changed daily or whenever visibly contaminated.

64. What is the active ingredient in most permanent wave solutions?

A. Glycerol monothioglycolate

B. Sodium hydroxide

C (correct). Ammonium thioglycolate

D. Hydrogen peroxide

Rationale: Ammonium thioglycolate is the most common reducing agent in alkaline permanent wave solutions. It softens and breaks the disulfide bonds in the cortex so the hair can be reshaped.

65. How must clean, disinfected implements be stored?

A. In an open container on the counter

B. Next to the disinfectant jar

C (correct). In a clean, covered container or drawer separate from soiled tools

D. Wrapped in a paper towel until needed

Rationale: Disinfected implements must be stored in a clean, covered container or drawer — separate from soiled tools — to maintain their disinfected status.

66. What does hair elasticity refer to?

A. The hair's natural color depth

B (correct). The hair's ability to stretch and return to original length without breaking

C. The diameter of the hair strand

D. The hair's resistance to chemical services

Rationale: Elasticity is the hair's ability to stretch and return to its original length without breaking. Healthy hair can stretch up to 50% of its length when wet. Poor elasticity indicates damage.

67. Sebum is produced by which gland in the scalp?

A (correct). Sebaceous glands

B. The dermal papilla

C. Sudoriferous (sweat) glands

D. Arrector pili muscles

Rationale: The sebaceous glands produce sebum, the natural oil that lubricates and conditions the hair and scalp. Overproduction leads to oily scalp conditions; underproduction leads to dryness.

68. Which part of the hair is the only living portion?

- A. The hair shaft
- B. The cuticle layer
- C (correct). The hair follicle (dermal papilla)**
- D. The cortex

Rationale: The hair follicle (specifically the dermal papilla) is the only living part of the hair. The visible hair shaft is composed of dead, keratinized cells.

69. What is the purpose of an autoclave?

- A. Use UV light to kill surface bacteria
- B. Dry heat metal instruments to 400°F
- C. Circulate disinfectant chemical through a sealed chamber
- D (correct). Use steam under pressure to sterilize instruments completely**

Rationale: An autoclave uses steam under pressure (~250°F/121°C) to sterilize instruments by destroying all microorganisms including bacterial endospores.

70. Which type of conditioner penetrates the cortex and repairs hair from within?

- A. Balancing conditioner
- B. Surface (coating) conditioner
- C. Instant conditioner
- D (correct). Penetrating (protein/reconstructing) conditioner**

Rationale: Penetrating (protein or reconstructing) conditioners are designed to enter the hair shaft's cortex and repair damaged internal bonds, unlike surface conditioners that coat the cuticle.

71. The California Board of Barbering and Cosmetology (BBC) is regulated under which state agency?

- A. California Department of Public Health
- B (correct). Department of Consumer Affairs (DCA)**
- C. California Labor Commission
- D. California State Licensing Board

Rationale: The California Board of Barbering and Cosmetology (BBC) operates under the Department of Consumer Affairs (DCA), which oversees professional licensing boards throughout California.

72. Which chemical process permanently straightens curly or wavy hair using ammonium thioglycolate?

- A. Keratin treatment
- B (correct). Thio (ammonium thioglycolate) relaxer**
- C. Sodium hydroxide relaxer
- D. Guanidine relaxer

Rationale: A thio relaxer uses ammonium thioglycolate (the same reducing agent as perms) to permanently relax curly hair. It requires a neutralizer step to reform bonds in the straight position.

73. What term describes the process of destroying all microbial life including spores?

- A. Sanitation
- B. Decontamination
- C (correct). Sterilization**
- D. Disinfection

Rationale: Sterilization destroys all microbial life including resistant spores. Disinfection kills most pathogens but not all spores. Sterilization is required for invasive tools.

74. Which type of disinfectant is EPA-registered and most commonly required for non-porous tools in Texas salons?

- A. Soap and hot water
- B (correct). EPA-registered hospital-grade disinfectant (quats or phenolics)**
- C. Bleach diluted in water

Exam page: californiacerts.com/exams/ca-cosmetology

Online practice: californiacerts.com/exams/ca-cosmetology/practice

D. Isopropyl alcohol only

Rationale: EPA-registered hospital-grade disinfectants (quaternary ammonium compounds or phenolics) are required for non-porous implements in Texas cosmetology and barbering establishments.

75. How must soiled towels and linens be stored in a Texas salon or barbershop?

- A. Left on the counter until end of day
- B. Mixed with clean linens and washed later
- C (correct). In a closed, covered container separate from clean linens**
- D. On the floor near the workstation

Rationale: Texas regulations require soiled linens to be stored in a closed, covered container separate from clean linens to prevent cross-contamination.

