

Total No. of Questions – [8] *Paper Code:* Total No. of Printed Pages – [2]

G.R. No.	
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*U359-115 (ESE) Civil U359-125 (ESE) Comp
U359-145 (ESE) IT U359-155 (ESE) Mech
U359-135 (ESE) E&TC*

DEC 2019/ENDSEM

T. Y. B. TECH. (Information Technology) (SEMESTER - I)

COURSE NAME: Human Computer Interaction

COURSE CODE: IE31175IT

(PATTERN 2017)

Time: [2 Hours]

[Max. Marks: 50]

(*) Instructions to candidates:

- 1) Answer Q.1, Q.2, Q.3, Q.4, Q.5 OR Q.6, Q.7 OR Q.8
- 2) Figures to the right indicate full marks.
- 3) Use of scientific calculator is allowed
- 4) Use suitable data where ever required

Q.1) a) Define "**Wicked Problem**". List 10 characteristics of wicked problem. [6]

OR

b) Explain "**Design Thinking**". List the FIVE phases of Design Thinking. [6]

Q.2) a) When systems are not designed to match the way people actually work, then users end up having to do '**work arounds**'. Discuss. [6]

OR

b) 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**? [6]

Q.3) a) A scenario is an idealized but detailed description of a specific instance of HCI. **Scenarios** specify how users carry out their tasks in specified context. Write scenarios for **purchasing an airline ticket**. [6]

Note: Generate scenarios to cover a wide range of situations, not just the most common ones. Include problem situations that will test the system concept, not just straight forward scenarios.

OR

b) How does **making a call** differ when using: [6]

- Smart Phone
- Cell Phone

How have these devices being **designed** to take into account

- i) The **kind of users**
- ii) Types of activity being supported
- iii) **Context** of use

Q.4) a) Discuss the main components of **Information Architecture**. [4]

OR

b) What is **Prototyping**? Explain the types of Prototyping. [4]

Q.5) a) Evaluate MS Word Interface using the "**8 Golden Rules of Interface Design**". [6]

b) What is Evaluation? Discuss the **Goals of Evaluation**. [4]

c) Discuss the **Testing techniques** – Formative and Summative testing. [4]

OR

Q.6) a) List and explain the **10 Heuristics** for evaluation developed by Jakob Nielsen. [6]

b) Discuss Evaluation through: **Expert analysis**, and **User participation**. [4]

c) What are the factors governing the choice of an **appropriate evaluation method** for different interactive systems? Give brief details. [4]

Q.7) a) Create **GOMS** description of the task of photocopying a paper from a Journal. Discuss the issue of closure in terms of your **GOMS** description. [6]

b) **KLM model** predicts expert error-free task completion time (human performance) with interactive computing systems. Total predicted time for a task is given by the equation. [4]

$$T_{EXECUTE} = T_K + T_P + T_H + T_D + T_M + T_R$$

What does each of the above timing represents?

c) What is **Cognitive Modeling**? What is the need and benefits of this study? [4]

OR

Q.8) a) Consider the activity of making a telephone call. Record the actions in an **HTA** diagram or textually. Start off simply, assuming you know the number to dial, but then add more complicated situations: finding the number in an address book, or what to do when the number is engaged. [6]

b) Develop a **KLM** model and predict time for the completion of the task "**Change font style for the word "KLM" to bold, Arial**" using mouse only. [4]

c) Discuss any **TWO prototyping tools** used in UX industry. [4]

*** All the Best ***