C–0172	Sub. Code
	82713

B.Sc. DEGREE EXAMINATION, NOVEMBER – 2023

First Semester

UI Design and Development

COMMUNICATION AND MEDIA DESIGN

(2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List the various types of verbal communication.

2. Define Meta Language.

3. What is user interface design?

4. Define New Media.

5. What is knowledge representation?

6. What is ubiquitous computing?

7. Define Ergonomics.

8. Define Semiotics.

9. What is user experience design?

10. Define Empathy.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss in detail about verbal and non-verbal communication.

Or

(b) Explain User-centric design in short.

12. (a) Explain User profiling in detail.

Or

(b) Give a short note on Modalities and interface.

13. (a) What is a software standard and discuss the various software standard organizations and their objective?

Or

(b) Mention ten content descriptors and their meaning.

14. (a) Discuss the design principles of Ergonomics.

Or

(b) Discuss about Agile Software development methodology.

15. (a) Differentiate UI and UX.

Or

(b) What is Data Driven Design?

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain behaviourism in detail with Skinner box case study.

Or

(b) Write a detailed note on Human Computer Interaction.

17. (a) Create detailed note on Semiotics and its use in media.

Or

(b) Present a detailed note on Design Thinking.

18. (a) Discuss about user modeling and profiling in detail.

Or

(b) Write a detailed note on seven liberal arts and sciences.

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C–0173	Sub. Code
	82714

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

First Semester

UI Design and Development

PROGRAMMING AND SCRIPTING

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Write a C++ program to display “Hello world”.

2. List out the operators in C++.

3. Define pointer with example.

4. State functions.

5. What is constructor?

6. State Exception handling.

7. Define WWW and standards.

8. Write a HTML code using div tags.

9. Write the CSS code for inline method.

10. State roll over in CSS.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Write a program using call by value and call by reference.

Or

(b) Illustrate recursive function with suitable example.

12. (a) Discuss the Union, enum and structures in C++.

Or

(b) Explain array and its types with example.

13. (a) Define abstract class with example program.

Or

(b) What is Inheritance and explain with suitable example program.

14. (a) Write a short notes about web technology history and evolution.

Or

(b) Discuss about semantic and media tags with example.

15. (a) Write a CSS code for display border and outline in HTML page.

Or

(b) Discuss about Flex box in detail.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain OOPS concepts and its advantages.

Or

(b) Write a C++ program for palindrome and explain the concept briefly.

17. (a) Write a C++ program using array to display month calendar.

Or

(b) Write a C++ program using abstract class for any application.

18. (a) Write a HTML code for student registration form for cultural event.

Or

(b) Write a CSS code to Hover and Active functions inside the HTML page.

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C–0174	Sub. Code
	82732

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UI Design and Development

VISUAL DESIGN

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Mention the features of digital art.

2. Outline the advantages of raster graphics.

3. Define user interface layout.

4. Give examples for grid view.

5. Analyse the features of GUI design.

6. Define vector graphics.

7. Mention the purpose of title bar.

8. What is responsive design?

9. Summarise the features of Metro UI.

10. Appraise the advantages of mascot design.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Outline the functions of navigation bar.

Or

(b) Discuss on web design standards.

12. (a) Extend the principles of poster design.

Or

(b) Write notes on Design etiquette.

13. (a) Discuss on UI illustrations.

Or

(b) What are animated icons? Give examples.

14. (a) Articulate about the global standards for colour.

Or

(b) Summarise the functions of mobile GUI design.

15. (a) What is web mock-ups? Explain it.

Or

(b) Write notes on mock-up design.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Explain various mobile design patterns with suitable examples.

Or

(b) Differentiate between raster graphics and vector graphics.

17. (a) Summarise the role and benefits of mobile platforms in game development.

Or

(b) What are the different types of layouts in web design? Explain it in detail.

18. (a) Outline the components of web page with suitable examples.

Or

(b) Explain the principles of responsive web design with examples.

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C–0175	Sub. Code
	82733

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UI Design and Development

UI DEVELOPMENT – II

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. List the advantages of CSS.
2. List out some primary CSS text properties.
3. Mention the key components of Bootstrap.
4. What is the use of jumbotron in Bootstrap?
5. List down the major advantages of using Node.js.
6. Differentiate between Javascript and Node.js.
7. Mention the advantages of Angular JS.
8. Mention the uses of Angular JS.
9. Define templates in Angular JS.
10. Write short on modal plugin in bootstrap.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) How to create responsive designs using CSS break points?

