Chapter 19: Television

MULTIPLE CHOICE

1. NTSC stands for:
   a. National Television Systems Commission
   b. National Television Systems Committee
   c. National Television Systems Council
   d. Nippon Television Systems Commission

   ANS: B

2. The NTSC specification was drawn up by the:
   a. FCC        c. EIA
   b. IRE        d. IEEE

   ANS: C

3. RGB stands for:
   b. Red-Green Brightness d. Red-Green-Blue

   ANS: D

4. The number of scan lines in an NTSC signal is:
   a. 525          c. 1024
   b. 625          d. 1250

   ANS: A

5. The number of NTSC frames sent per second is:
   a. 25          c. 50
   b. 30          d. 60

   ANS: B

6. The number of NTSC fields sent per second is:
   a. 25          c. 50
   b. 30          d. 60

   ANS: D

7. The aspect ratio of a standard TV receiver is:
   a. 3 : 4        c. 525 : 625
   b. 4 : 3        d. 625 : 525

   ANS: B

8. Luminance refers to:
   a. brightness c. chroma
   b. contrast d. raster
ANS: A

9. Luminance is measured in:
   a. foot-candles       c. IRE units
   b. lumins             d. NTSC units

ANS: C

10. The maximum luminance level is called:
    a. max white           c. all white
    b. peak white          d. whiter than white

ANS: B

11. The blanking level corresponds to a luminance of:
    a. white               c. whiter than white
    b. black               d. blacker than black

ANS: B

12. The sync pulse level corresponds to a luminance of:
    a. white               c. whiter than white
    b. black               d. blacker than black

ANS: D

13. The vertical blanking pulse is serrated to:
    a. maintain horizontal sync       c. equalize the DC level
    b. maintain vertical sync          d. all of the above

ANS: A

14. When measured in lines, horizontal resolution:
    a. is greater than vertical resolution
    b. is about the same as vertical resolution
    c. is less than vertical resolution
    d. horizontal resolution is not measured in lines

ANS: B

15. The smallest picture element is called a:
    a. dot                  c. pixel
    b. pic                  d. none of the above

ANS: C

16. In a color TV receiver, Y I Q refers to:
    a. luminance signal, in-phase color component, quadrature phase color component
    b. composite color signal, in-phase color component, quadrature phase color component
    c. composite video signal, in-phase video component, quadrature video color component
    d. a method of demodulating stereo sound

ANS: A
17. Compared to the luminance signal, the horizontal resolution for color is:
   a. much greater
   b. about the same
   c. much less
   d. resolution does not apply to color

   ANS: C

18. The modulation used for the video signal in a standard NTSC color TV receiver is:
   a. SSB
   b. vestigial sideband AM
   c. suppressed-carrier AM
   d. FM

   ANS: B

19. The modulation used for the audio signal in a standard NTSC color TV receiver is:
   a. SSB
   b. vestigial sideband AM
   c. suppressed-carrier AM
   d. FM

   ANS: D

20. The modulation used for the chroma signal in a standard NTSC color TV receiver is:
   a. SSB
   b. vestigial sideband AM
   c. suppressed-carrier AM
   d. FM

   ANS: C

21. The function of the "color burst" is to:
   a. detect the presence of a color video signal
   b. regenerate the color sub-carrier
   c. to synchronize the color demodulation line by line
   d. all of the above

   ANS: D

22. SAP stands for:
   a. separate audio program
   b. separate audio pulse
   c. sync amplitude pulse
   d. sync audio pulse

   ANS: A

23. The horizontal output transformer is also called:
   a. the isolation transformer
   b. the video transformer
   c. the flyback transformer
   d. the yoke

   ANS: C

24. Compared to a monochrome CRT, the accelerating voltage on a color CRT is:
   a. about the same
   b. much higher
   c. much lower
   d. color CRTs use magnetic acceleration

   ANS: B

25. Deflection in CRTs used in TV receivers is done:
   a. magnetically for both vertical and horizontal
   b. electrostatically for both vertical and horizontal
   c. electrostatically for vertical and magnetically for horizontal

   ANS: C
d. magnetically for vertical and electrostatically for horizontal

ANS: A

26. AFPC stands for:
   a. allowed full picture chroma
   b. automatic frequency and phase control
   c. automatic frequency and picture control
   d. none of the above

ANS: B

COMPLETION

1. _____________ is a conductive coating on both the inside and outside of the CRT in a TV.

   ANS: Aquadag

2. The _____________ standard for TV has been in use since 1953.

   ANS: NTSC

3. Video systems form pictures by a _________________ process.

   ANS: scanning

4. During the horizontal blanking interval, the electron beam _________________ from right to left.

   ANS: retraces

5. The NTSC specifies a _________________ video signal.

   ANS: composite

6. The _________________ ratio of a CRT screen is the ratio of width to height.

   ANS: aspect

7. Brightness information is called _________________.

   ANS: luma
   luminance

8. Color information is called _________________.

   ANS: chroma
   chrominance

9. The blanking period before the sync pulse is called the front _________________.

   ANS: porch
10. Odd and even fields are identified by the ________________ of the vertical sync pulse.
   
   ANS: position

11. Each horizontal scan line takes ________________ microseconds, not including blanking.
   
   ANS: 62.5

12. Horizontal blanking lasts ________________ microseconds.
   
   ANS: 10

13. Vertical blanking lasts about ________________ milliseconds.
   
   ANS: 1.3

14. Picture elements are called ________________.
   
   ANS: pixels

15. The maximum number of scan lines under NTSC is ________________.
   
   ANS: 525

16. The human eye is most sensitive to the color ________________.
   
   ANS: green

17. The color sub-carrier frequency is approximately ________________ MHz.
   
   ANS: 3.58

18. SAP stands for ________________ audio program.
   
   ANS: separate

19. The second anode of a CRT is often called the ________________.
   
   ANS: utor

20. The accelerating voltage for a color CRT is about ________________ kV.
   
   ANS: 20 to 30

21. The inside of a CRT's face-plate is coated with ________________ to generate the picture.
   
   ANS: phosphor

22. The horizontal output transformer is called the ________________ transformer.
23. A good way to separate luma from chroma is to use a ________________ filter.
   ANS:  comb

24. The color ________________ turns off the color circuitry when a color TV is receiving a monochrome signal.
   ANS:  killer

25. Signal levels in cable TV systems are usually measured in ________________.
   ANS:  dBmV

26. The antenna for a CATV system is located at the ________________ end.
   ANS:  head

27. A ________________ shows a color-bar signal with predetermined levels and phases.
   ANS:  vectorscope

28. Color intensity is called ________________.
   ANS:  saturation

29. The ________________ of the chroma signal represents the color hue.
   ANS:  phase

30. The ________________ controls in a color TV adjust the electron beams to strike the correct color phosphor dots.
   ANS:  purity

31. The ________________ controls in a color TV adjust the electron beams to strike the correct triad of phosphor dots.
   ANS:  convergence