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BE Degree Examination December 2022

Seventh Semester

Computer Science and Engineering

18CSE12 – HUMAN COMPUTER INTERFACE

(Regulations 2018)

Time: Three hours

Maximum: 100 marks

Answer all Questions

Part – A ($10 \times 2 = 20$ marks)

1. What are the four user personality type indicators (MBTI), which is based on Carl Jung? [CO1,K1]
2. Mention any two Golden Rules of interface design. [CO1,K1]
3. List out the various rapid contextual design methods. [CO2,K2]
4. Write any four heuristics for the gaming environment. [CO2,K1]
5. What is mean by Direct manipulation interface? Give example. [CO3,K2]
6. Write any four sample abbreviations used in online chat, instant messaging, e-mail, blogs or newsgroup postings. [CO3,K2]
7. Assume you are using a desktop computer to purchase a product via any online shopping website, Amazon, for example. The start time of a pointing device is 300 milliseconds and the inherent speed of the device is 200 msec/bit. Your computer pointing device needs to move 14cm to hit the "Buy Now" Button. The size of the button is 2 cm. Find out the movement time (MT) for the pointing device. (use Fitts law). [CO4,K3]
8. Identify what type of distributed interface is used in the following applications. [CO4,K2]
 - i) E-mail
 - ii) Whatsapp chat
 - iii) Wikipedia
 - iv) Video conferencing
9. What are the three primary factors influence users' expectations and attitudes regarding response time? [CO5,K1]
10. Name the various data types by task taxonomy to identify visualization data types. [CO5,K1]

Part – B ($5 \times 16 = 80$ marks)

11. a. Explain the following types of user interfaces with appropriate interface design/window. (16) [CO1,K2]
 - i) Exploratory Interface
 - ii) Creative Interface
 - iii) Collaborative Interface

(OR)

- b. i) What are the five primary interaction styles the designers can use once the task analysis is complete and the task objects and actions have been identified? Write its advantages and disadvantages. (8) [CO1,K2]
- ii) Describe about spectrum of directness with example. (8) [CO1,K2]

12. a. Illustrate the four pillars of design for user-interface architects to turn good ideas into successful systems. (16) [CO2,K3]

(OR)

- b. i) List and explain the various Questionnaires and surveys used in usability evaluation. (8) [CO2,K3]
- ii) Prepare and design the Questionnaire and survey for any food order and delivery mobile application app. (Use Likert Scale) (8) [CO2,K3]

13. a. Explain briefly about the following interaction styles with example applications. (16) [CO3,K3]

- i) Tele operation
- ii) Virtual and Augmented Reality

(OR)

- b. i) Summarize the various guidelines for Menu selection, Form fill-in and Dialog box. (8) [CO3,K3]
- ii) Design an E-mail account creation form with Menu selection and Form fill-in. (8) [CO3,K3]

14. a. What are the seven types of interaction tasks done by pointing devices? Explain briefly about the various categories of pointing devices with example. (16) [CO4,K2]

(OR)

- b. Draw the Time/Space four-quadrant matrix model of group-supported work. Describe each quadrant with example. (16) [CO4,K2]

15. a. Explain briefly about the simple and Realistic model of system response time with its guidelines. (16) [CO5,K2]

(OR)

- b. Explain the various types of multimedia document searches and advanced filtering features. And also specify appropriate online tools as example of each type. (16) [CO5,K2]

Bloom's Taxonomy Level	Remembering (K1)	Understanding (K2)	Applying (K3)	Analysing (K4)	Evaluating (K5)	Creating (K6)
Percentage	6	58	36	-	-	-