



Texas Cosmetology Operator

Solution key

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1. Which state agency licenses and regulates cosmetologists, barbers, and estheticians in Texas?

- A. Texas Workforce Commission
- B. Texas State Board of Cosmetology (TSBOC)
- C. Texas Health and Human Services Commission
- D (correct). Texas Department of Licensing and Regulation (TDLR)**

Rationale: The Texas Department of Licensing and Regulation (TDLR) regulates all barbering and cosmetology professionals in Texas under the Barbering and Cosmetology Act.

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

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

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

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

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

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

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

- A. Instant conditioner
- B. Surface (coating) conditioner
- C. Balancing 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.

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

- A. Refuse service entirely
- B. Apply medicated shampoo and continue
- C. Refer to a physician and reschedule

D (correct). Perform the service carefully if no open or bleeding lesions are present

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.

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

A. Instructions for use and fragrance ingredients only

B (correct). Product name, hazard warnings, and manufacturer information

C. The salon's name and purchase date

D. Pricing and expiration date only

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

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

A. After every single use

B. Once a week

C. Once a month

D (correct). Daily or whenever visibly contaminated

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

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

A. 8.5–9.5 — alkaline

B (correct). 4.5–5.5 — slightly acidic

C. 7.0 — neutral

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.

9. The four basic haircut shapes are:

A. Rounded, square, oval, and triangular

B. Blunt, tapered, feathered, and textured

C. One-length, stacked, uniform, and graduated

D (correct). Solid, graduated, layered, and combination

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.

10. What is the minimum contact time required for most disinfectants to be effective on salon implements?

A. 5 minutes regardless of the product label instructions

B. Contact time is irrelevant as long as the implement is fully submerged

C. 30 seconds is always sufficient for any EPA-registered disinfectant

D (correct). The full immersion time listed on the disinfectant label

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

A (correct). The hair follicle (dermal papilla)

B. The hair shaft

C. The cuticle layer

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.

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

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

13. What is the hyponychium?

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

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

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

15. Hair texture is determined by the:

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

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.

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

- A. The natural wave pattern of the hair
- B. How quickly hair dries after washing
- C (correct). How readily the hair absorbs and retains moisture**
- 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.

17. What minimum age must a person be to apply for a Texas cosmetology operator or Class A Barber license?

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

Rationale: Applicants for a Texas cosmetology operator or Class A Barber license must be at least 17 years of age at the time of application.

18. A Texas licensee who practices cosmetology or barbering with an expired license is subject to:

- A. A written warning on the first offense only
- B (correct). Civil penalties, fines, and potential disciplinary action from TDLR**
- C. Automatic suspension of the establishment license

D. No penalty if the license expired less than 30 days ago

Rationale: Practicing with an expired license is a violation of the Texas Barbering and Cosmetology Act and can result in civil penalties, fines, and potential disciplinary action from TDLR.

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

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

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

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

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

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.

21. HIV is classified as which type of pathogen?

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

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

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

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

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.

23. 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
- 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.

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

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

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.

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

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

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

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

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

27. What does hair elasticity refer to?

- A. The hair's resistance to chemical services
- B. The diameter of the hair strand
- C (correct). The hair's ability to stretch and return to original length without breaking**
- D. The hair's natural color depth

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.

28. Effleurage in a facial massage refers to:

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

29. What is the difference between cleaning and disinfecting?

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

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.

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

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

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.

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

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

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.

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

- A. Slicing
- B. Razor cutting
- 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.

33. 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.

34. Which of the following best describes the difference between bacteriostatic and bactericidal agents?

- A. Bacteriostatic agents kill bacteria; bactericidal agents only slow growth
- B (correct). Bacteriostatic agents inhibit bacterial growth; bactericidal agents kill bacteria**
- C. Both terms describe the same level of disinfection
- D. Bacteriostatic agents are stronger and required for all salon tools

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

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

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.

36. What is the function of the dermal papilla?

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

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.

37. What is the technical term for split ends?

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

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.

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

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

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.

39. How often must a Texas cosmetology or barbering license be renewed?

- A. Every 3 years
- B (correct). Every 2 years**
- C. Every 1 year
- D. Every 5 years

Rationale: Texas cosmetology and barbering licenses must be renewed every two years. Failure to renew results in an expired license, and practicing with an expired license is a violation.

40. What is alopecia?

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

41. Which of the following best describes the purpose of the Texas Barbering and Cosmetology Act?

- A (correct). Protect public health and safety by establishing standards and disciplinary authority**
- B. Generate revenue for the state through licensing fees
- C. Limit competition among cosmetology businesses
- D. Standardize pricing for cosmetology services

Rationale: The Texas Barbering and Cosmetology Act protects public health and safety by establishing licensing requirements, practice standards, sanitation rules, and disciplinary authority.

