

Questions

- 1- Which of the following is the television broadcast standard for the United States and Japan?
A. NTSC
B. PAL
C. SECAM
- 2- Which of the following is the television broadcast standard for most of the Asian countries?
A. NTSC
B. PAL
C. SECAM
- 3- Which of the following is the most common color model for video?
A. RGB
B. HSV
C. CIE XYZ
D. luminance-chrominance
- 4- In the YUV color model, the Y-component is _____, the U-component is _____, and the V-component is _____.
A. luminance; luminance; chrominance
B. luminance; chrominance; luminance
C. luminance; chrominance; chrominance
D. chrominance; chrominance; luminance
E. chrominance; luminance; luminance
- 5- The frame rate for the NTSC system is _____ fps.
A. 24
B. 25
C. 30
- 6- The frame rate for the PAL system is _____ fps.
A. 24
B. 25
C. 28.9
D. 30
- 7- Interlaced scan displays the frame by scanning the lines of a frame _____.
A. in one pass from top to bottom
B. in two passes: even-numbered lines in one pass and odd-numbered lines in the second

- 8- Progressive scan displays the frame by scanning the lines of a frame _____.
A. in one pass from top to bottom
B. in two passes: even-numbered lines in one pass and odd-numbered lines in the second
- 9- True/**False**: There is no sampling and quantization involved in capturing motion in digital video.
- 10- The frame size of a video refers to the video's _____.
A. aspect ratio
B. pixel aspect ratio
C. resolution
D. ppi
- 11- True/**False**: The pixel per inch (ppi) is an important attribute for video resolution and should be set correctly when working with digital video in video editing programs.
- 12- Pixel aspect ratio means _____.
A. the ratio of a frame's width (in pixels) to its height (in pixels)
B. the ratio of a frame's height (in pixels) to its width (in pixels)
C. the ratio of a pixel's width to its height
D. the ratio of a pixel's height to its width
- 13- The **pixel aspect ratio** of a wide-screen-format, standard-definition video is _____.
A. 4:3
B. 16:9
C. 1.0
D. 0.9
E. 1.2
- 14- The **pixel aspect ratio** of a standard-format, standard-definition video is _____.
A. 4:3
B. 16:9
C. 1.0
D. 0.9
E. 1.2

15- The frame aspect ratio of a standard-format, standard-definition video is

A. 4:3

B. 16:9

C. 1.0

D. 0.9

E. 1.2

16- The frame aspect ratio of a high-definition video is _____.

A. 4:3

B. 16:9

C. 1.0

D. 0.9

E. 1.2

17- If a frame with a pixel aspect ratio of 1.2 is displayed on a device using a pixel aspect ratio of 1.0, the image will be _____.

A. stretched horizontally

B. stretched vertically

C. cropped at the left and right edges

D. cropped at the top and bottom

E. displayed correctly

18- Chroma subsampling reduces the storage of pixel information by assigning fewer bits to store the _____ components.

A. RGB

B. luminance

C. chrominance

19- The format of chroma subsampling is designated with three numbers separated by colons (for example, 4:2:2) to represent _____.

A. the ratio of red:green:blue

B. the ratio of the luminance to the two chrominance components

C. the ratio of the number of three different types of pixels

D. hours:minutes:seconds

E. the ratio of the number of three different types of frames in a GOP

20- The numbers 720 and 1080 in the high-definition video picture format notations such as **720**/30p and **1080**/60i designate the _____.

A. data rate of the video

B. width (in pixels) of the frame size

C. height (in pixels) of the frame size

D. ppi of the video

E. none of the above; they are model numbers of different companies

21- The letters "p" and "i" in the high-definition video picture format notations such as 720/30**p** and 1080/60**i** stand for _____ and _____ , respectively.

A. pixels; inches

B. professional; intermediate

C. progressive; interlaced

D. pixels per inch; inches per pixel

22- **True/False:** A very long video, even with low data rate, can have a large file size.

23- _____ compression refers to the type of compression method that aims at compacting individual frames.

A. Asymmetric

B. Lossless

C. Lossy

D. Spatial

E. Temporal

24- _____ compression refers to the type of compression method that exploits the similarity of the subsequent frame content.

A. Asymmetric

B. Lossless

C. Lossy

D. Spatial

E. Temporal

25- _____ compression refers to the type of compression method that preserves the original data.

A. Asymmetric

B. Lossless

C. Lossy

D. Spatial

26- _____ compression refers to the type of compression method that discards or alters some of the original data.

