



# Essential Review

Complete the following review of Chapter 15, "Chemical Texture Services," by circling the correct answer to each question.

- \_\_\_\_\_ rods have a small diameter in the center area and gradually increase to their largest diameter at the ends, resulting in a tighter curl at hair ends, with a loose, wider curl at the scalp.
  - convex
  - straight
  - concave
  - colored
- A method of wrapping a permanent wave that is suitable for very long hair is the \_\_\_\_\_.
  - double halo method
  - double tool technique
  - single halo method
  - straight back method
- A \_\_\_\_\_ is an example of a physical change that results from breaking and re-forming the hydrogen bonds within the hair.
  - blow-dry service
  - wet set
  - hair color service
  - comb-out
- All perm wraps begin by sectioning the hair into panels which are further divided into subsections called \_\_\_\_\_.
  - panels
  - base sections
  - base panels
  - base control
- Always rinse perm solution from the hair for at least \_\_\_\_\_ minutes before applying the neutralizer.
  - two
  - three
  - four
  - five
- A/an \_\_\_\_\_ liquid protein conditioner can be applied to the hair and dried under a warm dryer for five minutes or more prior to neutralization if hair is damaged.
  - alkaline
  - emulsified
  - neutral
  - acidic
- Ask \_\_\_\_\_ to find out why the client wants the texture service and what results are expected.
  - open-ended questions
  - closed-ended questions
  - rhetorical questions
  - personal questions

# essential review *continued*

8. Base control refers to the position of the tool in relation to its \_\_\_\_\_ and is determined by the angle at which the hair is wrapped.
- |               |                   |
|---------------|-------------------|
| a) panel      | b) base section   |
| c) base panel | d) scalp position |
9. End wraps are absorbent papers used to \_\_\_\_\_ of the hair when wrapping and winding hair on the perm tools.
- |                           |                            |
|---------------------------|----------------------------|
| a) decrease the moisture  | b) control the ends        |
| c) control the elasticity | d) decrease the elasticity |
10. Hair texture describes the \_\_\_\_\_ of a single strand of hair and is classified as fine, medium, or coarse.
- |           |             |
|-----------|-------------|
| a) length | b) color    |
| c) curl   | d) diameter |
11. If the hair is not \_\_\_\_\_, the hydrogen peroxide in the neutralizer can react with waving lotion and cause the hair color to lighten.
- |                         |                    |
|-------------------------|--------------------|
| a) thoroughly shampooed | b) rinsed properly |
| c) lightly shampooed    | d) lightly rinsed  |
12. If too many \_\_\_\_\_ bonds are broken in the perming process, the hair will be too weak to hold a firm curl.
- |              |                |
|--------------|----------------|
| a) disulfide | b) hydrogen    |
| c) salt      | d) polypeptide |
13. If you suspect metallic salts are present, mix one ounce of 20 volume peroxide with twenty drops of 28 percent \_\_\_\_\_ and immerse at least twenty strands for thirty minutes.
- |            |              |
|------------|--------------|
| a) bleach  | b) hydrogen  |
| c) ammonia | d) petroleum |
14. If hair breaks under very slight strain, it has:
- |                         |                            |
|-------------------------|----------------------------|
| a) excellent elasticity | b) very good elasticity    |
| c) average elasticity   | d) little or no elasticity |
15. In order to make a smooth transition from the rolled section of the head to an unrolled section, use a larger tool for the last tool next to an unrolled section when giving a \_\_\_\_\_.
- |                   |                 |
|-------------------|-----------------|
| a) curvature perm | b) partial perm |
| c) spiral perm    | d) full perm    |

# essential review *continued*

16. In neutralization, the bonds in the hair are re-formed \_\_\_\_\_.
- a) immediately
  - b) slowly
  - c) sporadically
  - d) randomly
17. In permanent waving, most of the processing takes place as soon as the solution penetrates the hair, within the first \_\_\_\_\_ minutes.
- a) one to two
  - b) two to three
  - c) three to four
  - d) five to ten
18. Many male clients are looking for added \_\_\_\_\_, style, and low maintenance that only a perm can provide.
- a) color
  - b) shine
  - c) fullness
  - d) length
19. Metallic salts leave a coating on the hair that may cause \_\_\_\_\_, severe discoloration, or hair breakage.
- a) mild odor
  - b) uneven curls
  - c) calcification
  - d) smooth curls
20. Neutralization rebuilds the \_\_\_\_\_ by removing the extra hydrogen bonds created by the waving solution.
- a) salt bonds
  - b) hydrogen bonds
  - c) disulfide bonds
  - d) polypeptide chains
21. Perming only a section of a whole head of hair is called \_\_\_\_\_.
- a) section perming
  - b) spotmatic perming
  - c) partial perming
  - d) limited perming
22. Some manufacturers recommend the application of a \_\_\_\_\_ after blotting and before application of the neutralizer.
- a) pre-neutralizing conditioner
  - b) pre-neutralizing shampoo
  - c) post-processing moisturizer
  - d) post-processing shampoo
23. The \_\_\_\_\_ wrap uses zigzag partings to divide base areas.
- a) curvature perm
  - b) weave technique
  - c) bricklay perm
  - d) straight perm
24. The \_\_\_\_\_ wrap creates a movement that curves within sectioned-out panels.
- a) curvature perm
  - b) bricklay perm
  - c) weave technique
  - d) straight perm