42. What is the maximum civil penalty per day that can be assessed against a Texas salon or barbershop for each violation?

- A. \$5,000 per day
- B. \$100 per day
- C. \$500 per day
- D (correct). \$1,000 per day**

Rationale: Under Texas Occupations Code, TDLR can assess civil penalties of up to \$1,000 per day per violation for cosmetology and barbering establishments.

43. Which of the following is required to be posted in a Texas salon or barbershop in addition to the establishment license?

- A. Only the establishment license at the front desk
- B (correct). Individual practitioner licenses at each workstation, plus establishment license and complaint contact info**
- C. A copy of the health inspection report only
- D. No postings are required — licenses are held digitally

Rationale: Texas requires that individual practitioner licenses be displayed at each workstation and that the establishment license, inspection reports, and consumer complaint contact information be accessible to clients.

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

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

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.

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

- A. Remove all physical debris from a surface
- B (correct). Reduce microbial contamination to safe levels but not eliminate all pathogens**
- 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.

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

- A. The dermal papilla
- B (correct). Sebaceous glands**
- C. Arrector pili muscles
- D. Sudoriferous (sweat) glands

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.

47. Which of the following requires a separate specialty license in Texas rather than a standard cosmetology operator license?

- A (correct). Esthetics (skin care), manicuring, and hair braiding**
- B. Shampooing and conditioning services
- C. Hair coloring services
- D. Blow-drying and styling

Rationale: Esthetics (skin care), manicuring, and hair braiding each require separate specialty licenses in Texas. A cosmetology operator license does not automatically authorize all these services.

48. How many training hours are required for a Texas Class A Barber license?

- A. 2,000 hours
- B. 500 hours
- C. 1,000 hours
- D (correct). 1,500 hours**

Rationale: Texas requires a minimum of 1,500 training hours at a licensed barbering school before a candidate may sit for the Class A Barber licensing examination.

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

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

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.

50. How many continuing education hours are required for renewing a Texas cosmetology or barber license?

- A. 2 hours
- B (correct). 4 hours**

- C. 8 hours
- D. 12 hours

Rationale: Texas requires 4 hours of continuing education per two-year renewal period for cosmetology and barbering licensees.

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

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

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

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

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

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.

53. A Texas cosmetology or barbering license must be displayed:

- A. In a back office drawer
- B. Mailed to TDLR for safekeeping
- C. Only if a client requests to see it
- D (correct). In plain view of clients at the workstation**

Rationale: Texas law requires that a current, valid license be displayed in plain view of clients at the workstation where services are performed.

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

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

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

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

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

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

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

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

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.

57. Which of the following is a requirement for a Texas salon or barbershop establishment license?

- A. Register with the local health department only
- B. No license is required for sole proprietorships
- C. Only individual practitioner licenses are required

D (correct). Hold a valid TDLR establishment license posted conspicuously

Rationale: Texas law requires all salon and barbershop establishments to hold a valid TDLR establishment license and post it in a conspicuous location within the business.

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

A. A lightener mixed with developer only — no powder

B (correct). A lightener formulated to be applied directly to the scalp safely

C. A lightener used only on previously colored hair

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.

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

A (correct). Stop service, cover wound, remove and disinfect contaminated tools

B. Discard all tools and continue with new ones

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.

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

A (correct). Ammonium thioglycolate

B. Hydrogen peroxide

C. Sodium hydroxide

D. Glycerol monothioglycolate

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.

61. The term "pathogen" refers to:

A (correct). Any microorganism capable of causing disease

B. A type of allergen found in hair dye

C. Any chemical substance found in salon products

D. A virus that only affects plants

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.

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

A (correct). Sodium hydroxide (lye)

B. Potassium hydroxide

C. Ammonium thioglycolate

D. Hydrogen peroxide

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.

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

A. The subcutis layer

B (correct). Stratum germinativum (stratum basale)

C. Stratum corneum (outermost layer)

D. The dermis

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.

64. Under Texas law, a TDLR inspector may enter a salon or barbershop:

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

Rationale: TDLR inspectors have authority to enter and inspect licensed premises at any time during normal business hours without prior notice to ensure compliance with health and safety rules.

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

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

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).

66. Texas cosmetology school programs require a minimum of how many training hours for a cosmetology operator license?

- A (correct). 1,000 hours**
- B. 1,500 hours
- C. 500 hours
- D. 750 hours

Rationale: Texas requires a minimum of 1,000 training hours in an approved cosmetology school before a candidate may sit for the licensing examination.

