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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF INFORMATION SCIENCE

TEST 1

Winter Semester: 2021 - 22

Course Code: BCA 280

Course Name: Human Computer Interaction

Program & Sem: BCA & 4th Sem

Date: 26th April /2022

Time: 1.30 pm to 2.30 pm

Max Marks: 30

Weightage: 15%

Instructions:

(i) Read the all questions carefully and answer accordingly.

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries ONE marks.

(10Qx 1M= 10M)

1. Problem solving is a process of finding solution to an unknown task. If that is the case select the one which cannot be characterized by human in problem solving? (CO.1) [Knowledge]

- A. Ability to gather different views B. Ability to adapt to new environments
C. Ability to predict the solutions to a new problem D. Ability to reuse knowledge

2. Gestalt theory can be very useful in problem solving. According to his theory identify the one which cannot be applied for reproductive problem? (CO.1) [Knowledge]

- A. Insights of a given problem B. Previous experience
C. Restructuring of the problem D. none of the above

3. Gestalt theory can solve both productive and reproductive problems. Identify the limitations of Gestalt theory : (CO.1)[Knowledge]

- A. It doesn't provide evidence B. It's not possible to solve complex problems
C. Lack of accuracy D. none of the above

4. Select the option which not a principle of Gestalt theory (CO1)[Knowledge]

- A. similarity B. Symmetric C. Closure D. Proximity

5. In problem space theory, which of the following problem solving centres cannot be included in the problem space? (CO1)[Knowledge]

- A. Initial state B. Transition operators C. goal state D. none of the above

6. Analogy can be used for problem solving. Identify the element which is not part of Analogy? (CO1, Knowledge)

- A. Knowledge Mapping B. Similarity C. Transformation D. none of the above

7. Human emotions are more complex than perceptual abilities. Identify the one which cannot be done by positive emotions? (CO1, Knowledge)

- A. Difficult to solve easy problems B. It is more effective when person got frustrated
C. It involves both physical and cognitive elements D. none of the above

8. Negative emotions are part of day to day lives along with positive emotions. Pick up the one which can deal with negative emotions (CO1, Knowledge)

- A. Easy to solve difficult problems B. People who are stress can easily perform the task
C. It cannot deal with even easy tasks D. none of the above

9. Select the word which will best suits positive emotions (CO1, Knowledge)

- A. Disgust B. Aggressiveness C. Rage D. Annoyance

10. Principles in psychology can be used as guidelines for designing and evaluating interfaces. Identify the one which cannot be deal with psychology (CO1, Knowledge)

- A. Processing information B. Intent is more important than context
C. Measures can be used to evaluate design D. none of the above

Part B [Thought Provoking Questions]

Answer both the Questions. Each question carries FIVE marks. (2Qx5M=10M)

11. Compare and contrast between gestalt theory, problem space theory and analogy in problem solving. (CO.1) [Comprehension]

12. Distinguish internal and external cognitive frameworks (CO.1) [Comprehension]

Part C [Problem Solving Questions]

Answer the Question. The question carries TEN marks. (1Qx10M=10M)

13. Case study – “User Interface designing“ is a lab based course in presidency university. In User interface designing lab students need to develop User Interfaces for web based project by following all the guidelines and principles of designing interfaces. The evaluation of the interfaces will be done based on interface satisfying all the guidelines of designing interfaces. If the project is unable to satisfy any one of the guidelines it will be rejected.

Assume that you are a student registered for User Interface designing lab course. Suggest the Guidelines which you will follow to make your project successful and mention why those Guidelines are to be followed. (CO2) [Application]



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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

TEST 2

Winter Semester: 2021 - 22

Course Code: BCA 280

Course Name: Human Computer Interaction

Program & Sem: BCA-ARVR 4th Sem

Date: 01/06/2022

Time: 1.30pm to 2.30pm

Max Marks: 30

Weightage: 15%

Instructions:

(i) *Read the all questions carefully and answer accordingly.*

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries Equal marks.

