INSTITUTE OF AERONAUTICAL ENGINEERING

Dundigal, Hyderabad - 500 043

COMPUTER SCIENCE AND ENGINEERING
QUESTION BANK

Course Name	:	HUMAN COMPUTER INTERACTION
Course Code	:	BCSB16
Class	:	M. Tech II Semester
Branch	:	COMPUTER SCIENCE AND ENGINEERING
Year	:	2018 – 2019
Course Faculty	:	Mr.C.Praveen Kumar, Assistant Professor, Dept. of CSE.

OBJECTIVES

I.	Familiarize with HCI concepts.
II.	Understand supervised learning and unsupervised learning user interface design
III.	Introduce the ideas of good interface design

COURSE LEARNING OUTCOMES:

At the end of the course the students are able to:

S. No	Description
BCS208.01	Understand literature of HCI
BCS208.02	Understand and develop psychological characteristics in the design of a system
BCS208.03	Retrieve important in design of a system
BCS208.04	Understand Human Interaction Speed.
BCS208.05	Understand the concept of regression an the components of a web navigation system?
BCS208.06	Understand the concepts of organizing and ordering of screen elements
BCS208.07	Understand the concepts of disadvantages of palettes
BCS208.08	Identify Direct-Control pointing devices
BCS208.09	Understand Speech digitization and Generation?
BCS208.10	Develop Software Engineering for creating user interface
BCS208.11	Understand Backus normal form
BCS208.12	Develop fuzzy interface system and fuzzy expert system
BCS208.13	Understand user-action notation.
BCS208.14	Understand the menu- selection and dialog box trees

S. No	Question	Blooms Taxonomy Level	Course Outcome
	UNIT-1 **Introduction and I/O channels**		
	Part - A (Short Answer Questions)		
1	What is input and out put Channels?	Remember	1
2	Explain the interaction frame work has four parts?	Understand	1
3	Explain in detail the importance of the user interface design	Understand	1
4	What is the importance of HCI?	Remember	1
5	Write the impact of inefficient screen design on processing time.	Remember	2
6	Explain the design structure of dession Process?	Understand	2
7	Explain the design structure of Human information Processing?	Understand	2
8	Explain the design structure of Command line interface	Understand	2
9	What are the benefits of a good design?	Remember	1
10	What Comprises a good design?	Remember	1
11	What is Frame Work Devices Memory?	Remember	2
12	Explain the benefits of good interface design	Understand	1
13	Explain about Prototyping in practice	Understand	3
14	Explain about the popularity of graphics	Understand	3

S. No	Question	Blooms Taxonomy Level	Course Outcome
15	Explain the concept of Direct manipulation	Understand	3
16	What are the various problems with Direct manipulation?	Remember	3
17	Why should we go for indirect manipulation?	Remember	3
18	What are the advantages of Richer interaction?	Remember	3
19	What are the disadvantages of Graphical Systems?	Remember	3
20	Illustrate the characteristics of a Web Interface	Understand	3
21	Explain the characteristics of an Design rules?	Understand	3
22	List out any two principles of Standred Guidelines?	Remember	3

Part - B (Long Answer Questions)

S. No	Question	Blooms Taxonomy Level	Course Outcome
1	Explain the history of Memory	Understand	2
2	Compare a 1970's screen, a 1980's screen, and a 1990's and beyond screen	Understand	2

3	Define the terms
	  i. User interface
	  ii. Objects and
	  iii. Action.
		Remember	2

4	What is the impact of inefficient screen design	Remember	1
5	Explain in detail the importance of the user interface for success of a software	Understand	2
6	Explain in details the benefits of Good Design	Understand	2
7	Explain the chronological history of internet	Understand	2
8	Explain the chronological history of Reasoning and problem solving?	Understand	1
9	Explain about the data objects, container frame work Design?	Understand	3
10	What is the important human characteristics which have influence on Ergonomics	Remember	3
11	Compare and contrast the graphical user interface and the web user interface	Understand	3
12	Explain about attributes of an object.	Understand	3
13	Explain the concept of Direct Manipulation	Understand	3
14	What is Graphical Systems? Explain its advantages and disadvantages	Remember	3
15	List out the characteristics of the Graphical User Interface	Remember	3
16	List out the characteristics of the Web User Interface	Remember	3
17	Compare the print page design and web page design	Understand	3
18	Compare and contrast interactivity- Paradigms?	Understand	3
19	Explain about the principles of user interface design?	Understand	3
20	Explain and state various principles processing and networks	Understand	3

UNIT-II
INTERACTIVE DESIGN

Part - A (Short Answer Questions)

S. No	Question	Blooms Taxonomy Level	Course Outcome
1.	What are the various difficulties with poor design?	Remember	4
2.	Discuss any three psychological and physical user responses to poor design.	Remember	5
3.	Explain any 5 important Human characteristics in Design	Understand	5
4.	Discuss about users knowledge and experience in the design of business system	Remember	5
5.	Explain about human interaction speed	Understand	4