Or

(b) Outline the principles of responsive design.

12. (a) Discuss in detail about Tables in bootstrap.

Or

(b) Explain how to handle an image in bootstrap.

13. (a) Explain about Navbar in bootstrap with example.

Or

(b) Write a program to pagination and explain.

14. (a) How do you create HTTP web server in node JS?

Or

(b) Give brief introduction about environment setting for node JS.

15. (a) Briefly explain about Form validation.

Or

(b) Differentiate between one-way binding and two-way data binding.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) Describe about Layout and Bootstrap elements with suitable example.

Or

(b) Enumerate various methods defined by media queries with and example.

17. (a) How do you handle the database in nodeJs? Explain with example.

Or

(b) Explain about the various plugins of bootstrap with examples.

18. (a) What is data binding in Angular JS? How does it relate to the MVC architecture? Explain.

Or

(b) Explain the following :

(i) Filters

(ii) Templates

(iii) Views.

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C–0176	Sub. Code
	82734

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Third Semester

UI Design and Development

UX DESIGN – II

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What do you mean by communication error?

2. Define Trust Building.

3. What is tree test?

4. Define Information Architecture.

5. Extend visual heat.

6. Explain high fidelity wire frame.

7. What makes a good test report?

8. Explain anatomy of the perfect test report.

9. Write short notes on user experience.

10. What is rethinking hyper link?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain proximity with example.

Or

(b) Write notes on paper prototype.

12. (a) How to create task models in power point? Explain.

Or

(b) How to validate user journey? Explain.

13. (a) Write notes on wire framing.

Or

(b) How to represent motion in wire framing?

14. (a) Draw a funnel diagram for UX design.

Or

(b) How to represent responsive design?

15. (a) How to understand the device prototype in mobile?

Or

(b) Write note on desktop prototyping.

Part C (3 × 10 = 30)

Answer **all** questions.

16. (a) What makes a good funnel diagram? Explain when to create a funnel diagram.

Or

(b) Explain the entire process of Visual design.

17. (a) Explain the followings :

(i) Low fidelity wireframe works

(ii) Design principles of wireframing.

Or

(b) Explain the ways where card sorting helps in information architecture.

18. (a) Write notes on :

(i) Mobile usability

(ii) Protype in mobile.

Or

(b) Which is more important low fidelity wire frame or high fidelity wire frame? Argue.

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C–0177	Sub. Code
	82751

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

UI Design and Development

EMERGING TECHNOLOGIES

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. Translate Hill climbing in AI.

2. What do you mean by classifiers?

3. What are the advantages of backward chaining?

4. Analyse the importance of search algorithms.

5. Mention the features of VR.

6. What is the Goal of Virtual Reality?

7. What is AR intelligence?

8. What sensors are used in augmented reality?

9. Outline the features of IoT.

10. Expand BCI.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain AI problems and techniques.

Or

(b) Differentiate between BFS and DFS.

12. (a) Explain about predicate logic.

Or

(b) State Bayesian theory.

13. (a) Discuss about virtual reality modelling language.

Or

(b) Discuss the functions of backward chaining.

14. (a) Explain motion tracking in AR.

Or

(b) Discuss on Augmented Reality tracker.

15. (a) Explain the uses of actuator in IoT.

Or

(b) Explain about cloud sensor.

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Discuss about the components of augmented reality.

Or

(b) Summarise the applications of Search Algorithms with examples.

17. (a) Extend the role of Virtual Reality technology in gaming technology.

Or

(b) Explain the following :

(i) Canonical view transforms.

(ii) Viewport transformation.

18. (a) Analyse the following :

(i) SIFT algorithms

(ii) SURF algorithms.

Or

(b) Explain the concept of augmented reality with suitable example.

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C–0178	Sub. Code
	82752

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

UI Design and Development

SOFTWARE QUALITY ASSURANCE

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. Define quality assurance.

2. What is the purpose of CTQ tree?

3. What are quality measurements?

4. What are the principles of quality assurance?

5. What are the human factors that affect the quality of software?

6. Define time management.

7. Mention the importance QMS for software.

8. What is defect clustering?

9. Mention any two benefits of usability testing.

10. Define pilot testing.

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) What is hierarchical quality model? Explain.

Or

(b) What are quality criteria? Extend.