(10Qx 1M= 10M)

1. A prototype is a manifestation of a document that will allow stakeholders to explore its suitability. Identify the one which cannot be applied for prototype (C.O.2) [Knowledge]

- A. It can be a paper based storyboard
- B. It can be useful to discuss ideas with stakeholders
- C. Prototype will act like accurate solution for existing problems
- D. Prototype encourages reflection in design

2. Low fidelity prototyping is the one that doesn't look very much like final product. Identify the one which doesn't suit for Low fidelity prototype (CO2) [Knowledge]

- A. The materials used for this prototype are paper or cardboard
- B. This prototype can be used in later stages
- C. These are simple and cheap
- D. This can be used for exploration of ideas

3. The materials used in High fidelity prototype are expected to be in the final product. Identify the one which doesn't suit for High fidelity prototype (CO2) [Comprehension]

- A. This prototype can be used to continue testing process irrespective of number of bugs
- B. It will take long time to build
- C. This prototype can integrate both hardware and software
- D. none of the above

4. Conceptual design is concerned with transforming requirements into conceptual model. Identify the one which cannot be applied Conceptual design. (CO2) [Knowledge]

- A. It will gather data about users and their goals
- B. It uses High fidelity Prototype
- C. It provides deeper understanding about different aspects
- D. It will allow alternative solutions

5. Conceptual model has various perspectives, identify the perspectives of Conceptual Model. (CO2) [Knowledge]
- A. Interaction Mode B. Interface Metaphor C. Interaction paradigm D. All of the above
6. Interface metaphors combine familiar knowledge with new knowledge. Identify the one which is not part of Ericson 3 step process for choosing interface metaphors? (CO2) [Knowledge]
- A. Understand what the system will do B. Understand user's difficulties
C. Predict users Requirements D. user's description of tasks
7. Low fidelity prototype has lot of flexibility compared to high fidelity prototype. Which prototype is convenient for dynamically reorder workflow? (CO2) [Comprehension]
- A. Storyboards B. Card based prototypes C. Sketches D. none of the above
8. Identify the goals of Participatory design. (CO2) [Knowledge]
- A. Designers and user are narrowed B. Mutual learning
C. Articulating problems D. All of the above
9. _____ help to promote high-quality systems in government-related applications. (CO3) [Comprehension]
- A. usability testing B. Expert reviews
C. Social Impact statement D. user interface software tools
10. Careful selection of _____ helps to build a successful participatory design experience (CO3) [Comprehension]
- A. Experts B. users C. Equipments D. prototypes

Part B [Thought Provoking Questions]

Answer both the Questions. Each question carries Five marks. (2Qx5M=10M)

11. Explain Expert Reviews and Usability Testing? (CO3) [Comprehension]
12. Explain Foley and van Dam four-level approach in developing a piece of software? (CO2) [Comprehension]

Part C [Problem Solving Questions]

Answer the Question which carries Ten marks. (1Qx10M=10M)

13. Case study – Presidency University is conducting a competition for their students, for which students have to design website for university. The best web design will be finalized as the winner and it will be considered as university official website.

Assume that you are one of the person participating in the competition and suggest the principles that you implement for designing your interface and give reasons why they are implemented.

(CO2) [Application]



**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF INFORMATION SCIENCE

END TERM EXAMINATION

Winter Semester: 2021 - 22

Course Code: BCA 280

Course Name: Human Computer Interaction

Program & Sem: BCA –ARVR IV Sem

Date: 28th June 2022

Time: 01:00 PM to 04:00 PM

Max Marks: 100

Weightage: 50%

Instructions:

- (i) *Read the all questions carefully and answer accordingly.*

Part A [Memory Recall Questions]

Answer all the Questions. Each question carries TWO marks.

(15Qx 2M= 30M)