S. No	Question	Blooms Taxonomy Level	Course Outcome
6.	Explain various methods of requirement analysis briefly	Understand	4
7.	Explain the user's mental model and systems conceptual models	Understand	5
8	What is Document Design? Explain about it?	Remember	4
9.	Why system training and documentation are also an integral part of any development effort. Discuss	Remember	5
10.	Explain various User's physical characteristics	Understand	5
11.	Explain any 4 interface design goals	Understand	6
12.	Define good screen design. What are the problems with poor design given the factors.	Remember	7
13.	What is a screen? What is the purpose of a screen?	Remember	8
14.	Explain the design rationale?	Understand	4
15.	Explain about organizing and ordering of screen elements	Understand	6
16.	What is the role of screen navigation and flow in developing good screen design?	Remember	7
17.	Explain any 4 qualities which provide visually pleasing Prototyping in practice	Understand	8
18.	Discuss any 4 techniques used for visual emphasis of important elements on a screen	Remember	5
19.	Explain various guidelines for presenting information on screen	Understand	4
20.	Explain the types of Statistical Graphics	Understand	5
Part - B (Long Answer Questions)			
1	What is meant by basic business functions? Discuss in detail the process of determining basic business functions	Remember	4
2	Discuss about the users psychological characteristics in the design of a software life cycle?	Remember	5
3	Discuss about the users physical characteristics in the design of a system	Remember	4
4	What is the importance of user's tasks and needs important in design of a system	Remember	5
5	Explain briefly about the important human characteristics in design of a system	Understand	5
6	Explain about Human Interaction Speed	Understand	6
7	Compare and contrast direct and indirect methods of requirements analysis	Understand	7
8	Why the system training and documentation are also an internal part of any development effort. Discuss	Remember	8
9	Explain various Design Standards or Style Guides	Understand	4
10	Explain the user's mental model and system's conceptual model.	Remember	6
11	What are the goals of user Interface design?	Remember	7
12	What is a Screen? What is the purpose of a screen?	Remember	8
13	Explain about Universal Design	Understand	5
14	Explain various qualities which provides visually pleasing composition and give suitable examples for each quality	Understand	4
15	What is the role of principles and standards?	Remember	5
16	Discuss the techniques user of visual emphasis of important elements on a screen	Remember	4
17	Explain the various guidelines for presenting information on screen	Understand	5
18	Explain various usability engineering	Understand	4
19	Discuss in detail the technological considerations in interface design	Remember	5

S. No	Question	Blooms Taxonomy Level	Course Outcome
20	Discuss various Types of Statistical Graphics (or) Explain the guidelines for displaying graphic components on screen	Remember	7,8
	UNIT-III **COGNITIVE MODELS**		
Part - A (Short Answer Questions)			
1	Explain in detail of socio-organizational	Understand	9
2	What are the various functions of socio technical models	Remember	9
3	Discuss different types of menus	Remember	9
4	Discuss the goals of website navigation	Remember	9
5	How many types of windows are available? Explain briefly	Remember	9
6	What are the components of a web navigation system?	Remember	9
7	Discuss about the website navigation design	Remember	9
8	Explain about window characteristics	Understand	9
9	Discuss any 5 window operations	Remember	9
10	Explain different kinds of collaboration models-Hypertext	Understand	9
11	Explain the issues that are to be considered in website organization	Understand	9
12	Discuss any four Components of a Windows	Understand	9
13	Explain any Three operations of a Window	Understand	9
14	Discuss the following Web systems frames (b) pop-up windows	Remember	9
15	Explain the functionality of Joystick and Graphic Tablet	Understand	9
16	Explain any 5 characteristics of Device-Based Controls	Understand	9
17	What are the guidelines for selecting the proper device-based controls? Explain in details	Remember	9
18	Explain the characteristics of the various screen -based controls	Understand	9
19	Explain any 3 organisational issues	Understand	9
20	What is the importance of Radio Buttons and Check Boxes?	Remember	9
21	What are the advantage and disadvantages of palettes	Remember	9
22	Compare soft system conflict and power	Understand	9
23	Explain about Words, Messages	Understand	10
24	Explain about Text , Instructional messages	Understand	10
24	Discuss about different types of Messages	Remember	10
25	What is icon?	Remember	10
26	Explain different kinds of icons?	Understand	10
27	What are the guidelines for creating images?	Remember	10
28	Explain about Color-What is it?	Understand	10
29	What are the uses of color?	Remember	10
30	Discuss any 3 possible problems with color.	Remember	10
31	What are the required features of diagrams?	Remember	10
32	Explain what are the issues to be considered in combining mediums	Understand	10
33	What are the guidelines for presenting error messages on web?	Remember	10
34	What is message?	Remember	10
35	Explain the advantages and disadvantages of image maps, video and animation	Understand	10
36	What are the uses of video?	Remember	10
37	What are the uses of diagrams?	Remember	10
38	How to create Three- Dimensional Look on a screen?	Remember	10

