Continuous Assessment Test – 2

VIT
Vellore Institute of Technology

Programme Name & Branch: B. Tech. (CSE)

Course Name & Code: Human Computer Interaction (CSE 4015)

Class Number: VL2019201001305, 1311, 1313, 6667, 7418   Slot: B2 + TB2

Faculty Name: Exam Duration: 90 mins   Maximum Marks: 50

Answer All Questions

S.No.	Question	Course Outcome (CO)
1.	When a scientific paper has been sent to a journal, the editor has to decide if the paper is good enough to be published. To this end, the editor asks external reviewers to judge the paper (the review requests are sent concurrently). First, he sends the paper to two reviewers who rate the paper acceptable or not acceptable. If they both judge the paper the same way, the editor takes over their judgment. Otherwise, if the reviewers have different opinions, the editor sends the paper to a third reviewer and uses his judgment. Model this reviewing process as a transition system and draw the state-transition diagram. **[10]**	CO5
2.	Define Fitts' Law and explain how it applies to user interface design. Now, apply your knowledge of this law to the below figure and indicate giving reasons which target you think is fastest to reach with the mouse starting at location M. Assume that you can move your hand equally well in all directions, and that none of the targets are near a screen edge. Include all calculations in your answer. (Consider Performance Index (I_p) as 4.35 bits/msec and y-intercept as 350) **[10]**	CO3
3.	Consider the following business process for handling traffic offenses. Every offense is registered after arrival. After registration, procedures "judge the traffic offense" and "investigate the history" are started concurrently. In procedure "judge the traffic offense", the traffic offense is classified as either "severe" or "normal". Severe traffic offenses are then temporary	CO5

judged, and, in a second step, a final judgment is delivered. Normal traffic offenses are judged in one step. Procedure "investigate the history" contains two steps that can be completed in arbitrary order: collect information about earlier traffic offenses and collect information about other offenses committed by the offender. The fine is determined after both procedures are finalized. If the traffic offense is not fined, it will be archived right away; otherwise, a transfer form is sent to the offender and subsequently the traffic offense will be archived. Model this business process as a Petri net. **[10]**

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4. Use this technique to predict the task completion time to correct the spelling error ("jumps") in the situation illustrated in the figure, using each of the two methods outlined below. **[10]** — CO3
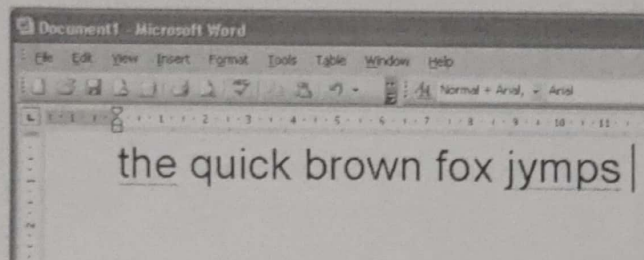
1. Use the left arrow to go back, delete the incorrect character, and type the correct character.
2. Double-click the word to highlight it, and then retype it correctly

Clearly show your workings for each situation. Based on the outcome of your calculations indicate which situation is the most efficient. Your hand starts and ends on the keyboard. State all other assumption that you make. The standard KLM operator set, with the time is given in the table

Symbol	Time (sec)
Keystroke	0.28
Pointing	1.1
Mouse click (Press + release)	0.2
Homing	0.36
Mental preparation	1.2

5.

(a) Using CSP, construct a dialogue for resenting the following functionalities of an **Adder** application. **[5 + 5]** — CO5

"The user types in either 'quit', which exits the application, 'zero', which resets the adder to zero or a number, which is added to the running total."

Provide the semantic description of the scenario in eventISL.

(b) How do you think groupware is likely to affect our lives in the future? Justify your answer with suitable examples.