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MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

VII SEMESTER B.TECH. (INFORMATION TECHNOLOGY / COMPUTER AND COMMUNICATION ENGINEERING)

MAKEUP EXAMINATIONS, JANUARY 2020

SUBJECT: PROGRAM ELECTIVE VI - HUMAN COMPUTER INTERACTION [ICT 4010]

REVISED CREDIT SYSTEM

(/01/2020)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates

- ❖ Answer **ALL** the questions.
- ❖ Missing data if any may be suitably assumed.

- 1A. Explain the implementation challenges of groupware in terms of feedback, architecture, scalability management, graphical user interface design with a suitable example. **5**
- 1B. Which design process is commonly used for interactive systems development? How iterative design process and prototyping is useful in the development of user interface? Explain with a suitable example. **3**
- 1C. How brightness and colour are important parameters to interpret the signal visually? Explain with suitable example. **2**
- 2A. What is CSCW and Groupware? Explain the implementation challenges of groupware in terms of feedback, architecture, scalability management, and graphical user interface design. **5**
- 2B. Using internet banking system as an example, explain the categories of the stakeholders and analyze their importance in the system development. **3**
- 2C. How brightness and shape are important parameters to interpret the signal visually? Explain with suitable example. **2**
- 3A. With a suitable example define and explain the following. **5**
i) Learnability ii) Flexibility iii) Predictability iv) Synthesizability v) Robustness
- 3B. Explain following cognitive methods with suitable example and benefits. **3**
i) GOMS
ii) CCT
- 3C. Draw the process of interface design. **2**
- 4A. What is User Modeling? Explain all techniques for knowledge representation using suitable example for each technique. **5**
- 4B. What is knowledge representation? Explain all techniques for knowledge representation using suitable example for each technique. **3**

- 4C.** What is the importance of reasoning in user interface? Explain each type of reasoning method. **2**
- 5A.** Choose an appropriate evaluation method for each of the following situations. In each case identify: (a) the participants (b) the technique used (c) representative tasks to be examined (d) measurements that would be appropriate (e) an outline plan for carrying out the evaluation. **5**
- i) You are at an early stage in the design of a spreadsheet package and you wish to test what type of icons will be easiest to learn.
 - ii) You have designed and implemented a new game system and want to evaluate it before release.
- 5B.** What is visualization? Explain in detail three flavors of visualization with suitable examples. **3**
- 5C.** How iterative design process and prototyping is useful in the development of user interface? Explain with a suitable example. **2**