

Contestant Number: _____

Time: _____

Rank: _____



Digital Communication and Design Concepts (490)

STATE 2025

CONCEPT KNOWLEDGE:

Multiple Choice (50 @ 2 points each)

_____ (100 points)

Test Time: 60 minutes

Multiple Choice Questions

Directions: Identify the letter of the choice that best completes the statement or answers the question.

1. In user interface design, what principle does the acronym "FITT" stand for, focusing on ease of interaction?
 - A. Frequency, Intensity, Time, Type
 - B. Fast, Intuitive, Timely, Transparent
 - C. Focus, Interest, Texture, Tone
 - D. Form, Interactivity, Tactility, Transparency
2. How is the CMYK color model best described in its application?
 - A. Ideal for outdoor painting.
 - B. Used exclusively for digital screens.
 - C. Preferred for full-color 3D printing.
 - D. Primarily used in color printing processes.
3. What role does the principle of "contrast" play in the legibility of text on a website?
 - A. It determines the font family.
 - B. It affects how quickly the text can be read by varying the background and text color.
 - C. It specifies the text alignment.
 - D. It sets the default language of the text.
4. When optimizing images for web use, why is the choice between JPEG and PNG formats important?
 - A. JPEG is better for text-heavy images, while PNG is for color-heavy images.
 - B. JPEG offers lossy compression; PNG offers lossless compression.
 - C. PNG files are always smaller than JPEG files.
 - D. JPEG is used only for black and white images.
5. In web development, what is the purpose of minifying CSS and JavaScript files?
 - A. To enhance the security of the website by obscuring code.
 - B. To improve load times by reducing file size.
 - C. To increase the number of files for better organization.
 - D. To comply with web standards and regulations.
6. What is the primary function of the z-index property in CSS?
 - A. To adjust the opacity of elements.
 - B. To set the horizontal alignment of elements.
 - C. To control the stacking order of elements positioned non-statically.
 - D. To manage the zoom level of elements.

7. In the principle of design, what does "alignment" help achieve on a web page?
 - A. A chaotic layout to attract attention.
 - B. An organized and unified structure.
 - C. A flexible layout for different screen sizes.
 - D. An abstract design to stimulate curiosity.
8. What is the significance of using @font-face in web design?
 - A. It allows the use of custom fonts that are not installed on the user's system.
 - B. It automatically adjusts font size based on the device.
 - C. It creates a default font family for websites.
 - D. It enhances font colors for better visibility.
9. In digital graphics, what advantage does the use of layers in software like Adobe Photoshop offer?
 - A. They allow editing parts of an image separately without affecting the whole.
 - B. They reduce the overall file size.
 - C. They automatically enhance image quality.
 - D. They convert raster images to vector format.
10. For search engine optimization (SEO) of images on a webpage, which attribute is crucial?
 - A. The class attribute.
 - B. The id attribute.
 - C. The alt attribute, providing text alternative for search engines.
 - D. The srcset attribute, defining the path to the image.
11. What technique in CSS is used to create layouts with flexible box sizes that adjust to the screen size?
 - A. Flexbox
 - B. Grid
 - C. Media Queries
 - D. Floats
12. In web typography, how does setting the font-display property to swap benefit the user experience?
 - A. It prioritizes content loading before fonts, preventing text invisible during loading.
 - B. It forces the browser to use a system font until the custom font has loaded.
 - C. It disables custom fonts on mobile devices for faster loading.
 - D. It enhances the resolution of fonts on high-density displays.
13. For digital images, what is the primary difference between the RGB and CMYK color models?
 - A. RGB is for digital displays, while CMYK is for physical print.
 - B. RGB uses hexadecimal values, whereas CMYK uses percentage values.
 - C. CMYK offers a wider color range than RGB.
 - D. RGB images are always larger in file size than CMYK images.