A. Asymmetric

B. Lossless

C. Lossy

D. Spatial

E. Temporal

- 27- Which of the following compression methods achieves higher compression for videos without much motion difference, such as for talking heads?
- A. spatial compression
 - B. temporal compression**
 - C. lossless compression
 - D. asymmetric compression
- 28- Motion compensation is a key technique in _____ compression.
- A. asymmetric
 - B. lossless
 - C. lossy
 - D. spatial
 - E. temporal**
- 29- Which of the following types of video can be compressed the most with temporal compression?
- A. fast action
 - B. slow, continuous motion**
- 30- True/**False**: The MP3 audio is a MPEG-3.
- 31- What kind of images are GIF files most appropriate for?
- A. images with big areas of solid color**
 - B. continuous-tone photographs
 - C. images with lots of gradients
- 32- What kind of images are JPEG files most appropriate for?
- A. images with big areas of solid colors
 - B. continuous-tone photographs
 - C. images with lots of gradients
 - D. both B,C**
- 33- Which file format(s) can have transparency? (choose two)
- a JPEG
 - b PNG
 - c GIF
 - d a,b**
 - All of them
- 34- Which of the following is not the same as the others?
- | | |
|-----------------------------|-----------------------------------|
| 1. Image sampling frequency | <u>2. Image brightness</u> |
| 3. Image dimension | 4. Image sampling rate |
| 5. Image resolution | |

35- Which is not the consequences of higher image resolution?

1. bigger file size
- 2. bigger bit depth**
3. more samples
4. more image details
5. none of the above

36- Which of the following is not a consequence of image quantization?

1. Sampling rate is reduced

2. the number of allowed colors in the image is reduced
3. loss of the image fidelity and details
4. The details that rely on the subtle color differences are lost during quantization

37- In the quantization step, to capture an analog image to a digital image, ____.

1. a 2-dimensional grid is applied on the image and each tiny cell on the grid is converted into a pixel;
- 2. an infinite number of color shades and tones in an analog image is mapped to a set of discrete color values**
3. a 2-dimensional grid is applied on the image to apply dithering to the image
4. the resulting digital image file is compressed to have a smaller file size

38- A digital image captured at a higher resolution ____.

- 1. captures more details than the same image stored at a lower resolution**
2. has a smaller file size than the same image stored at a lower resolution
3. has greater bit depth than the same image stored at a lower resolution
4. represents more colors than the same image stored at a lower resolution

39- If a digital image has a higher bit depth, ____ than it would have been at a lower bit depth.

1. it has larger image resolution
- 2. it has more different colors**
3. a higher sampling rate is used
4. it has larger pixel dimensions

40- Rasterization means ____.

- 1. converting vector graphics into pixel-based images**
2. converting lines into regions
3. converting regions into lines
4. converting pixel-based images into vector graphics

41- Vector graphics are composed of ____.

1. individual pixels which represent spatial samples of the image or scene
2. **mathematical descriptions of image elements which include points, lines, curves, and figures**
3. both of the above
4. none of the above

42- Which of the following is not one of the main advantages of vector graphics over bitmapped images?

1. more compact file size
2. **ease of editing the image content pixel by pixel**
3. resolution independence
4. Scalability

43- Sometimes when you magnify a picture on your computer screen, lines that should be straight lines appear to be jagged. This effect is called _____

1. indexing
2. anti-aliasing
3. dithering
4. **Aliasing**

44- Without applying any compression, what would be the file size for an image of 4000 X 3000 pixels in 24-bit color depth? Choose the closest one.

- | | |
|-----------------------|---------|
| 1. 12MB | 2. 24MB |
| 3. <u>36MB</u> | 5. 18MB |
| 4. 48MB | |

45- Which of the following images is better saved with a bit depth of 24?

1. **a picture taken by a camera**
2. a logo designed for a company
3. a cartoon image drawn by an artist
4. a poster that contains only a few colors

46- Which of the following is **not a lossless** compression method?

1. PNG
2. PSD
3. GIF
4. **JPEG**
5. TIFF

47- Which of the following should not be used as working files for further editing?

- | | |
|-----------------------|---------|
| 1. PNG | 2. TIFF |
| 3. PSD | 4. BMP |
| 5. <u>JPEG</u> | |

48- how does the file size change if the total number of pixels of an image is doubled?

1. decreased by half

2. doubled

3. tripled

4. no change

49- how does the file size change if the number of pixels of both the width and height of an image is doubled?

1. tripled

2. eight times

3. no change

4. four times

5. Doubled

50- how does the file size change if the bit depth of an image is increased from 8-bit to 16-bit?

1. tripled

2. doubled

3. no change

4. four times

51- Which of the following file extensions indicates pixel-based files?

1. TXT

2. DOC

3. EPS

4. PNG

52- Which file extension indicates vector graphic files?

1. BMP

2. TIFF

3. GIF

4. EPS

53- Which of the following is the red color in RGB model?

1. (0,0,255)

2. (0,0,0)

3. (0,255,0)

4. (255,0,0)

5. (255,255,255)

54- In RGB model, what would you get if the color Red is mixed with Cyan?

1. Red
2. Cyan
3. Black
- 4. White**
5. Yellow

55- In RGB color model, what color would it be if the color Red is mixed with Yellow?

1. White
2. Cyan
3. Black
4. Red
- 5. Yellow**

56- In RGB color model, what color would it be if the color Magenta is mixed with Black?

1. Blue
2. Magenta
3. Cyan
- 4. Black**
5. White

57- What color would it be if the color Yellow is mixed with White in RGB model?

1. Yellow
2. dark yellow
3. pink
- 4. White**
5. light yellow

58- In RGB model, what would it be if white is mixed with black?

