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**GANDHI INSTITUTE OF ENGINEERING AND TECHNOLOGY UNIVERSITY, ODISHA, GUNUPUR  
(GIET UNIVERSITY)**



Ph.D. (Second Semester-Summer) Examinations, May - 2025

**23SPPECS2014/23SPPECA2012 - Human and Computer Interaction  
(CSE/CSA)**

Time: 3 hrs

Maximum: 70 Marks

**The figures in the right hand margin indicate marks.**

**Answer ANY FIVE Questions.**

**(14 x 5 = 70 Marks)    Marks**

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|------|--|----|
| 1.a. | What are mental models, and why are they important in interface design?  | 7  |
| b.   | How do you think new, fast, high-density memory devices and quick processors have influenced recent developments in HCI? Do they make systems any easier to use? Do they expand the range of applications of computer systems?                                     | 7  |
| 2a.  | How does Fitts' law change for different physical selection devices, such as a three-button mouse, a touchpad, or a pen/stylus?  | 7  |
| b.   | For what applications are these most appropriate? What influence does the social environment in which you work have on your interaction with the computer? What effect does the organization (commercial or academic) to which you belong have on the interaction? | 7  |
| 3.a. | Suggest potential ways of improving the interface to avoid a similar problem recurring?  | 7  |
| b.   | Explain QOC design rationale using an example to illustrate.   | 7  |
| 4 a. | Using the web design pattern language to a design for an e-commerce site for a small retail business. How well does the language support the design process?   | 7  |
| b.   | Explain briefly about socio-organizational issues and how does the stakeholder have to consider any particular issues relating to responsibility, security or privacy.   | 7  |
| 5.a. | What is mobile information architecture? Explain with help of neat diagram?  | 7  |
| b.   | What are the elements of mobile design? Explain?   | 7  |
| 6.a. | Explain the various display technologies applicable for small and large displays.  | 7  |
| b.   | What are contextual tools in web designing? Explain with help of examples?   | 7  |
| 7.   | Explain the following terms related to Human-Computer Interaction (HCI):<br>(i) Affordance<br>(ii) Feedback<br>(iii) Modalities<br>(iv) Usability Heuristics<br>(v) Mental Models  | 15 |
| 8.a. | Explain the technological considerations in interface design.  | 7  |
| b.   | Explain the importance of human considerations in user interface design.   | 7  |

---End of Paper---