67. 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. The innermost layer of the hair shaft
- D. A nerve ending in the scalp

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.

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

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

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

- A (correct). Neutralize unwanted warm/brassy tones after bleaching**
- B. Darken the hair to the desired final level
- C. Protect the scalp during a bleach application
- D. Add warmth and golden tones after lightening

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.

70. What is the purpose of an autoclave?

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

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

71. A Texas cosmetology or barber school must maintain student training records for a minimum of:

- A. 1 year
- B. 2 years
- C (correct). 5 years**
- D. 10 years

Rationale: Texas regulations require cosmetology and barbering schools to maintain student training records including hours logs for a minimum of 5 years after the student leaves the program.

72. A comedone is:

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

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.

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

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

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

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

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

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

76. Hydrogen peroxide developer volume indicates:

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

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.

77. How must clean, disinfected implements be stored?

- A. Next to the disinfectant jar
- B (correct). In a clean, covered container or drawer separate from soiled tools**
- C. Wrapped in a paper towel until needed
- D. In an open container on the counter

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

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

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

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

79. Under Texas state rules, which items must be discarded after a single use and cannot be disinfected for reuse?

- A. Glass manicure bowls, which are soaked overnight
- B (correct). Single-use porous items such as nail files, buffers, and cotton pads**
- C. Plastic combs, provided they are rinsed with water between uses
- D. Metal clippers and shears, which can be sterilized between clients

80. Under the Texas Barbering and Cosmetology Act, which of the following actions by a licensee may result in license revocation?

- A. Using an out-of-state product brand
- B. Missing a single license renewal deadline
- C (correct). Fraud in obtaining license, practicing while impaired, or repeated violations**
- D. Only if convicted of a felony

Rationale: TDLR may revoke, suspend, or refuse to renew a license for fraud in obtaining a license, practicing while impaired, conviction of a crime related to the profession, or repeated violations.

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

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

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.

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

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

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

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

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

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.

84. Which of the following best describes a bactericide?

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

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

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

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

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

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

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

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

87. In Texas, the Barbering and Cosmetology Act is enforced by:

- A (correct). TDLR — Texas Department of Licensing and Regulation**
- B. The local county health department
- C. The Texas Attorney General's office
- D. The Texas State Board of Health

Rationale: TDLR enforces the Texas Barbering and Cosmetology Act, which governs licensing, establishment standards, continuing education, and disciplinary actions.

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

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

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.

89. Under Texas regulations, which of the following chemicals is prohibited from being used by cosmetologists and barbers on clients?

- A. Ammonium thioglycolate perm solution
- B (correct). Liquid methyl methacrylate (MMA) monomer**
- C. Hydrogen peroxide developer
- D. Sodium hydroxide relaxer

Rationale: Texas regulations (16 TAC Chapter 83) prohibit the use of any chemical, preparation, or procedure that contacts or penetrates the dermis layer of the skin — this includes liquid methyl methacrylate (MMA) monomer.

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

- A. A uniform layer throughout
- B. A blunt one-length cut
- C (correct). A graduated (stacked) effect — shorter at nape, longer above**
- 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.

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

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

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).

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

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

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

93. What is the nail matrix?

- A. The cuticle that overlaps the nail plate
- B (correct). The tissue beneath the base of the nail plate that produces the nail plate**
- C. The nail groove on the sides of the nail
- D. The visible nail plate above the finger

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.

94. Texas law requires that a client complaint procedure be:

- A. Available only in the employee break room
- B. Filed with the establishment license in a locked cabinet
- C. Provided only if a client specifically asks
- D (correct). Posted visibly so clients can access TDLR complaint contact information**

Rationale: Texas regulations require salons and barbershops to make TDLR complaint contact information available to clients, typically by posting the TDLR complaint notice in a visible location.

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

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

Rationale: Services on skin with open sores or active infections risk cross-contamination and harm. Services must be refused until the condition heals.

96. 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.

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

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

98. If a TDLR inspector finds a violation during a salon inspection, the establishment owner must:

- A. Close the establishment until violations are reviewed
- B. Ignore the violations and wait for a follow-up inspection
- C. Appeal all violations to avoid correcting them
- D (correct). Correct violations within the timeframe specified in the inspection report**

Rationale: Violations cited during a TDLR inspection must be corrected within the timeframe specified in the inspection report. Failure to correct violations can result in escalating penalties.

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

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

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.

100. 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 (correct). New growth is more porous and processes faster**
- D. Process the ends first since they need more color

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.