S. No	Question	Blooms Taxonomy Level	Course Outcome
Part - B (Long Answer Questions)			
1	What is www? Explain in detail	Remember	9
2	Explain the functions of universal Design	Understand	9
3	Explain different structures of Menus	Understand	9
4	Discuss various kinds of multimedia?	Remember	9
5	What are the various Components of a Window?	Remember	9
6	Explain various window operations	Understand	9
7	What are the guidelines for selecting the proper Device-Based control? Explain in detail.	Remember	9
8	Explain various characteristics of Device- Based Controls	Understand	9
9	Distinguish between Operable controls and Presentation Controls	Understand	9
10	Explain the Types of Windows	Understand	9
11	What are the various guidelines for presenting error messages on web?	Remember	10
12	Explain different types of Messages	Understand	10
13	Explain about Words, Text, Window	Understand	10
14	What is an icon? What are the kinds of icons? Explain in detail.	Remember	10
15	What is multimedia? Explain it briefly.	Remember	10
16	What are the guidelines for designing icons?	Remember	10
17	Explain about Color- What is it?	Understand	10
18	Explain various uses of Color.	Understand	10
19	What are the possible problems with color?	Remember	10
20	Explain the procedure for choosing colors in screen design	Understand	10
UNIT-IV **Software Tools**			
Part - A (Short Answer Questions)			
1	Discuss about Backus normal Platforms form	Remember	11
2	Explain briefly about specification methods	Understand	11
3	What are menu-selection and dialog box trees	Remember	11
4	What are the advantages of menu-selection and dialog box trees	Remember	11
5	Illustrate the following: Application frameworks?	Understand	11
6	What are Applications?	Remember	11
7	Explain the use of Elements of Mobile Design	Understand	11
8	What are the advantages and disadvantages of Transition diagram?	Remember	11
9	Explain about Statechart diagram.	Understand	11
10	Discuss various Design tools for creating user interface	Remember	11
11	Discuss various Software Engineering for creating user interface	Remember	11
12	What are the different features of user-interface-building tools?	Remember	11
Part - B (Long Answer Questions)			
1	Discuss about Types of Mobile Applications?	Remember	11
2	What is Widgets ? Explain briefly.	Remember	11
3	What is Transition diagram? Explain its advantages and disadvantages with an example	Remember	11
4	Explain about Mobile 2.0,	Understand	11
5	What is the role of state charts in specification? Give an example of state-chart for file manipulation actions	Remember	11
6	What are menu- selection and dialog box trees? And write it advantages.	Remember	11

S. No	Question	Blooms Taxonomy Level	Course Outcome
7	Explain about the Features of Mobile Design	Understand	11
8	Discuss various Design tools for creating user interface	Remember	11
9	Discuss various Software Engineering tools for creating user interface	Remember	11
10	Explain the importance of Interface – Building Tools	Understand	11
<td colspan="3" align="center">**UNIT-V** **Interaction Devices**</td>			
<td colspan="4">**Part - A (Short Answer Questions)**</td>			
1	Explain the features of QWERTY AND DVORAK LAYOUR	Understand	12
2	Distinguish between QWERTY and ABCDE style.	Understand	12
3	What are the function keys? What are their advantages?	Remember	13
4	Explain various Cursor movements keys	Understand	12
5	What is Fitt's law?	Remember	12
6	What are Pointing devices? Explain.	Remember	12
7	What are Direct-Control pointing devices?	Remember	12
8	Discuss various Indirect-Control pointing devices?	Understand	12
9	What is speech digitization and generation?	Remember	12
10	Discuss various Display Devices	Understand	12
11	Define various kinds of keyboard layouts	Remember	14
12	Explain speech store and forward method	Understand	12
<td colspan="4">**Part - B (Long Answer Questions)**</td>			
1	Explain briefly about direct control pointing devices. Designing Web Interfaces? Where it is used?	Understand	12
2	Explain the importance of Direct Selection	Understand	12
3	What are novel pointing devices? Explain? Explain about Speech Recognition	Remember	12
4	Explain pointing Drag & Drop? In detail What is Speech digitization and Generation?	Understand	12
5	Discuss briefly about discrete word recognition.	Understand	12
6	Explain about projectors, heads up displays helmet mounted displays.	Understand	15
7	What are the uses of video displays? Explain various video display devices in details.	Remember	12
8	Compare and contrast the characteristics of various pointing devices	Understand	12
9	Explain about the working of Process Flow ?	Understand	12

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Prepared By: Ms. B PRAVEEN

Head of the Department