14. In Adobe Illustrator, which tool or feature allows for the editing of individual paths and anchor points?
- A. Brush Tool
 - B. Magic Wand Tool
 - C. Direct Selection Tool
 - D. Pencil Tool
15. What is the primary function of the alt attribute in web development?
- A. To provide a backup source for media files.
 - B. To display a tooltip when hovering over an element.
 - C. To specify alternative text for an image if it cannot be displayed.
 - D. To define alternate styles for an element.
16. When optimizing a website's performance, what does "lazy loading" refer to?
- A. Preloading all images on the website to reduce wait times.
 - B. Loading only the content that is visible in the viewport, with the rest loading on demand.
 - C. Storing images in a local cache to speed up future visits.
 - D. Delaying the loading of JavaScript files until after the page has rendered.
17. In terms of website accessibility, what role does the ARIA (Accessible Rich Internet Applications) specification play?
- A. It defines a way to make web content and web applications more accessible to blind users.
 - B. It provides guidelines for responsive web design.
 - C. It specifies how to create accessible video content.
 - D. It is a protocol for encrypting web traffic to improve security for users with disabilities.
18. What file format is typically preferred for animated graphics on the web?
- A. JPEG
 - B. SVG
 - C. PNG
 - D. GIF
19. How does the viewport meta tag improve the mobile web browsing experience?
- A. By locking the device orientation to portrait.
 - B. By defining the width and scale of the viewport to match the device's width.
 - C. By disabling, zooming on mobile devices.
 - D. By automatically resizing images to fit the screen.

20. What is the main advantage of using SVG (Scalable Vector Graphics) for logos and icons on websites?
- A. Smaller file sizes compared to raster images.
 - B. They can be animated with CSS.
 - C. Resolution independence, looking sharp at any size or zoom level.
 - D. They support transparency.
21. In graphic design software, what is the benefit of working with layers?
- A. Reducing the file size of projects.
 - B. Applying effects to multiple elements simultaneously without permanently altering them.
 - C. Organizing elements to simplify editing and revisions.
 - D. Automatically enhancing the resolution of imported images.
22. How do CSS sprites improve website performance?
- A. By combining multiple images into one larger image to reduce HTTP requests.
 - B. By reducing the size of CSS files through compression.
 - C. By automatically optimizing image resolution for web use.
 - D. By encrypting images to enhance security.
23. What is the purpose of the rel="noopener" attribute in anchor tags (<a>) linking to external websites?
- A. To prevent browser hijacking via the window.opener object.
 - B. To open the linked document in a new window or tab.
 - C. To improve the SEO ranking of the linked document.
 - D. To verify the authenticity of the linked URL.
24. In web design, what is the importance of the focus state in CSS for interactive elements?
- A. It controls the element's visibility to the user.
 - B. It indicates an element is being interacted with, typically through keyboard navigation.
 - C. It applies a background animation to the element.
 - D. It automatically adjusts the element's size based on user interaction.
25. What principle does the use of whitespace (or negative space) in design primarily serve?
- A. To increase webpage loading times.
 - B. To reduce the overall amount of text on a page.
 - C. To create a visual hierarchy and improve readability and focus.
 - D. To make the design more colorful and vibrant.

26. In SEO optimization, how does the meta description tag affect a webpage's search engine performance?
- A. It increases the keyword density for better indexing.
 - B. It has no effect on ranking but can improve click-through rates from search engine results.
 - C. It directly improves the page's ranking on search engines.
 - D. It decreases the site's loading time, indirectly affecting SEO.
27. When using CSS flexbox, what does the justify-content property adjust?
- A. The alignment of items on the main axis (horizontal or vertical, depending on flex-direction).
 - B. The padding around flex items.
 - C. The border color of flex items.
 - D. The background color of the entire flex container.
28. For high-dpi screens, why is it important to provide images in multiple resolutions?
- A. To ensure images display at the correct size and clarity across all devices.
 - B. To make the website compatible with older browsers.
 - C. To reduce the amount of data the server needs to transmit.
 - D. To comply with international web standards.
29. In the use of color in UI/UX design, what is the primary consideration for accessibility?
- A. Choosing colors that convey information clearly to all users, including those with color vision deficiencies.
 - B. Maximizing contrast for aesthetic appeal.
 - C. Using as many colors as possible to differentiate elements.
 - D. Avoiding the use of color altogether to simplify the design.
30. What technique is used in responsive web design to serve different images based on the screen size?
- A. CSS media queries to select images based on viewport width.
 - B. Using JavaScript to detect the screen size and load images accordingly.
 - C. Setting all images to a maximum width of 100%.
 - D. Placing all images in SVG format to ensure scalability.
31. In CSS, what is the purpose of the box-shadow property?
- A. To create a border around an element.
 - B. To generate a background pattern.
 - C. To add a shadow effect around or inside an element.
 - D. To adjust the opacity of an element.