12. (a) What are the examples of quality function deployment?

Or

(b) Differentiate between reliability and availability.

13. (a) Explain quality goals and measures.

Or

(b) Explain the importance of quality testing.

14. (a) What is test automation? Give examples.

Or

(b) What is the purpose of ad hoc testing? Mention its purposes.

15. (a) Write notes on usability metrics.

Or

(b) Differentiate between in-person and remote research.

Part C (3 × 10 = 30)

Answer **all** questions, choosing either (a) or (b).

16. (a) Explain quality management tools with suitable example.

Or

(b) Differentiate between qualitative and quantitative research.

17. (a) Explain various standards and elements of quality in software testing.

Or

(b) What are the criteria of a quality measurement? Explain its principle.

18. (a) Explain the following :

(i) Time Management

(ii) Playback testing.

Or

(b) Elaborate on moderated and automated techniques in usability testing.

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C–0179	Sub. Code
	82755A

B.Sc. DEGREE EXAMINATION, NOVEMBER – 2023

Fifth Semester

UI Design and Development

INFORMATION ARCHITECTURE

(2019 onwards)

Time : 3 Hours Maximum : 75 Marks

Part A (10 × 2 = 20)

Answer **all** questions.

1. What is information architecture for UX?

2. What is Labeling System?

3. What is the role of navigation systems?

4. Define global navigation.

5. Define the features of user centred design.

6. What is card sorting?

7. Give an example of a context.

8. What is taxonomies?

9. Define the meaning of web crawling?

10. What are search operators?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Explain the features of labelling system.

Or

(b) Elaborate on user experience design.

12. (a) Write notes on competitive analysis.

Or

(b) Write notes on contextual navigation.

13. (a) What is an information architecture strategy? Give example.

Or

(b) What is swimlane? Mention its purpose.

14. (a) Explain heuristic analysis in research.

Or

(b) Outline controlled vocabulary in databases.

15. (a) Write notes on search engine optimization.

Or

(b) Write notes on off page SEO.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain various theories of information architecture.

Or

(b) Elaborate on information architecture design strategies.

17. (a) Describe about content design for digital application.

Or

(b) Explain in detail about user research methods in user centred design.

18. (a) Outline the concept of web page design. Give examples.

Or

(b) Elaborate on search engine architecture and search operators.

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C–0180	Sub. Code
	82755B

B.Sc. DEGREE EXAMINATION, NOVEMBER – 2023

Fifth Semester

UI Design and Development

HUMAN COMPUTER INTERACTION

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What is human interface?

2. What is CPU?

3. List the types of navigation.

4. What is prototyping?

5. What is cognitive model?

6. What is hypertext?

7. What are mobile platforms?

8. What is the purpose of widget?

9. How to design web page?

10. What is overlays?

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Describe the ergonomics of human interface.

Or

(b) Explain the computer interaction.

12. (a) Explain the software life cycle.

Or

(b) Discuss the universal design.

13. (a) Explain the user communication models.

Or

(b) Describe the multimedia.

14. (a) Explain the importance of mobile ecosystem.

Or

(b) Explain the Mobile 2.0.

15. (a) Discuss the Web interfaces.

Or

(b) Discuss the importance of contextual tools in web page design.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) Explain in detail human communication problems with suitable example.

Or

(b) Explain the basis of design interaction in detail.

17. (a) Discuss in detail the design evaluation technique.

Or

(b) Explain the application of framework in mobile system.

18. (a) Explain the mobile information architecture.

Or

(b) Explain the web interface design with suitable example.

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C–0181	Sub. Code
	82755C

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023

Fifth Semester

UI Design and Development

HUMAN CENTERED DESIGN

(2019 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 2 = 20)$

Answer **all** questions.

1. What is Emotional Design?

2. What is visceral design?

3. What is the purpose of interaction design?

4. What are the steps for interaction design process?

5. What do you mean by metaphor?

6. Give example for tangible user interface.

7. What is the aim of ubiquitous computing?

8. What is the difference between mobile computing and ubiquitous computing?

9. What is the main objective of human factors engineering?

10. What do you mean by stress and fatigue?

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) What are the three principles of user centered design?

Or

(b) Mention the importance of human-centered design in UI.

12. (a) Discuss about interaction design as business lubricant.

Or

(b) Discuss about interaction design as Language.

13. (a) Outline the features of tangible user interfaces.

Or

(b) Explain about playful user interfaces.