# essential review *continued*

25. The basic perm wrap is also called a \_\_\_\_\_ wrap.
- a) curvature perm
  - b) bricklay perm
  - c) weave technique
  - d) straight set
26. The chemical action of \_\_\_\_\_ breaks the disulfide bonds and softens the hair.
- a) ammonia
  - b) hydrogen peroxide
  - c) waving lotion
  - d) neutralizer
27. The chemical composition of hair consists almost entirely of a protein material called \_\_\_\_\_.
- a) polypeptides
  - b) keratin
  - c) cysteine
  - d) melanin
28. Bonds that are formed between two cysteine amino acids, located on neighboring polypeptide chains, are:
- a) salt
  - b) chemical
  - c) hydrogen
  - d) disulfide
29. The polypeptide chains of this layer of hair are connected by end bonds and cross-linked by side bonds that form the fibers and structure of hair.
- a) medulla
  - b) cuticle
  - c) cortex
  - d) follicle
30. The perm that is activated by heat created chemically within the product is known as \_\_\_\_\_.
- a) endothermic
  - b) alkaline
  - c) exothermic
  - d) sodium hydroxide
31. The action of waving lotion is to \_\_\_\_\_.
- a) discolor the hair
  - b) shrink the hair
  - c) expand the hair
  - d) condition the hair
32. The degree to which hair absorbs the waving lotion is related to its \_\_\_\_\_.
- a) texture
  - b) length
  - c) elasticity
  - d) porosity
33. The length of time required for the hair strands to absorb the waving lotion and for the hair to re-curl is called \_\_\_\_\_.
- a) application time
  - b) processing time
  - c) rinsing time
  - d) development time

# essential review *continued*

34. The main active ingredient in acid-balanced waving lotions is \_\_\_\_\_.
- a) glyceryl monothioglycolate
  - b) ammonium thioglycolate
  - c) hydrogen peroxide
  - d) sodium hydroxide
35. The main active ingredient or reducing agent in alkaline perms is \_\_\_\_\_.
- a) glycerol monothioglycolate
  - b) ammonium thioglycolate
  - c) hydrogen peroxide
  - d) sodium hydroxide
36. The \_\_\_\_\_ wrap is used to prevent noticeable splits and to blend the flow of the hair.
- a) curvature perm
  - b) bricklay perm
  - c) spiral perm
  - d) basic perm
37. The \_\_\_\_\_ wrap is done at an angle that causes the hair to spiral along the length of the tool, like the grip on a tennis racquet.
- a) spiral
  - b) croquignole
  - c) bricklay
  - d) barber pole
38. The hydrogen atoms in the disulfide bonds are so strongly attracted to the oxygen in the neutralizer that they release their bond with the sulfur atoms and join with the \_\_\_\_\_.
- a) salt bond
  - b) nitrogen
  - c) hydrogen
  - d) oxygen
39. Underprocessing is caused by \_\_\_\_\_ processing time of the waving lotion.
- a) excessive
  - b) increasing
  - c) insufficient
  - d) exact
40. Waves that process more quickly and produce firmer curls than true acid waves are considered to be \_\_\_\_\_.
- a) alkaline
  - b) acid-balanced
  - c) ammonium thioglycolate
  - d) sodium hydroxide
41. What can be used to determine the actual processing time needed to achieve optimum curl results when giving a perm for the first time on a client?
- a) patch test
  - b) strand test
  - c) porosity test
  - d) preliminary test curl
42. What type of hair is more fragile, easier to process, and more susceptible to damage from perm services?
- a) coarse texture
  - b) medium texture
  - c) non-elastic
  - d) fine texture

