B.TECH.
(SEMV) THEORY EXAMINATION 2022-23
HUMAN COMPUTER INTERFACE

Time: 3 Hours   *Total Marks: 100*

Note: Attempt all Sections. If you require any missing data, then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   **2x10 = 20**

   (a)   Discuss the design guidelines for design of human computer interface.

   (b)   Explain the brief history of Screen design.

   (c)   What are the input and output channels of human?

   (d)   Differentiate deductive reasoning, inductive reasoning, and adductive reasoning.

   (e)   Discuss about interaction of people with computers.

   (f)   Give the brief history of screen design.

   (g)   Describe developing conceptual models.

   (h)   What are the technological considerations of interface design? Explain.

   (i)   What are structures of menus?

   (j)   What are the various components of a window?

SECTION B

2.   **Attempt any *three* of the following:**   **10x3 = 30**

   (a)   What are the roles of icons, graphics, and colour in providing feedback?

   (b)   Explain the meaning of hypertext and how it is different normal text? Discuss various elements of hypertext.

   (c)   Explain the concept of Hypermedia for user interface. Also discuss their importance and necessary design consideration for user interface.

   (d)   How do methods and tools support the process of designing human-computer interaction for the three emerging technologies studies?

   (e)   What are the advantages and disadvantages of Menus used in GUI application?

SECTION C

3.   **Attempt any *one* part of the following:**   **10x1 = 10**

   (a)   Explain the role of user documentation in HCI. What are the major parameters on which documentation should be done?

   (b)   Explain in brief about Device-based controls and Screen-based controls? Give the guidelines for selecting the proper controls in screen design.

4.   **Attempt any *one* part of the following:**   **10 x1 = 10**

   (a)   How the two important components of presentation design are evolved from the Sequential machine theory? Discuss the analogy in detail.

   (b)   Discuss three approaches to organize content of documentation. "Designing an interface is an iterative process". Give your reasonable comments on this statement.

5.   **Attempt any *one* part of the following:**   **10x1 = 10**

   (a)   Is usability in User Interface design? Why usability is so important? Explain the principles of User Interface Design.

   (b)   Discuss the important human characteristics which have influence on interface and screen design.

6.   **Attempt any *one* part of the following:**   **10x1 = 10**

   (a)   What are the issues to be considered in designing title bar and message box?

   (b)   Give a brief note about different widget supports and interface features supported in user-interface building tools.

7.   **Attempt any *one* part of the following:**   **10x1 = 10**

   (a)   What are the various statistical graphic forms and explain surface charts, bar graphs and histograms with suitable examples,

   (b)   What is meant by basic business function? Discuss in detail the process of determining basic business functions.