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Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

Continuous Assessment Test - I, August 2018

B.Tech [All Branches] Fall Semester 2018-2019

Course Code	: **CSE4015**	**Duration** : 90 Minutes
Course Name	: **Human Computer Interaction**	**Max Marks:** 50
Slot	: **C2+TC2 (Common to All Batches)**	

Answer ALL the questions **(5 * 10 = 50 marks)**

1. A modern hotel has installed a sandwich making robot to supply room service sandwiches at any hour of the day. The hotel also has an automated delivery system that will take the completed sandwich to a specified room. You have been asked to program a software agent interface that guests can phone to order sandwiches.

   Provide a hierarchical task analysis description of the sandwich ordering process. Note particularly where there might be choice points or alternative methods. Also explain your criteria for the level of decomposition used. **(10 Marks)**

2. (a) Discuss about the various methods to determine the requirements for designing user interface? Illustrate the requirements gathering process for designing an interface for a handheld ticket printing machine for a Bus conductor. **(6 marks)**

   (b) Briefly explain why predictive text-entry may not reduce errors with mobile telephones. **(4 marks)**

3. (a) Draw a Use Case Diagram for a voting machine, on which voters can see a list of candidates and select one to vote for. The machine should check that each voter is eligible to vote. The electoral registrar will also want to print a summary of the total votes for each candidate, and (separately) a list of the voters who have voted, and a list of those who haven't. In case of a dispute, the machine should also list a complete record of who voted for whom, but only a judge can use this function. **(5 Marks)**

(b) List out the various tasks for determining the user interface for Library Management System (LMS). What data collection technique would be most suitable to identify the user requirements in LMS – Justify? **(5 marks)**

4. The marketing department has been given the task of redesigning from scratch a technical university's website in order to raise the public profile of the institution its courses and facilities, and attract more enrolment applications. The logic behind the redesign is that most students shop around before making a decision and the convenience of the web means that many if not most will make the choice from the comfort of their homes without ever setting foot on any of the campuses being considered. As such, the Senior Managers have taken a chunk of the budget from the on-campus student information centre and have redirected it to the marketing department for a major online presence overhaul. All design elements, content, and functionality must be geared towards the selling of the institution to present and future clients and stakeholders.
   a) Apply 5W+H heuristic for designing an efficient Interaction for the above University website
   b) What Interaction Style or Paradigm you may choose. Justify with suitable comments
   c) Also explain the type of physical computing environment you may prefer for attaining 100% user satisfaction **(10 marks)**

5. Match the following

1) Heads-up display devices	4 A. Audio tones, audiolization, and music
2) Mobile device display devices	10 B. Enabled users to point to a spot on a screen and to perform a select, position, or other task
3) Large display devices	6 C. Multiple desktop display
4) Speech and auditory interfaces	3 D. Portable linear reading, but making comparisons can be difficult
5) Eye-tracking	9 E. A new generation real-time mouse for Human-Computer Interaction
6) Light pen	8 F. 3-axis acceleration sensor
7) Foot Controls	2 G. Haptic devices
8) Hand Data Glove	7 H. Paddle
9) Game Controllers	5 I. Gaze patterns
10) Touch Screens	1 J. Widescreen of an airplane or car

(10 marks)

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