

Total No. of Questions : 8]

SEAT No. :

PC1723

[Total No. of Pages : 2

[6353]-40

**T.E. (Computer Engineering) (Artificial Intelligence and Data Science)
HUMAN COMPUTER INTERFACE
(2019 Pattern) (Semester - I) (Elective - I) (310245B)**

Time : 2½ Hours]

[Max. Marks : 70]

Instructions to the candidates:

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Figures to the right indicates full marks.
- 3) Neat diagrams must be drawn whenever necessary.
- 4) Make suitable assumption whenever necessary.

Q1) a) What is mean by interaction styles? Explain different types of interaction styles such as: [8]

- i) Command-line interface
- ii) Menus
- iii) Form-Fills-In
- iv) Direct Manipulation

b) Write down about iterative design and prototyping using suitable example. [5]

c) Elaborate characteristics of web using Merging of Graphical Business Systems and Web Characteristics of Intranet Versus Internet. [5]

OR

Q2) a) What is mean by design? Which are the important things required to consider for designing? Explain with example. [8]

b) Explain advantages, disadvantages and characteristics of Graphical User Interface. [5]

c) Write short note on: Popularity of the Web. [5]

Q3) a) Write short note on: [6]

- i) Usability Testing in Laboratory
- ii) Controlled Experiments
- iii) Heuristic Evaluation

b) Elaborate Evaluation Framework using following point: [6]

- i) Paradigms and Techniques
- ii) DECIDE: a Framework to Guide Evaluation

c) What is significance of multi-modal interaction in HCI System? Explain with example. [5]

OR

P.T.O.

Q4) a) Elaborate universal design principles in detail. [6]
b) Write short note on:
i) Empirical Methods: Experimental Evaluation
ii) Field Studies
c) Explain formative and summative evaluation. [5]

Q5) a) Discuss about interface design, pattern recognition phases, system architecture using suitable example of HCI system. [6]
b) Explain vision-based Hand Gesture Recognition System using HCI paradigms. [6]
c) What is mean by ubiquitous computing? Which are the applications of it? Explain with suitable example. [6]

OR

Q6) a) Explain the term “data entry and usability using appropriate case study. [6]
b) Write short note on:
i) Retrieval in Physical World
ii) Retrieval in Digital world
iii) Constrained Natural Language output
c) Compare data integrity and data immunity. [6]

Q7) a) Elaborate designing for Mobile and other devices. [6]
b) Explain Mobile Navigation, Content, and Control Idioms using appropriate Example. [6]
c) What is the significance of “navigation and toolbars” in HCI? Explain. [5]

OR

Q8) a) What is use of “multi-touch gestures”. Explain various multi-touch gestures used in mobile device. [6]
b) Describe Tap-to-Reveal and Direct Manipulation. [6]
c) Explain Norman’s Principles of Design in software. [5]