14. (a) Write note context technology.

Or

(b) Write note on ubiquitous computing.

15. (a) Explain about physical work comfort.

Or

(b) Explain about visual comfort.

Part C

$(3 \times 10 = 30)$

Answer **all** questions.

16. (a) How does ergonomics affect human behavior? Discuss in detail.

Or

(b) Explain the principles of human centred design.

17. (a) Explain in detail about three levels of design in human centered design.

Or

(b) Write notes on

(i) Reflective design

(ii) Behavioural design

18. (a) Explain the factor to be considered while designing products for kids.

Or

(b) Explain the following

(i) Human factor engineering

(ii) Display and control design.

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C–1229	Sub. Code 60213

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

First Semester

U.I. Design

PROGRAMMING AND SCRIPTING

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 1 = 10)$

Answer **all** questions.

1. Which of the following is not a commonly used programming language?

   (a) Python (b) C++

   (c) HTML (d) Java

2. In programming what is an algorithm?

   (a) A set of logical steps to solve a problem or perform a task

   (b) A computer's hardware components

   (c) A specific programming language

   (d) A mathematical equation

3. What does HTML stand for?

(a) Hyperlink and Text Markup Language

(b) HyperText Markup Language

(c) High-Level Text Markup Language

(d) Hyper Transfer Markup Language

4. Which of the following is not a web browser?

(a) Chrome (b) Firefox

(c) Photoshop (d) Safari

5. In HTML, what are entities used for?

(a) Defining form attributes

(b) Creating animations

(c) Displaying special characters and symbols

(d) Structuring tables

6. What HTML element is typically used to enclose content that is tangentially related to the content around it, like sidebars or advertising?

(a) <aside> (b) <nav>

(c) <header> (d) <footer>

7. What does CSS stand for?

(a) Creative Style System

(b) Computer Style Sheets

(c) Cascading Style Sheets

(d) Centralized Styling System

8. What CSS property is used to control the spacing between the inner content and the border of an element?

(a) Padding (b) Margin

(c) Border-spacing (d) Outline

9. What is the "viewport" in the context of responsive web design?

(a) A location on a webpage where images are displayed

(b) The background color of a webpage

(c) The visible area of a web page in the user's browser

(d) A type of CSS variable

10. In web design, what is an "image gallery"?

(a) A collection of CSS variables

(b) A design concept that uses only text

(c) A layout structure for web pages

(d) A presentation of multiple images for viewing

Part B $(5 \times 5 = 25)$

Answer **all** questions.

11. (a) Explain the fundamental purpose of programming.

Or

(b) Define what an algorithm is in the context of programming. Provide an example of a simple algorithm and explain its structure.

12. (a) Explain the evolution of the World Wide Web, highlighting the key milestones that led to its development.

Or

(b) Define hypertext and explain how it is a fundamental concept in web technology.

13. (a) Explain the role of HTML tables in organizing and presenting data.

Or

(b) List and explain three essential attributes commonly used in HTML forms.

14. (a) Explain the purpose of CSS in web development.

Or

(b) Explain the purpose of CSS properties related to background and image styling.

15. (a) Discuss how media queries are used to create responsive layouts.

Or

(b) Explain the role of CSS properties like "background-color," "background- image," and "background-size" in web design.

Part C

$(5 \times 8 = 40)$

Answer **all** questions.

16. (a) Define the concept of a function in programming. How do functions help in code organization and reusability? Provide an example of a user-defined function.

Or

(b) Describe the key steps in problem-solving, especially in the context of developing algorithms.

17. (a) Discuss the significance of the <body> tag in HTML and list three commonly used elements that can be placed within the <body> of a web page. Explain their purposes.

Or

(b) Explain the importance of hyperlinks in web development and how they enhance user navigation. Discuss the differences between ordered and unordered lists in HTML, and provide use cases for each.

18. (a) Differentiate between HTML entities, symbols, and emojis. Provide examples of each and explain their applications in web content.

Or

(b) Explain the purpose of the <audio> and <video> elements in HTML. Give examples of how these elements are used to embed audio and video content in web pages.

19. (a) Explain the differences between "static," "relative," and "absolute" positioning. Provide examples of how floating elements can be used for layout design.

Or

(b) Discuss the purpose of the "overflow" property in handling content that exceeds its container's dimensions. Provide examples for both icons and overflow control.

20. (a) Discuss the role of pagination in managing large sets of data or content. Provide examples of masked elements and paginated content.

