Unit-I Introduction

Answer the following questions (2 Marks)
1. Define HCI. Why HCI is called interdisciplinary field?
2. Name three different dialogue styles?
3. What is haptic human computer interaction?
4. Distinguish between perception & cognition
5. What is usability?
6. What impact does perception has on human-computer interaction.
7. What impact does cognition have on human-computer interaction.
8. What impact does physiology have on human-computer interaction?
9. Describe two situations where you would not use a menu in an interface.
10. Enlist various types of interaction styles with examples.
11. Give two situations when you might use mouse instead of joystick.
12. Name two differences between short and long term memory.
13. Name three physical input devices that can be used to perform selections?
14. Briefly describe two situations when you might use a tracker ball rather than a mouse.
15. Name two differences between long and short term memory.
16. Give two situations when you might use virtual keyboard instead of keyboard.
17. Briefly explain why predictive text-entry may not reduce errors with mobile telephones.
18. Describe two situations in which keyboard input might be preferred over speech for data entry.
19. What is Ergonomics? Give examples.
20. What is WIMP interface?

Answer the following questions (4 Marks)
1. Identify the input & output devices used for following systems? For each compare & contrast alternatives and if appropriate indicate why the conventional keyboard, mouse & CRT screen may also be less suitable. a) Portable word processor b) Tourist information system c) air traffic control d) tractor mounted crop-spraying controller e) worldwide personal communication system f) digital cartographic system g) car navigation systems h) cash dispensing machine
2. Briefly explain what is meant by the terms perception, physiology and cognition.
3. What is the significance of 7 (+ or – 2) for human-computer interaction?
4. E-commerce has become very successful in some areas of sales such as travel services, books, CD's & food. However in some retail areas, such as clothes shopping, e-commerce has been less successful. Why?
5. Illustrate the Norman's Model of interaction with suitable example.
6. Imagine you are sitting reading as evening falls. You decide you need more light; that is you establish the goal to get more light. Identify the interaction model used in this example. Justify your answer.
7. A person using personal computer with keyboard & mouse. The application person using has GUI with menus, windows & icons. Identify how interaction ocurs through input-output channels of person & Computer?

8. India's biggest online store snapdeal become successful for Mobiles, Electronics, Home Appliances, Books,Jewelry,Home, Furniture etc. But for some areas like fashion it is less successful. Identify the reason & justify your answer.

9. Suggest the ideas for an interface which uses properties of sound effectively.

10. A blind person using personal computer with keyboard & mouse. The application person using has GUI with menus, windows,icons. Identify how the person will interact with computer through input-output channels?

8 Marks

1. You have been asked to design the android application of tourist system for mobile user. Application will be used by diverse users. How you will apply the eight golden rules of interface design for developing the application.

2. Describe the eight golden rules of interface design.

3. Sarvesh has the habit of purchasing the sporting goods from specific online store . He is going to purchase some goods from new online store for the first time. Identify the interaction styles used by him? Also Justify How Norman Model can be used for the interaction by him.

4. You have been asked to design web-site for the college. Web-site will be used by college employee, students & higher authorities of college. How you will apply the eight golden rules of interface design for developing the web-site.

5. Distinguish between good & bad user interface design with example

6. How can you apply usability measures to determine effectiveness & usability of your user interface

7. Determine how usability motivation can be applied in user interface design.

8. You have been asked to design a Web application or Web-site for the company. How you will apply the eight golden rules of interface design for developing the application.

9. Lokesh wants to design an interface for the educational interactive sytems that will be used by the childrens. Which interaction model he can use? Illustrate how he will apply the interaction model.

10. Imagine you are travelling from aurangabad to mumbai by train. Canteen facilities can be provided to the traveller over the call. You decide you need breakfast; that is you establish the goal to get breakfast. Identify the interaction model used in this example. Also illustrate the example using interaction model.

11. Explain the importance of good design.

12. Explain the characteristics of good user interface design.

Unit-II Design Process

2 Marks

1. What is design?
2. Enlist the phases of interaction design process
3. Define prototyping in interaction design process
4. What is golden rule of design?
5. Define persona.
6. What is software life cycle?
7. If you are asked to evaluate the design of a user interface, identify the golden rules for evaluating the design.
8. What is evaluation?
9. Identify the purpose of evaluation. Or What are goals of evaluation?
10. Enlist the approaches for evaluation through expert analysis

11. If you are asked to design ideal help system, what features it would include?
12. Enlist the approaches of user support.
13. What is universal design?
14. Enlist Universal design principles.
15. Enlist the approaches for evaluation through user participation.
16. What is cognitive walk-through & Heuristic evaluation?
17. Define guidelines, principles & standards.
18. Identify the design rules to support usability.
19. Enlist the activities in software life cycle.
20. Define storyboards.
21. Compare the Levels of interaction?
22. Classify usability metrics?
23. Plan and present the principles to support usability.
24. Give a model of Interaction design process.