32. What advantage does asynchronous JavaScript provide in web development?
- A. Faster server response times.
 - B. The ability to load web page elements in parallel, without blocking the execution of other scripts.
 - C. Increased security for data transmission.
 - D. Enhanced compatibility with older web browsers.
33. Which attribute is necessary in an <iframe> tag to enhance website security by preventing clickjacking attacks?
- A. sandbox
 - B. secure
 - C. frameborder
 - D. protection
34. In digital marketing, what role does A/B testing play in website design?
- A. To compare two versions of a web page to see which performs better in terms of user engagement.
 - B. To test the compatibility of a website across different browsers.
 - C. To check the website's loading speed.
 - D. To ensure the security of user data on the website.
35. For 3D modeling and animation, which file format is widely used due to its support for complex animations and extensibility?
- A. .OBJ
 - B. .SVG
 - C. .FBX
 - D. .PNG
36. What is the primary function of the nofollow attribute in a hyperlink?
- A. To prevent search engines from following the link for indexing.
 - B. To disable the link.
 - C. To remove the hyperlink from the document structure.
 - D. To open the linked document in a new browser window.
37. How does the use of CDN (Content Delivery Network) improve website performance?
- A. By distributing static content from servers closer to the user's location.
 - B. By compressing website content.
 - C. By increasing the website's security.
 - D. By reducing the number of images on the website.

38. What is the primary purpose of the robots.txt file on a website?
- A. To give instructions to web crawlers about which pages or files they can or cannot crawl.
 - B. To store the website's sitemap.
 - C. To configure the website's content management system.
 - D. To keep a log of errors encountered by users on the site.
39. In web development, what is a "polyfill"?
- A. A tool for debugging JavaScript code.
 - B. A CSS framework for creating responsive designs.
 - C. A piece of code (usually JavaScript) that provides facilities not built into a web browser.
 - D. A security feature that prevents data breaches.
40. Which HTTP status code indicates that a request has succeeded and a new resource has been created?
- A. 200 OK
 - B. 201 Created
 - C. 301 Moved Permanently
 - D. 404 Not Found
41. In the context of SEO, what is the significance of the canonical tag?
- A. It specifies the preferred version of a set of pages with highly similar content.
 - B. It marks the website's main page.
 - C. It hides duplicate pages from search engine crawlers.
 - D. It increases the page rank by aggregating page views.
42. When designing a user interface, what principle does the term "affordance" refer to?
- A. The design elements that help users understand how to use the UI without explicit instructions.
 - B. The contrast between text and its background.
 - C. The loading speed of the UI.
 - D. The color scheme of the UI.
43. In email marketing design, what is the purpose of including a plain text version along with the HTML email?
- A. To ensure the email can be read by email clients that do not support HTML.
 - B. To reduce the size of the email.
 - C. To increase the delivery speed of the email.
 - D. To improve the email's search engine ranking.

44. Which CSS property is used to control the text direction?
- A. text-align
 - B. text-direction
 - C. direction
 - D. text-flow
45. What technique is employed to minimize the risk of SQL injection in web applications?
- A. Using regular expressions to validate user input.
 - B. Encrypting sensitive data stored in the database.
 - C. Employing prepared statements and parameterized queries.
 - D. Increasing the complexity of database passwords.
46. In terms of web usability, what is the "hamburger menu" an example of?
- A. Progressive disclosure
 - B. Fixed navigation
 - C. Parallax scrolling
 - D. Responsive design
47. What does the CSS z-index property affect?
- A. The layering of positioned elements in the Z-axis (depth).
 - B. The zoom level of elements.
 - C. The opacity of elements.
 - D. The rotation of elements around the Z-axis.
48. Which technology is primarily used to create server-side dynamic web pages?
- A. HTML
 - B. CSS
 - C. JavaScript
 - D. PHP
49. In the context of version control, what is the purpose of a "branch"?
- A. To duplicate the codebase for backup purposes.
 - B. To manage multiple versions of a project simultaneously.
 - C. To revert changes to a previous state.
 - D. To track changes to the project by different team members.
50. How is responsive web design primarily achieved?
- A. Through the use of fixed-width layouts.
 - B. By refreshing the page when the device orientation changes.
 - C. Using CSS media queries to adapt the layout to different screen sizes.
 - D. Implementing JavaScript to dynamically alter the DOM based on user interaction.