Or

(b) Discuss how transitions and animations can be applied to create interactive and visually appealing effects on web elements.

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C–1230	Sub. Code
	60215

B.Sc. DEGREE EXAMINATION, NOVEMBER 2023.

First Semester

UI Design

COMMUNICATION AND MEDIA DESIGN

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A $(10 \times 1 = 10)$

Answer **all** questions.

1. Which communication model emphasizes the importance of feedback in the communication process?

   (a) Linear communication model

   (b) Transactional communication model

   (c) Interactive communication model

   (d) Cognitive communication model

2. What did the Skinner box case study primarily focus on?

   (a) Cognitive psychology

   (b) Operant conditioning

   (c) Social learning theory

   (d) Humanistic psychology

3. What is the purpose of a "Software Rating Board"?

(a) To develop software applications

(b) To rate software based on its quality and appropriateness

(c) To market software to consumers

(d) To enforce software patents

4. In the context of copyright, what are "moral rights"?

(a) Rights related to the ethics and morality of creative works

(b) Rights that allow creators to prevent unauthorized use of their work

(c) Rights related to financial compensation for creative works

(d) Rights granted by a government for a limited period

5. What is the primary focus of User Experience (UX) design?

(a) Creating visually appealing interfaces

(b) Ensuring a positive and meaningful experience for users

(c) Writing error- free code

(d) Enhancing server performance

6. What does UX Design Thinking primarily involve?

(a) Focusing solely on aesthetics and visual appeal

(b) Considering the end-user's needs, goals, and pain points.

(c) Emphasizing the design of user interfaces

(d) Conducting in-depth market research

7. What is the "6 thinking hats" approach primarily used for?

(a) Brainstorming ideas

(b) Conducting ergonomic evaluations

(c) Mind mapping concepts

(d) Semiotic analysis

8. What is the field of study that focuses on designing products and environments to optimize human well-being and overall system performance?

(a) Semiotics (b) Ergonomics

(c) Pilot study (d) Mind map

9. In Agile, what is a "sprint"?

(a) A quick run to grab coffee during a development project

(b) A short, time-boxed development cycle with a specific goal

(c) A software testing phase

(d) A detailed project plan

10. Which of the following is a key role in project management responsible for overseeing the project's progress and ensuring it stays on track?

(a) End-user (b) Software developer

(c) Project manager (d) stakeholder

Part B (5 × 5 = 25)

Answer **all** questions.

11. (a) Discuss a communication model of your choice and describe its key components.

Or

(b) Define Interactive Multimedia (IMM) and discuss its relevance in modern communication and technology.

12. (a) Explain the fundamental principles of Human-Computer Interaction (HCI) and their significance in designing user-friendly interfaces.

Or

(b) How do behavioural studies contribute to improving the usability of software and digital products?

13. (a) Differentiate between User Experience (UX) and User Interface (UI) design.

Or

(b) Explain the concept of UX Design Thinking.

14. (a) Describe the role of a pilot study in the content creation process.

Or

(b) Explain the "6 thinking hats" approach and its application in the creative process.

15. (a) Discuss the responsibilities and skills required for effective project management.

Or

(b) Explain the software development life cycle.

Part C (5 × 8 = 40)

Answer **all** questions.

16. (a) Explain the concept of communicative interaction and its role in fostering effective communication

Or

(b) Describe with suitable examples the concept of meta-languages and their role in communication and information processing.

17. (a) Discuss the role of cultural acceptance and differences in the global adoption of new media and digital technologies. How can cultural diversity impact technology use?

Or

(b) Explain the various techniques used for knowledge representation in the field of information and data processing.

18. (a) Define Customer Experience (CX) and discuss the significance of digital touch points in shaping the overall customer experience. Provide examples of digital touch points in various industries.

Or

(b) Explore the relationship between Human-Computer Interaction (HCI) and UX design. How do principles of HCI influence the UX design process, and how do they impact the user interface?

19. (a) Define "more complex signs" in semiotics and provide examples. How can the interpretation of these complex signs impact the messaging in multimedia content?

Or

(b) Elaborate with suitable example on t e significance of enhancing existing or services in the multimedia industry.

20. (a) Discuss the technological advancements expected in the field of ubiquitous computing.

Or

(b) Explain the purpose of a software version control system. How does it enable software development teams to manage changes, track versions, and collaborate effectively?

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