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## ANNA UNIVERSITY (UNIVERSITY DEPARTMENTS)

B.E. /B.Tech / B. Arch (Full Time) - END SEMESTER EXAMINATIONS, NOV/DEC 2024

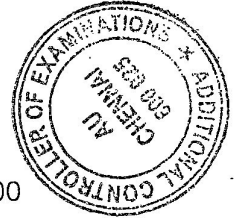
INFORMATION TECHNOLOGY  
VII Semester

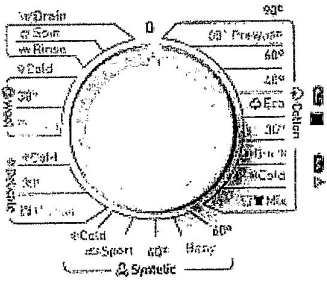
IT7704-PRINCIPLES OF HUMAN COMPUTER INTERACTION

(Regulation 2015)

Time: 3hrs

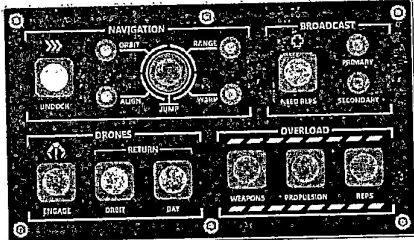
Max. Marks: 100

**PART - A (10x2=20 Marks)**  
(Answer all Questions)

Q.No	Questions	Marks
1	Define Ergonomics.	2
2	List the different types of interaction styles used in HCI.	2
3	What is the distinction between a process-oriented and a structure-oriented design rationale technique?	2
4	Rank the following in terms of levels of intention or consciousness: automatic doors in hotel, automatic water taps in washbasin, reversing lights in a car, ultrasonic burglar alarm,	2
5	Comment on the use of layout and grouping in the below given interface. 	2
6	List the categories of Principles used in HCI design process.	2
7	How is the Read Evaluation loop paradigm used to organize the flow of control within an application?	2
8	Use cognitive walkthrough method to design a remote control for a video recorder (VCR).	2
9	What are the steps to be taken to develop interface for Collaboration aware applications?	2
10	Where are active image maps used? Give an example.	2

**PART - B (5x 13=65 Marks)**  
(Restrict to a maximum of 2 subdivisions)

Q.No	Questions	Marks
11 (a) (i)	Device appropriate guidelines to use cognitive psychology by interface designers.	7
(ii)	Discuss on the various components used in Windowing interfaces.	6
(OR)		
11 (b) (i)	Which interaction paradigm suits the gaming interfaces and why? Justify your answer with an example application.	7

(ii)	Discuss the ways in which a full-page word processor is a direct manipulation interface for editing a document using Shneiderman's criteria.	6
12 (a) (i)	Create a GOMS description of the task of drawing a picture using Paint software. Discuss on the issue of closure in terms of your GOMS description.	7
(ii)	"The coordination of the face to face conversation depends on back channels and interpretation of listeners expressions". Justify the above statement.	6
<b>(OR)</b>		
12 (b) (i)	"Jack is due to meet Jill to go to a musical concert at 5.00 pm. He decides he will stop work at 4.30 pm and keeps an eye on the clock. Every few minutes he looks at it but eventually he looks and it is already 4.35. He shut down the system and leaves". Abstract the important properties of status and events from the above scenario.	7
(ii)	Perform a keyboard level analysis for creating an application in a visual desktop interface using the mouse as the pointing device by comparing at least two different methods for performing the task.	6
13 (a) (i)	Comment on the use of layout and other elements in the control panel of the online game player shown in figure below, including the way in which various visual elements support or hinder logical grouping and sequence.	7
		
(ii)	How are localization and internationalization implemented in user interfaces? Explain with an example for each.	6
<b>(OR)</b>		
13 (b) (i)	Discuss how software life cycle waterfall model can be applied by interface designers to design the user interfaces?	7
(ii)	Compare and contrast a command line interface with a visual interface.	6
14 (a)	Choose an appropriate evaluation method for the given situation. "You have been asked to design and implement a new spreadsheet package". Identify the participants, technique used, tasks to be examined, measurements and outline the plan for carrying out the evaluation.	13
<b>(OR)</b>		
14 (b)	Illustrate a computer application that is used in Assistive Domain. Enlist the main types of help that users may require in the above application and give an example situation in which it would be appropriate to use each type of help.	13
15 (a)	Discuss the Time Space matrix of groupware systems. Also explain the refined Time Space matrix in detail.	13
<b>(OR)</b>		
15 (b)	Many users are exploring the use of augmented reality and its technologies in education industry. Discuss how context awareness, automated capture and continuous interaction play an important role in building mixed reality based applications.	13

**PART- C(1x 15=15Marks)**  
**(Q.No. 16 is Compulsory)**

Q.No	Questions	Marks
16 (i)	Consider any popular educational website. Design and develop solutions for improving the usability of the interface. Also list out the implementation strategies used and evaluate the new modified website using any suitable evaluation technique. Explain the above process in detail.	5+5+5