# essential review *continued*

- 43.** What type of hair requires more processing than medium or fine hair and may also be more resistant to processing?
- a) coarse texture  
b) medium texture  
c) non-elastic  
d) fine texture
- 44.** When the strand of hair is wrapped at an angle 45 degrees beyond perpendicular to its base section, it will result in \_\_\_\_\_.
- a) half-off base placement  
b) off-base placement  
c) on-base placement  
d) on-stem placement
- 45.** When one end paper is folded in half over the hair ends like an envelope, it is called the \_\_\_\_\_.
- a) double end paper wrap  
b) book end wrap  
c) single end paper wrap  
d) top-hand wrap
- 46.** When the strand of hair is wrapped at an angle 90 degrees (perpendicular) to its base section, it will result in:
- a) half-off base placement  
b) off-base placement  
c) on-base placement  
d) on-stem placement
- 47.** When performing a procedure for a preliminary test curl, wrap one tool in each different area of the head including the top, the side, and the \_\_\_\_\_.
- a) bang  
b) temple  
c) nape  
d) occipital
- 48.** When hair has assumed the desired shape, the broken disulfide bonds must be \_\_\_\_\_ rebonded.
- a) chemically  
b) physically  
c) temporarily  
d) semi-permanently
- 49.** When you place one end wrap on top of the hair strand and hold it flat, it is called the \_\_\_\_\_.
- a) double flat wrap  
b) bookend wrap  
c) single flat wrap  
d) top-hand wrap
- 50.** A hair relaxing treatment should be avoided when an examination shows the presence of \_\_\_\_\_.
- a) scalp abrasions  
b) strong curl  
c) excessive oils  
d) pityriasis steatoides

# essential review *continued*

51. After saturating the rods with neutralizer in a soft curl permanent, the next step is to \_\_\_\_\_.
- a) rinse with hot water
  - b) remove rods carefully
  - c) completely dry hair
  - d) apply protective base
52. After the hair has been processed with a sodium hydroxide relaxer and before the shampoo, the hair should be thoroughly:
- a) oiled
  - b) rinsed
  - c) dried
  - d) conditioned
53. Before giving a relaxing treatment to overly curly hair, the cosmetologist must judge its texture, porosity and \_\_\_\_\_.
- a) length and elasticity
  - b) elasticity and silkiness
  - c) elasticity and extent of damage, if any
  - d) softness and extent of damage, if any
54. If using a "no base" relaxer, it is recommended that a protective cream be applied \_\_\_\_\_.
- a) at the nape of the neck
  - b) over the ear lobes
  - c) at the frontal hairline
  - d) on the hairline and around the ears
55. Inspecting the action of the relaxer by stretching the strands to see how fast the natural curls are being removed is called \_\_\_\_\_.
- a) periodic patch testing
  - b) periodic relaxer testing
  - c) periodic strand testing
  - d) periodic elasticity testing
56. Of the general types of hair relaxers, which one does not require pre-shampooing?
- a) sodium hydroxide
  - b) sodium thioglycolate
  - c) ammonium thioglycolate
  - d) acid-based relaxers
57. One safety precaution for hair relaxing is to avoid \_\_\_\_\_ the scalp with the comb or fingernails.
- a) massaging
  - b) scratching
  - c) smoothing
  - d) stimulating
58. Relaxers which are ionic compounds formed by a metal which is combined with oxygen and hydrogen are known as \_\_\_\_\_.
- a) guanidine hydroxide relaxers
  - b) metal hydroxide relaxers
  - c) low-pH relaxers
  - d) no-base relaxers

# essential review *continued*

59. Sodium hydroxide relaxers are commonly called \_\_\_\_\_.
- a) guanidine hydroxide relaxers
  - b) low pH relaxers
  - c) lithium hydroxide relaxers
  - d) lye relaxers
60. The action of a sodium hydroxide relaxer causes the hair to \_\_\_\_\_.
- a) soften and swell
  - b) soften and shrink
  - c) expand and harden
  - d) harden and set
61. The process of breaking the hair's disulfide bonds during processing and converting them to lanthionine bonds when the relaxer is rinsed from the hair is known as \_\_\_\_\_.
- a) lanolination
  - b) lanthionization
  - c) neutralization
  - d) normalization
62. The scalp and skin are protected from possible burns when using a hair relaxer by applying \_\_\_\_\_.
- a) cotton
  - b) stabilizer
  - c) base
  - d) shampoo
63. The processing time of a chemical relaxer is affected by \_\_\_\_\_.
- a) styling products used
  - b) the client's age
  - c) the hair's porosity
  - d) the brand of relaxer
64. The relaxer cream is applied near the scalp last because processing is accelerated in this area by \_\_\_\_\_.
- a) body heat
  - b) application speed
  - c) body perspiration
  - d) sebaceous glands
65. The chemical required to stop the action of the chemical relaxer is \_\_\_\_\_.
- a) petroleum cream
  - b) neutralizer
  - c) conditioner
  - d) waving lotion
66. The best type of shampoo to use after the chemical relaxer is \_\_\_\_\_.
- a) an organic shampoo
  - b) an antibacterial shampoo
  - c) a neutralizing shampoo
  - d) a dry shampoo
67. The strength of a relaxer is determined by the strand test. General guidelines suggest that, for coarse virgin hair, the following strength is used.
- a) extra mild
  - b) regular
  - c) mild
  - d) strong or super