1. dark gray
2. gray
3. light gray
- 4. white**
5. Black

59- In CMYK color model, what color would it be if Red is mixed with Blue and Green?

1. Cyan
2. Yellow
3. White
4. Magenta
- 5. Black**

60- In CMYK color model, what color would it be if Black is mixed with White?

1. White
2. Light Gray
- 3. Black**
4. Gray
5. Dark Gray

61- Which one of the following color models takes the form of a hexacone?

1. CIE XYZ
2. CMY
- 3. HSV**
4. RGB

62- Which of the primaries in the HSB color model takes the form of a color wheel?

- 1. Hue**
2. Saturation
3. Darkness
4. Brightness

63- Which of the following color model uses subtractive color mixing method?

1. RGB
- 2. CMY**
3. HSB
4. CIE XYZ

64- What are the CMY values for white?

- 1. (0%, 0%, 0%)**
2. (100%, 100%, 100%)
3. (255,255,255)
4. None of the above

65- What are the CMY values for red?

- 1. (0%, 100%, 100%)**
2. (100%, 0%, 100%)
3. (100%, 100%, 0%)
4. (100%, 0%, 0%)
5. None of the above

66- Scanning and digital photography are two methods you can capture digital images. **True** or False

67- Letter K stands for Black in CMYK color model. **True** or False

- 68- What kind of images are GIF files most appropriate for?
- a. Print Graphics
 - b. Image with rich colors
 - c. Clips Art & Logo**
 - d. All of the above
- 69- What kind of images are JPEG files most appropriate for?
- a. Print Graphics
 - b. Clips Art & Logo
 - c. Web Graphics**
 - d. All of the above
- 70- Which file format(s) can be created as an animated sequence?
- a. JPEG
 - b. PNG
 - c. GIF**
 - d. TIFF
- 71- Which of the following image file format uses lossy compression?
- a. JPEG**
 - b. PNG
 - c. PSD
 - d. TIFF
- 72- Which of the following is not static image?
- a. JPEG
 - b. PNG
 - c. BMP
 - d. GIF**
- 73- Digital data is _____ and analog information is _____.
- A. continuous; discrete
 - B. discrete; continuous**
- 74- The process of converting from analog to digital information is a two step processes - sampling and quantizing. In converting an analog image to a digital image, the sampling rate affects _____.
- A. the bit depth of the resulting digital image
 - B. the pixel dimensions of the resulting digital image**
- 75- The process of converting from analog to digital information is a two step processes - sampling and quantizing. In the quantization step, to convert an analog image to a digital image, _____.
- A. a two-dimensional grid is applied on the image and each tiny cell of the grid is converted into a pixel

B. a two-dimensional grid is applied on the image to apply dithering to the image

C. An infinite number of color shades and tones in an analog image is mapped to a finite set of discrete color values.

D. The resulting digital image file is compressed to have a smaller file size

76- Which of the following color models takes the form of a color cube?

A. RGB

B. CMY

C. HSB

D. CIE XYZ

77- Television screens use a process of building a single frame from two fields to help prevent flicker on TV screens is a technique called _____

Interlacing

78- A single frame of video is made up of two fields _____ fields

Interlaced

79- Computer monitors draw the lines of an entire frame in a single pass; this technique is called? ... **Progressive-Scan**

80- A video signal transmitted with all the signals mixed together & carried on single cabled is called? **Composite Video**

81- allows an end user to control what elements are delivered and when is
interactive multimedia

82- a structure of linked elements through which the user can navigate is
hypermedia

83- To prevent flickering, on screen text should use lines that are one pixel wide ...
True or **False**:- (be thicker than one pixel)

84- **True** or False: Component video provides superior quality to composite video because the video signal is broken into three distinct channels

85- For a color image, a bit depth of 4 allows _____ different colors. **(16)**

For the 24bit color depth, what are the RGB values for:

White	White 255, 255, 255
Black	Black 0, 0, 0
Red	Red 225, 0, 0
Green	Green 0, 225, 0
Blue	Blue 0, 0, 225
Cyan	Cyan 0, 225, 225
Magenta	Magenta 225, 0, 225
Yellow	Yellow 225, 225, 0

What are the theoretical CMY color values for

White	White 0%, 0%, 0%
Black	Black 100% 100% 100%
Red	Red 0% 100% 100%
Green	Green 100% 0% 100%
Blue	Blue 100% 100% 0%
Cyan	Cyan 100% 0% 0%
Magenta	Magenta 0% 0% 100%
Yellow	Yellow 0% 100% 0%

Suppose that you scan a 3-inch x 5-inch photograph in at a resolution of 300 dpi.

1. What are the pixel dimensions of the scanned image?
900 pixels , 1500 pixels
2. What will the physical dimensions of the image be if you print it at 300 ppi, without changing the image's pixel dimensions?
3 inches 5 inches
3. What will the physical dimensions of the image be if you print it at 600 ppi, without altering the image's pixel dimensions?
1.5 inches 2.5 inches
4. What will the physical dimensions of the image be if you print it at 150 ppi, without altering the image's pixel dimensions?
6 inches 10 inches