76. During a permanent wave service, the neutralizer's purpose is to:

- A (correct). Re-form the disulfide bonds in the new wave position**
- B. Open the cuticle for deeper processing
- C. Remove the perm rod curl
- D. Add shine and conditioning to the hair

Rationale: The neutralizer (typically hydrogen peroxide or sodium bromate) re-forms the disulfide bonds in the new position around the perm rod, locking in the wave pattern.

77. A California cosmetology license must be renewed how often?

- A. Every year
- B. Every three years
- C. Every five years
- D (correct). Every two years**

Rationale: California cosmetology licenses issued by the BBC are valid for two years and must be renewed biennially. Continuing education is required for renewal.

78. In California, a cosmetology establishment that operates without a valid establishment license is subject to:

- A. No penalty for first offense
- B (correct). Civil penalties and cease-and-desist orders**
- C. Only a written warning
- D. Automatic permanent closure

Rationale: Operating a cosmetology establishment without a valid BBC establishment license is a violation of California Business and Professions Code and may result in civil penalties and cease-and-desist orders.

79. California requires cosmetology students to complete what percentage of their required training hours before being eligible to take the written exam?

- A. 75% of required hours
- B. No hours required before scheduling the exam
- C (correct). 100% of required hours verified by their school**
- D. 50% of required hours

Rationale: Under BBC regulations, cosmetology students must complete 100% of their required training hours (1,000) and have those hours verified by their school before they are eligible to sit for the written exam.

80. A client arrives with an open sore on their scalp. The licensee should:

- A (correct). Refuse service until the condition has healed**
- B. Refer the client to a dermatologist and continue the service
- C. Proceed carefully while wearing gloves
- D. Apply antiseptic and cover the area before proceeding

Rationale: Services on skin with open sores or active infections risk cross-contamination and harm.

Services must be refused until the condition heals.

81. What is the hyponychium?

- A. The visible white tip of the nail plate
- B. The nail matrix beneath the base of the nail
- C. The cuticle fold over the nail base
- D (correct). The thickened skin beneath the free edge of the nail plate**

Rationale: The hyponychium is the thickened skin beneath the free edge of the nail plate where it meets the fingertip. It forms a seal that protects the nail bed from bacteria and debris.

82. A client has tinea capitis. What should the licensee do?

- A (correct). Refuse service and refer the client to a physician**
- B. Complete the service but disinfect all tools after
- C. Use an antifungal shampoo and continue
- D. Proceed carefully using extra gloves

Rationale: Tinea capitis (scalp ringworm) is a contagious fungal infection. Services must be refused and the client referred to a physician. Providing service risks spreading the infection.

83. Personal Protective Equipment (PPE) in the salon most commonly includes:

- A (correct). Gloves, safety glasses, and protective aprons as appropriate**
- B. A face mask and hairnet only
- C. A lab coat only
- D. Nitrile gloves only, no other equipment required

Rationale: PPE for salon professionals includes gloves when handling chemicals or during blood exposure risk, safety glasses, and protective aprons as appropriate.

84. What is the difference between cleaning and disinfecting?

- A. They are the same process
- B. Disinfecting always comes before cleaning
- C (correct). Cleaning removes dirt physically; disinfecting uses chemicals to kill pathogens**
- D. Cleaning kills pathogens; disinfecting removes dirt

Rationale: Cleaning removes dirt and debris physically. Disinfecting uses a chemical to kill pathogens. Cleaning must occur before disinfecting — disinfectants are less effective on dirty surfaces.

85. Under California law, a cosmetology establishment must display which of the following prominently?

- A (correct). Establishment license and all individual practitioner licenses where visible to clients**
- B. Only the establishment license at the reception desk
- C. No display is required — licenses are held digitally
- D. Only the health inspection report

Rationale: California Business and Professions Code requires cosmetology establishments to display the establishment license and all individual practitioner licenses where they are visible to clients.

86. A client arrives with a visible nail fungus infection on one hand. What is the correct course of action?

- A (correct). Refuse service and refer the client to a physician**
- B. Wear gloves and complete the full service
- C. Perform the service only on the unaffected hand
- D. Apply antifungal powder and proceed with service

Rationale: California law and infection control standards prohibit licensees from performing services on clients with fungal infections. The client must be referred to a physician and service must be refused to protect both the client and other patrons.

87. Which scalp condition is characterized by white or yellowish flakes and itching?

- A. Psoriasis
- B. Seborrheic dermatitis
- C (correct). Pityriasis (dandruff)**
- D. Tinea capitis

Rationale: Pityriasis (dandruff) is the most common scalp condition, characterized by excessive shedding of dead skin cells. It can be dry (white flakes) or oily (yellowish flakes).

88. Effleurage in a facial massage refers to:

- A (correct). Light, gliding, stroking movement**
- B. Vibrating movements using fingertips
- C. Deep kneading of the muscle tissue
- D. Rapid tapping or drumming movements

Rationale: Effleurage is a light, gliding, stroking movement used at the beginning and end of a massage sequence to warm tissue, spread product, and relax the client.