8 Marks
1. Explain the process of design with four main phases in detail
2. What is design? Explain the golden rule of design.
3. Consider you are developing a new user interface system for the peoples to use in their day to day life. So, how do you get to know your users?
4. What is persona. Develope an example of persona using a i)Washing machine ii)smart watch
5. Explain iteration & prototyping
6. Explain the process of software development life cycle with waterfall model for HCI
7. The designer from the company got the project to create an user interface for his customer. The user interface will be used by customer for his own business purpose. How designer will apply software development life cycle for user interface development.
8. Explain the three main approaches of prototyping.
9. Distinguish between guidelines, principles & standards with examples.
10. How can you apply design rules or general principles to design interactive system in order to promote its usability?
11. Explain the principles to support usability.
12. Explain shneiderman's eight golden rules of interface design.
13. One of your friend has recently started working in area of interface design. He is not aware of evaluation techniques for interface design. As an expert analyst how will you guide him to evaluate his interface design using cognitive walkthrough technique?
14. One of the fresher software designer has recently started working in area of interface design in your company. He is not aware of evaluation techniques for interface design. How will you make him aware of evaluation techniques?
15. You have been asked to design an interactive system for public place. How you will apply universal design principles for designing the system or Explain the universal design principles
16. Explain the approaches for user support
17. Explain the requirements of user support
18. Mention and **Explain** the Shneiderman's Eight Golden Rules of Interface Design.

19. State and **Explain** Norman's Seven Principles for Transforming Difficult Tasks into Simple Ones.
20. Consider the following usability objective. Theatre booking clerks with low motivation, no computing experience and no previous training, working in a small and hectic box office, are able to learn to reserve or book seats within a one hour period. **Demonstrate** what measures could be taken and which techniques would you consider appropriate to test whether this objective was met?
21. Examine the principles affecting learnability in detail.
22. Give the summary of principles affecting flexibility in detail.
23. **List** and **describe** the activities in the life cycle.
24. Briefly discuss about the three main approaches to prototyping.

Unit-III Models & Theories

Answer the following questions   (2 Marks)
1. Enlist the methods used in participatory design process.
2. Define models with example.
3. What is Task analysis. Enlist three approaches for Task Analysis.
4. Give the models for interface design with example.
5. What is participatory design.
6. Give the significance of cognitive models.
7. Enlist the types of cognitive models with example.
8. Give the types of socio-technical models.
9. Define cognitive model & its types.
10. Enlist various types of interface models with examples.
11. Which approaches are used for task analysis
12. Define persona.
13. Define anthropometrics
14. What is Ergonomics? Give examples.
15. Enlist the characterstics of good design.
16. Enlist all the design model type, subtypes with example.
17. **What** are the characteristics of computer support cooperative work systems?
18. **Classifying** stakeholders – an airline booking system.
19. **Who are the stakeholders?**
20. **Classify** the four types of textual communication.
21. **Pointou**t face-to-face communication.
22. Define storyboard.

Answer the following questions   (4 Marks)
1. An international airline is considering introducing a new technology system for use by associated travel agents to sell flights directly to public. Identify & classify the stakeholders.
2. Compare two socio-technical models to provide detailed view of the technology will play & requirements of the successful deployment
3. Imagine you want to produce report on sales of introductory HCI textbooks. Identify & apply the type of model used to achieve goal of producing report on sales.
4. What is task analysis. How will you perform task analysis process? Illustrate with example.
5. What are the models of interface design. Explain any two cognitive models with example.

6. An Indian Railway department is considering introducing a new technology system for use by associated travel agents to sell railway tickets directly to public. Identify & classify the stakeholders for the system.

6. Explain the two socio-technical models to provide detailed view of the technology will play & requirements of the successful deployment

7. How CUSTOM approach of the socio-technical model can be used in interface design.

8. Describe Socio-technical models & Cognitive models.

9. Define Task analysis. Apply the hierarchical task analysis technique to make a cup of tea.

10. Define Task analysis. How will you apply the techniques of task analysis for cleaning the room?

10. How will you use good design characterstics for developing your user interface

11. E-commerce has become very successful in some areas of the sales but in few areas it lacking due to bad user interface of the E-commerce website. How will you use principles of good user interface design to make it successful in all areas.

12. Imagine you want to produce report on sales of Sundaram notebooks. Identify & apply the type of model used to achieve goal.

