Enrollment No.....................................

Faculty of Engineering

End Sem Examination Dec-2023

CB3CO16 Usability Design of Software Applications

Programme: B.Tech.   Branch/Specialisation: CSBS

Duration: 3 Hrs.   **Maximum Marks: 60**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1   i.   When users are involved in complex tasks, the demand from   **1**
               following options can be significant.
               (a) Short-term memory   (b) Shortcuts
               (c) Objects that appear on the screen (d) All of these

        ii.   A software might allow a user to interact via-   **1**
               (a) Keyboard commands   (b) Mouse movement
               (c) Voice recognition commands   (d) All of these

        iii.   A product is evaluated by its-   **1**
               (a) Functionality   (b) Size
               (c) Ability   (d) None of these

        iv.   Ergonomics is the body knowledge concern with-   **1**
               (a) Human abilities
               (b) Design of tool and machines
               (c) Fitting the job to the person
               (d) All of these

        v.   In heuristics evaluation-   **1**
               (a) Group of usability experts judges an interface with a detailed
                   checklist of guidelines.
               (b) A group of test users conducts a formal experiment.
               (c) A group of usability experts reviews a user interface according
                   to a small set of general principles
               (d) All of these

vi. What are the pros of a heuristic evaluation? **1**
(a) All known problems are found
(b) Usable early in development
(c) 3 evaluators find 80% of all known problems
(d) Costly

vii. Following research is based on the measurement of quantity or **1**
amount.
(a) Qualitative (b) Descriptive
(c) Quantitative (d) Numerical

viii. The objective of the development of hypotheses rather than their **1**
testing is-
(a) Laboratory research (b) Diagnostic research
(c) Exploratory research (d) Empirical research

ix. The task with a known end point is called- **1**
(a) Management (b) Project
(c) Development (d) All of these

x. The project life cycle consists of- **1**
(a) Understanding the scope of the project
(b) Objectives of the project
(c) Formulation and planning various activities
(d) All of these

Q.2 i. Is User interface design important? Why? **2**
ii. Describe the three types of tools in UID. **3**
iii. Is guidelines and standard important to good design? Explain. **5**
OR iv. Elaborate the characteristics and principles of User Interface **5**
Design.

Q.3 i. Define user centred design. **2**
ii. How a product is evaluated? Describe by all four aspects of design. **8**
OR iii. What is meaning of principle? Explain principles of user centred **8**
design.

Q.4 i. Show the role of severity in heuristics evaluation. **3**
ii. What do you mean by heuristic evaluation? How heuristic **7**
evaluation is applied for any website?

OR iii. Describe any seven usability heuristics for user interface design. **7**

Q.5 i. Differentiate between design, procedure and data analysis. **3**
ii. Should a hypothesis be empirical? How do you write a hypothesis **7**
for design?
OR iii. Explain different types of experimental design **7**

Q.6 Write short note on any two:
i. Project Design Life Cycle **5**
ii. Research Technique **5**
iii. Discovery and Brainstorming **5**

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Marking Scheme

Usability Design of Software Applications-CB3CO16(T)

Q.1 i.   a) short-term memory   1
     ii.   d) all of the mentioned   1
     iii   a) Functionality   1
     iv.   d) All of the above`   1
     v.   c) A group of usability experts reviews a user interface according   1
            to a small set of general principles

     vi.   b) usable early in development   1
     vii.   c) Quantitative   1

     viii. d) Empirical research   1
     ix.   b) project   1
     x.   d) All of the above   1

Q.2 i.   User interface design important   1 mark   2
            Why   1 mark
     ii.   Three types of tools in UID   (1 mark*3)   3

     iii.   Is guidelines and standard   1 mark   5
            Explain for guidelines   2 marks
            Explain standard) .   2 marks
OR   iv.   Elaborate the characteristics   (2.5 marks)   5
            Principles   (2.5 marks)

Q.3 i.   Define user centred design   (2 marks)   2

     ii.   all four aspects of design.   (2 marks*4)   8

OR   iii.   Meaning of principle   (2 marks)   8
            Principles of user centred design.   (6 marks)

Q.4 i.   Severity in heuristics evaluation   (3 marks)   3

     ii.   Heuristic evaluation   (2 marks)   7
            Heuristic evaluation is applied for any website. (1 mark*5)
OR   iii.   Seven usability heuristics for user interface design. (1 mark*7) 7

Q.5 i.   Design, procedure and data analysis   (1 mark*3)   3

     ii.   Hypothesis be empirical   (2 marks)   7
            Hypothesis for design   (1 mark*7)
OR   iii.   Explain different types of experimental design   (1 mark*7)   7

Q.6   Attempt any two: **(5 marks, for each)**

     i.   Project Design Life Cycle   (As per explanation)   5

     ii.   Research Technique   (As per explanation)   5

     iii.   Discovery and Brainstorming   (As per explanation)   5

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