89. Which of the following is required on the label of every professional chemical product?

- A. The salon's name and purchase date
- B. Pricing and expiration date only
- C. Instructions for use and fragrance ingredients only
- D (correct). Product name, hazard warnings, and manufacturer information**

Rationale: OSHA Hazard Communication Standard requires labels with the product name, hazard warnings, and manufacturer information.

90. The three phases of the hair growth cycle in correct order are:

- A (correct). Anagen, catagen, telogen**
- B. Telogen, anagen, catagen
- C. Anagen, telogen, catagen
- D. Catagen, telogen, anagen

Rationale: The anagen (active growth) phase lasts 2–7 years. Catagen (transitional) phase lasts 2–3 weeks. Telogen (resting/shedding) phase lasts 3–4 months before the cycle repeats.

91. A client presents with psoriasis on their scalp. The cosmetologist should:

- A. Refuse service entirely
- B (correct). Perform the service carefully if no open or bleeding lesions are present**
- C. Apply medicated shampoo and continue
- D. Refer to a physician and reschedule

Rationale: Psoriasis is a chronic, non-contagious autoimmune condition. Services may be performed if there are no open, bleeding lesions. The cosmetologist should handle the scalp gently and avoid irritating products.

92. Which pathogen causes ringworm (tinea capitis) of the scalp?

- A. A parasitic worm
- B. A virus
- C (correct). A dermatophyte fungus**
- D. A bacterium

Rationale: Tinea capitis is caused by a dermatophyte fungus — not a worm. It is highly contagious and requires refusal of service.

93. What is the arrector pili muscle?

- A. A blood vessel that nourishes the follicle
- B (correct). A small muscle attached to each follicle that causes hair to stand upright**
- C. A nerve ending in the scalp
- D. The innermost layer of the hair shaft

Rationale: The arrector pili is a small muscle attached to each hair follicle. When it contracts due

to cold or fear, it causes the hair to stand upright, producing goosebumps.

94. Semi-permanent hair color differs from permanent color in that it:

- A (correct). Contains no developer, does not lift, and fades gradually**
- B. Permanently alters the cortex structure
- C. Contains developer and lifts natural hair color
- D. Provides 100% gray coverage

Rationale: Semi-permanent color contains no developer/hydrogen peroxide. It does not lighten or lift. It fades gradually over 4–6 shampoos and cannot cover resistant gray effectively.

95. How long must California cosmetology establishments retain employee and client service records?

- A (correct). 3 years**
- B. 5 years
- C. 1 year
- D. 7 years

Rationale: California Code of Regulations Title 16 Section 979 requires cosmetology establishments to maintain records for a minimum of 3 years.

96. The term "porosity" in hair science refers to:

- A (correct). How readily the hair absorbs and retains moisture**
- B. How quickly hair dries after washing
- C. The natural wave pattern of the hair
- D. The hair's resistance to breakage under tension

Rationale: Porosity describes how readily the hair absorbs and retains moisture. High porosity hair absorbs quickly but loses moisture fast. Low porosity hair resists absorption but retains moisture well.

97. Which layer of the epidermis contains melanocytes (pigment-producing cells)?

- A (correct). Stratum germinativum (stratum basale)**
- B. The subcutis layer
- C. The dermis
- D. Stratum corneum (outermost layer)

Rationale: Melanocytes are located in the stratum germinativum (stratum basale), the deepest layer of the epidermis. They produce melanin, which migrates upward to protect skin cells from UV damage.

98. California AB 451 (effective January 1, 2024) amended California Insurance Code Section 1677 to require BBC exams be offered in how many languages beyond English?

- A (correct). Five additional languages: Spanish, Korean, Simplified Chinese, Vietnamese, and Tagalog**
- B. One language (Spanish only)
- C. Three languages (Spanish, Korean, Vietnamese)
- D. Two languages (Spanish and Chinese)

Rationale: AB 451 requires the BBC to offer its written exams in Spanish, Korean, Simplified Chinese, Vietnamese, and Tagalog — four additional languages beyond English.

99. The wet hair cutting guide should be used because:

- A. Wet hair must never be cut with shears
- B. Dry cutting is always more accurate
- C (correct). Wet hair is easier to control and section precisely**
- D. Wet cutting causes more split ends

Rationale: Wet hair is easier to control and section precisely. However, some textures (curly or wavy) should be cut dry to account for shrinkage and true curl pattern.

100. What type of haircut creates a bevel where all hair is cut to the same length, falling to one level?

- A. Layered haircut
- B. Graduated cut
- C (correct). Blunt (one-length) cut**
- D. Razor cut

Rationale: A blunt (or one-length) cut creates a single, solid line with no layers. All hair falls to the same level with no graduation or layering.