8 Marks
1. Explain the importance of Good design.
2. Given user interface designs below. Identify whether the design is good or bad & Justify why the perticular design is good or bad. (design examples given in folder)
3. You have been asked to design an user interface for an online store. How will you improve the usability of the user interface by applying the design characterstics or design commandments.
4. You have been asked to design web-site for the college. Web-site will be used by college employee, students & higher authorities of college. How you will apply the characterstics of interface design for developing the application.
5. Distinguish between good & bad user interface design with example
6. Explain the characterstics or commandments of good design.
7. Determine how usability motivation can be applied in user interface design.
8. You have been asked to design a Web application or Web-site for the income tax department of the government. How you will apply the user interface characterstics to make your design good & successful.
9. Explain the socio-technical models of interface design.
10. Explain the cognitive models of interface design with examples.
11. Developing persona (Assignment 1)
12. Antropometrics & Ergonomics Study(Assignment 2)
13. Classify cognitive models and discuss the same.
14. **Explain** how GOMS and the keystroke – level model support the interaction design process.
15. Explain the linguistic models–BNF and Task Action Grammar in brief.
16. Pointout the six key stages to carry out in a CUSTOM analysis?
17. Who is a stakeholder? Outline the types of stake holders and appraise the stakeholders for an airline booking system.
18. **List** and explain the seven stages of soft systems methodology
19. **Explain** the participatory design process utilizes a range of methods to help convey information between the user and designer.

Unit-IV Interaction Styles

2 Marks
1. What is direct manipulation?
2. Enlist the examples of the direct manipulation interfaces
3. What is virtual & augmented reality?
4. What are menu selection design guidelines?
5. What are the guidelines for form filling design?
6. What are the basic goals of language design?
7. What are the higher goals of language design?
8. Give the command language guidelines.
9. Identify the interaction devices used by any person while interacting with computer.
10. What is collaboration?
11. List out common interaction styles
12. Identify six types of interaction tasks for pointing devices.
13. List out direct control pointing devices
14. List out indirect pointing devices
15. Enlist usage characteristics that distinguish displays.

8 Marks
1. Explain with examples direct manipulation interfaces
2. Identify the direct manipulation interfaces & explain with examples.
3. Describe the challenges or problems of the direct manipulation technique.
4. What are the features for effective 3D interfaces
5. Explain the technologies used in virtulization & augmented reality
6. Describe menu selection with examples
7. Describe I) single menu ii) multiple menu with example.
8. You have been asked to create application software like word processing. How will apply menu selection guidelines to create the menu options in your software?
9. Explain the elements of form filling design.
10. Describe the command languages & also give examples
11. Describe the Natural languages in computing & give example
12. List & Explain the interaction devices in interactive computer systems.
13. Describe the goals of collaboration
14. Explain the goals for language design.
15. Describe the six potential abbreviation strategies.
16. Explain the interaction tasks applicable for pointing devices.
17. Explain the important features of display.

Unit-V Quality of Services

2Marks
1. What do you mean by quality of service?
2. Which are three primary factors influence users' expectations and attitudes regarding response time?
3. What is non-anthropomorphic design?
4. What are Guidelines for avoiding anthropomorphism and building appealing interfaces?

5   Enlist the functional design issues for balancing function & fashion to suit variety of customers.
6   What are user manual guidelines?
7   What is Information search?
8   What is information visualization?

8Marks
1 Describe the Models of Response Time Impacts & how we can apply the response time guidelines for improving user experience.
2   Explain how frustration from interface complexity, network disruptions, and malicious interference has grown. How guidelines can be applied to reduce the user frustration
3   Explain the any four functional design issues for balancing function & fashion that suit variety of customers.
4   Describe the diverse ways of providing guidance to users online.
5   Explain the benefits of Paper Versus Online Manuals used for User documentation & help.
6   Explain the significance of online tutorials, Demonstrations & Guides.
7   Explain the Five-phase framework to clarify user interfaces for textual search.
8   Describe the strategies for searching in Textual Documents and Database Querying.
9   Describe the information visualization.

Unit-VI Outside the Box

2Marks
1. What is CSCW?
2. Enlist the phases of interaction design process
3. Define groupware systems
4. What is ubiquitous computing?
5. What is hypertext?
6. What are network issues?
7. Define web servers & web client
8. Define text, hypertext & multimedia

8Marks
1. Explain the groupware systems
2. In groupware & CSCW there are two or more participant involved for communicating with each other. How we can apply method of computer mediated communication to support direct communication.
3. Discuss three types of systems where the generation & recording of ideas & decisions is primary focus.
4. Explain meeting & decision support systems.
5. Explain the role of ubiquitous computing in application development.
6. Explain the virtual & augmented reality
7. Describe text, hypertext & multimedia
8. Describe the features of hypertext
9. Differentiate between static web content & dynamic web content
10. Explain basics of web technology