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(Knowledge for Development)

KIBABII UNIVERSITY

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**UNIVERSITY EXAMINATIONS
2022/2023 ACADEMIC YEAR**

**END OF SEMESTER EXAMINATIONS
YEAR THREE SEMESTER ONE
EXAMINATIONS**

**FOR THE DEGREE OF
BACHELOR OF SCIENCE
(INFORMATION TECHNOLOGY)**

COURSE CODE : BIT 312/CSC363E

**COURSE TITLE : WEB TECHNOLOGIES
II/WEB DESIGN**

DATE: 15/12/2022

TIME: 2.00 P.M – 4.00 P.M

INSTRUCTIONS TO CANDIDATES

ANSWER QUESTIONS ONE AND ANY OTHER TWO.

QUESTION ONE (COMPULSARY) [30 MARKS]

1. Amongst which of the following is / are suitable to define User Interface Design in Software Engineering.
 - A. It is an effective communication medium between a human and a computer
 - B. It identifies interface objects and actions
 - C. It creates a screen layout that forms the basis for a user interface prototype
 - D. All of the mentioned above
2. Which of the following is not a design principle that allow the user to maintain control?
 - A. Provide for flexible interaction
 - B. Allow user interaction to be interrupt-able and undo-able
 - C. Show technical internals from the casual user
 - D. Design for direct interaction with objects that appear on the screen
3. Which of the following is not a user interface design process?
 - A. User, task, and environment analysis and modelling.
 - B. Interface design
 - C. Knowledgeable, frequent users
 - D. Interface validation
4. The main function of user-interface is to
 - A. Convert program/ programs into machine language
 - B. Connect users with an application through graphical options like icon, menu, text.
 - C. Transmit data to a remote location
 - D. None of these above
5. What is usability?
 - A. Usability is about how efficiently an interface talks to the hardware and devices that help run a website.
 - B. Usability is a technique to ensure websites are liked by the end users.
 - C. Usability relates to how easily, efficiently and satisfactorily a product is used by a person to achieve their goals within a specified context of use.
 - D. Usability is how quickly a user can use a website to perform a task.
6. Which one of the following is True about wireframes?
 - A. Uses only text to display the final placement of content and navigational elements.
 - B. Use shapes to display the placement of content and navigational elements.
 - C. Uses images to display the final placement of content and navigational elements.
 - D. Uses as many different colors to display the placement of content and navigational elements.
7. Websites are designed for specific groups of individuals called the:
 - A. A. web users
 - B. visitors
 - C. target audience
 - D. site purpose
8. Page layout should address each of the following except:
 - A. location of graphics
 - B. navigation location
 - C. primary and secondary content area
 - D. color scheme
9. Which of the following tag is used to represent the result of different types of output in HTML5?
 - A. output
 - B. placeholder
 - C. autofocus
 - D. required
10. Which of the following is true about 'canvas' tag in HTML5?
 - A. HTML5 element <canvas> gives you an easy and powerful way to draw graphics using JavaScript.
 - B. It can be used to draw graphs, make photo compositions or do simple (and not so simple) animations.
 - C. Both of the above.
 - D. None of the above.
11. _____ is not a HTML5 tag.
 - A. <source>
 - B. <video>
 - C. <slider>
 - D. All of the above
12. _____ is the correct syntax of doctype in HTML5.
 - A. </doctype html>
 - B. <doctype html!>
 - C. <!doctype html>
 - D. All of the above
13. Which of the following is NOT an example of a context research method?
 - A. Field study
 - B. Diary study
 - C. Usability test
 - C. Contextual inquiry
14. Visual hierarchy refers to the visual organization of page elements so that the user can easily perceive:

- A. The breadth of the content and controls available on the page.
 B. Whatever elements they are interested in first
 C. Differences in all the elements on the screen
 D. Which elements are related and their relative importance
15. What is a disadvantage of vertical navigation?
 A. Can accommodate only a small number of categories
 B. Offers no room for growth
 C. Is unfamiliar to users
 D. Requires more space
16. What is the art of organizing information in products to support usability?
 A. Information architecture
 B. Visual design
 C. User research
 D. Interaction design
17. What represents the aesthetics of the front end of any user interface?
 A. Visual design
 B. Interaction design
 C. Information architecture
 D. User research
18. What is the most critical success factor for information?
 A. Speed
 B. Efficiency
 C. Findability
 D. Usability
19. What is an essential part of user experience design?
 A. Interaction design
 B. Visible design
 C. Information architecture
 D. User research
20. What is the extent to which a product can be used to achieve specified goals with effectiveness?
 A. speed
 B. Efficiency
 C. Usability
 D. Findability
21. What describes the ease of reach in a system?
 A. Accuracy
 B. Speed
 C. Accessibility
 D. Efficiency
22. To make your website mobile friendly, you can make your website
 A. Responsive
 B. Reactive
 C. Fast Loading
 D. Light
23. What's the difference between UX and UI?
 A. UX is concerned with the user, UI Design is not
 B. There is no difference; they are just different ways of expressing the same thing
 C. UX is focused on optimization of a product for effective and enjoyable use; UI design is concerned with the look and feel, the presentation and interactivity of a product
 D. UX design is largely graphics based with a focus on presentation and interface icons, while UI design is primarily research based, in order to optimize the experience of the user
24. "Design" means:
 A. How something is used/its function
 B. Color and patterns, shapes and lines
 C. What something looks like
 D. All of them
25. A UX design process is implemented:
 A. Before, during and after a project and the repeated as many times as necessary
 B. Only at the beginning of a project, when coming up with the initial plan
 C. When graphics or photographs are required
 D. When wireframes are needed
26. Which is most important to a UX Designer?
 A. Pleasing their client/boss
 B. Pleasing the team
 C. Pleasing the product user
 D. Pleasing the stakeholders of the strategy that was originally set out in the kick off meeting
27. What is a user persona?
 A. A description of a single user's behavior and personality
 B. A fictional or prototypical individual used to represent the demographics, goals, values and pain points of a large proportion of a product's user group
 C. The behaviors, characteristics and goals which the UX designer hopes from a group of users
 D. A collection of behaviors, characteristics and goals which belong to an actual group of users
28. What's the role of Information Architecture?
 A. To ensure the "buy now" button is on every page of a website
 B. To funnel all users into the desired channel of the platform/business
 C. To organize all of your information within a physical space
 D. To organize, structure and identify content in a website or other digital environment
29. Typography has to deal with
 A. mages
 B. Color Theory
 C. Typing
 D. Fonts
30. Visual Hierarchy
 A. Makes a site look colorful
 B. Tells you what is important
 C. Deals with fonts
 D. Has to do with search engines

(15)

QUESTION TWO [20 MARKS]

- a. Discuss any three main components of Information architecture. [6 marks]
- b. Three best practices for designing a user interface. [6 marks]
- c. Explain the concept of user experience design. [4 marks]
- d. UX designers perform various tasks at various points in the Process and deliver several outputs.. Highlight any eight of such outputs. [4 marks]

QUESTION THREE [20 MARKS]

- a. Discuss any four benefits of a content management system. [8 marks]
- b. What does the term "Page Builder" mean in context with a CMS? [4 marks]
- c. Explain any three features offered in Web Hosting [4 marks]
- d. Explain any two types of hosting. [4 marks]

QUESTION FOUR [20 MARKS]

- a. Explain the concept of search engine optimization. [2 marks]
- b. Discuss the importance of SEO to businesses. [4 marks]
- c. With justifications, explain the motivation for the development of HTML5. [4 marks]
- d. Describe the concept of responsive web design? [4 marks]
- e. Discuss three approaches that can be used to evaluate the quality of a website. [6 marks]

QUESTION FIVE [20 MARKS]

- a. Create at least two variables, to output the following statement using JavaScript code in browser console. "The student who won the scholarship is a 24 year old Computer student from Kibabii University is John Doe". [4 marks]
- b. Write JavaScript code that will create an array, retrieved its length and use it to computer the mean of the array items. [4 marks]
- c. Write JavaScript code to:
 - i. Create an array myColors of five colors (red, orange, yellow, green and blue). [3 marks]
 - ii. Add indigo and violet colors to the end of myColors array. [1 marks]
 - iii. Removes the color "red" from the array and display the result. [1 marks]
- d. Write JavaScript code to create an object named myCar and give it properties named make, model, and year. [2 marks]
- e. Write JavaScript code to create variables price, taxRate and totalPrice, assign price and taxRate values 48 and 8% respectively and be able to calculate and display the selling price with the word "Total preceding the price value. [5 marks]