# essential review *continued*

- 68.** The strength of a relaxer is determined by the strand test. General guidelines suggest that for fine, tinted, or lightened hair, the following strength is used.
- a) extra mild
  - b) regular
  - c) mild
  - d) strong or super
- 69.** The process of permanently rearranging the basic structure of overly curly hair into a straight form is called \_\_\_\_\_.
- a) thermal straightening
  - b) chemical hair relaxing
  - c) permanent waving
  - d) chemical hair softening
- 70.** The combination of a thio relaxer and a thio permanent wrapped on large tools is called a \_\_\_\_\_.
- a) soft curl permanent
  - b) thioglycolate reconstructor
  - c) relaxer curl permanent
  - d) hard curl permanent
- 71.** The most commonly used methods of hair relaxing are the sodium hydroxide method and the \_\_\_\_\_ method.
- a) thermal
  - b) thio
  - c) ammonia
  - d) peroxide
- 72.** To check relaxer processing, smooth and press a strand to the scalp using the back of the comb or your finger. If curl returns, \_\_\_\_\_.
- a) rinse immediately
  - b) add neutralizer
  - c) continue processing
  - d) add conditioner
- 73.** What is used to restore the hair and scalp to their normal acidic pH?
- a) cream conditioner
  - b) medicated shampoo
  - c) conditioning filler
  - d) normalizing lotion
- 74.** What stops the action of any chemical relaxer that may remain in the hair after rinsing?
- a) softener
  - b) breakdown cream
  - c) swelling compound
  - d) neutralizer
- 75.** What are the two types of formulas for sodium hydroxide chemical hair relaxers?
- a) base and no base
  - b) lye and no lye
  - c) stabilizer and no stabilizer
  - d) cream and no cream
- 76.** What is one safety precaution that must be followed with all chemical hair relaxing services?
- a) shampooing the client's hair
  - b) pre-conditioning the hair
  - c) advising the client regarding processing time
  - d) wearing protective gloves



# essential review *continued*

- 77.** What are the three basic steps used in chemical hair relaxing?
- a) wrapping, application, rinsing
  - b) processing, neutralizing, conditioning
  - c) shampooing, application, conditioning
  - d) processing, neutralizing, stabilizing
- 78.** When applying sodium hydroxide relaxer, the processing cream is applied last to the \_\_\_\_\_ and \_\_\_\_\_.
- a) scalp area, middle of hair shaft
  - b) scalp area, hair ends
  - c) middle of hair shaft, hair ends
  - d) nape area, hair ends
- 79.** When performing a sodium hydroxide retouch, where is the product applied first?
- a) to the hair ends
  - b) to the new growth only
  - c) to the middle of the hair shaft
  - d) to the scalp area only
- 80.** When using the comb method of application, how is the relaxing cream applied?
- a) with the back of the comb
  - b) with the fingers
  - c) with the applicator brush
  - d) with the teeth of the comb
- 81.** When processing is complete for a soft curl permanent, what is done after rinsing the hair thoroughly with warm water?
- a) each curl is blotted with a towel
  - b) conditioner is applied
  - c) client is placed under a dryer
  - d) test curl is taken
- 82.** When hair has been sufficiently straightened, the hair is rinsed rapidly and thoroughly with \_\_\_\_\_ water.
- a) hot
  - b) cold
  - c) cool
  - d) warm

## Terms for Perms and Relaxers

1. Acid balanced waves-
2. Alkaline waves-
3. Ammonia free waves-
4. Ammonium thioglycolate-
5. base cream-
6. base control-
7. base direction-
8. base relaxers-
9. base sections-
10. bookend wrap-
11. chemical hair relaxing-

12. chemical texture services-
13. disulfide bonds-
14. endothermic waves-
15. exothermic waves-
16. glyceryl monothioglycolate-
17. hydrogen bonds-
18. hydroxide relaxers-
19. lantionization-
20. low pH waves-
21. metal hydroxide relaxers-
22. neutralization-
23. normalizing solutions-