1. Fewer input actions makes the users to experience fewer chances of errors. Identify the guide lines which is not part of reducing input actions (CO2) [Application]
 - A. Selecting a list of choices
 - B. usage of similar sequence of actions
 - C. Avoidance of redundant data entry
 - D. none of the above
2. Organizing display is one of the key concepts when it comes to interface design. Identify the one which leads to convenience of accessing display data (CO2) [Application]
 - A. Consistency of data display
 - B. Minimal memory load on the user
 - C. Flexibility of user control of data display
 - D. Efficient information assimilations by the user
3. _____prototypes are useful because they tend to simple, cheap and quick to produce. (CO2) [Comprehension]
 - A. Low-Fidelity
 - B. High-Fidelity
 - C. Water fall
 - D. All the above
4. In _____ stage the results of observation and interview need to be ordered in some way to bring out key issues and communicate with later stages of design (CO2) [Comprehension]
 - A. Analysis
 - B. Design
 - C. Prototyping
 - D. Deployment
5. _____is one manifestation of a document that allows stakeholders to interact with it and to explore its suitability. (CO2) [Comprehension]
 - A. Design
 - B. Prototype
 - C. Model
 - D. None
6. Physical design addresses specific, concrete layout and design issues. Identify the one which is not part of physical design? (CO2) [Knowledge]
 - A. Sketches
 - B. Menu design
 - C. Icon design
 - D. Multi screen designs
7. Which of the following is not true? (CO3) [Comprehension]
 - A. Utility refers to the functionality of a system
 - B. Usability is concerned with adding complexity to the system
 - C. Usability is concerned with making systems easy to use
 - D. Poorly designed computer system can be extremely annoying to users
8. Why do we need a Survey? (CO3) [Comprehension]
 - A. To narrow down the data collection for your problem
 - B. Collecting qualitative data
 - C. To understand the needs of a large set of users
 - D. Statistical representation of the population of interest

9. Which of the given statements correctly defines effectiveness in terms of one of the usability goals? (CO3) [Comprehension]
- It is a very general goal and refers to how good a system at doing what it is suppose to do
 - It refers to the way a system supports users in carrying out their tasks
 - It involves protecting the users from dangerous conditions
 - It involves protecting the users from undesired situations
10. Ends Analysis is part of a problem space theory in problem solving, then identify the task will be done by ends analysis? (CO1) [Knowledge]
- It will take insights of a problem
 - It requires previous experience
 - It will compare all the states of a given problem
 - It compares initial state with final state
11. In the process of designing interactive systems identify the one which cannot be dealt with interactive systems? (CO1) [Knowledge]
- Applying Knowledge
 - Storing information
 - Processing information
 - Receiving information
12. A computer expert produces a solution with HCI which is very efficient in computer resources, based on command-lines. Which one of the following is most likely to be the result when the system is implemented? (CO1) [Knowledge]
- It will be welcomed by all staff
 - All staff will enjoy using it after mastering the skills of command lines
 - Most staff will want to become computer experts to use it
 - Most staff will feel demoralized and will not want to use the system
13. There are early internal frameworks that focus primarily on mental process and external frameworks that explain how humans interact and use technologies. It is assumed that _____ are used by people to reason about a system and try to find out what to do when something unexpected happens. (CO1) [Knowledge]
- Mental models
 - Gulfs of execution and evaluation
 - Information Processing
 - Embodied interaction
14. The distributed cognition approach studies the nature of cognitive phenomena across individuals and internal and external representations. A distributed cognition analysis involves examining which of the following (CO1) [Knowledge]
- the role of verbal and non-verbal behavior
 - the various coordinating mechanisms that are used
 - How knowledge shared and accessed
 - All the above
15. Data entry tasks can occupy more amount of user's time which may lead to potential dangerous errors. Identify the one which leads to eliminates the need of memorization (CO2) [Application]
- Minimal Input actions taken by user
 - Compatibility of data entry with display
 - Consistency of data entry transactions
 - none of the above

Part B [Thought Provoking Questions]

Answer all the Questions. Each question carries TEN marks.

(5Qx10M=50M)

- Distinguish internal and external cognitive frameworks (CO1) [Comprehension]
- Differentiate between Survey instruments and acceptance testing. (CO3) [Comprehension]
- Explain the stages involved in Normans Model of Interaction (CO1) [Comprehension]
- Explain the Four Pillars of Design? (CO2) [Comprehension]
- Distinguish Synchronous and Asynchronous distributed interfaces? (CO4) [Comprehension]

Part C [Problem Solving Questions]

Answer the question which carries TWENTY marks.

(1Qx20M=20M)

21. Case study – Presidency University is conducting a competition for their students, for which students have to design website for university. The best web design will be finalized as the winner and it will be considered as university official website.
Assume that you are one of the people participating in the competition and suggest the guidelines that you implement for designing your interface and give reasons. (CO2) [Application]

