C–6035

Sub. Code
82713

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

UI Design and Development

PROGRAMMING AND SCRIPTING

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. _____ is NOT a primitive data type in most programming languages.

   (a) Integer (b) String

   (c) Float (d) Class

2. The following is an example of a recursive function is _____.

   (a) A function that calls another function

   (b) A function that calls itself

   (c) A function with no return statement

   (d) A function with a for loop

3. _____ is NOT a markup language.

   (a) HTML (b) CSS

   (c) XML (d) SQL

4. _____ is an example of an exception-handling block in programming.

(a) if-else (b) try-catch

(c) for-loop (d) switch-case

5. _____ attribute is used in an HTML <form> tag to specify where to send the form data.

(a) Action (b) Method

(c) Target (d) Enctype

6. _____ is NOT a valid input type in HTML forms.

(a) Text (b) Date

(c) File path (d) Number

7. _____ is NOT a type of style sheet in CSS.

(a) Inline (b) External

(c) Embedded (d) Structural

8. The default value of the position property in CSS is _____.

(a) Relative (b) Static

(c) Fixed (d) Absolute

9. _____ CSS property is used to create a gradient background.

(a) Background-color (b) Background-gradient

(c) Linear gradient (d) Gradient-color

10. _____ is the function of the viewport meta tag in responsive design.

(a) To adjust the background color of the website

(b) To control the layout and scaling on different devices

(c) Top define custom fonts for the website

(d) To set the width and height of an image

Part B (5 × 5 = 25)

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

11. (a) Describe the steps involved in solving a problem using computational logic.

Or

(b) Explain recursive functions with an example.

12. (a) Discuss the key milestones in the history and evolution of the World Wide Web.

Or

(b) Write a simple program in any language to demonstrate the use of exception handling.

13. (a) Explain the purpose and structure of tables in HTML.

Or

(b) What are HTML entities, and why are they important?

14. (a) Summarize the different types of CSS selectors (e.g., element, class, id, universal) with examples.

Or

(b) Outline the difference between margin, padding and outline in CSS.

15. (a) Explain the importance of a well-designed website layout.

Or

(b) Outline the CSS transform, transition and animation properties.

Part C (5 × 8 = 40)

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

16. (a) Discuss how data types affect memory allocation in a programming language of your choice.

Or

(b) Write a program to calculate the nth Fibonacci number using recursion.

17. (a) Explain the role of organizations like the W3C in establishing and maintaining these standards.

Or

(b) Discuss how to use color codes in HTML and CSS to style web pages.

18. (a) Explain with an example how to create a simple webpage layout using frames.

Or

(b) Write a complete HTML code for a simple webpage that uses semantic tags like <header>, <footer>, and <article> to structure the content.

19. (a) Explain the three types of style sheets in CSS (inline, internal, and external).

Or

(b) Summarize the hover and active states in CSS, and how are they used in navigation design.

20. (a) Outline the different approaches to designing a website layout (e.g., grid system, Flexbox, and CSS Grid).

Or

(b) Explain what CSS variables are and how they can be used to manage repetitive styling values in a project.

C–6036	Sub. Code 82715

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

First Semester

UI Design and Development

COMMUNICATION AND MEDIA DESIGN

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. _____ communication model focuses on the sender, message, and receiver as a linear process.

   (a) Interactive Model

   (b) Shannon-Weaver Model

   (c) Transactional Model

   (d) Berlo's SMCR Model

2. The core principle of User-Centric Design is _____

   (a) Designing products based on user needs and preferences

   (b) Focusing on the aesthetics of a product

   (c) Prioritizing developer requirements over user needs

   (d) Relying solely on artificial language for interaction

3. _____ is NOT a principle of user interface design.

(a) Consistency

(b) Flexibility

(c) Aesthetic integrity

(d) Minimizing user interaction

4. _____ organization is responsible for assigning content ratings to software and games.

(a) IEEE

(b) ESRB (Entertainment Software Rating Board)

(c) ISO (International Organization for Standardization)

(d) WIPO (World Intellectual Property Organization)

5. _____ the future trend of UX Design Thinking.

(a) Prioritizing data-driven and Al-enhanced experiences

(b) Transitioning entirely to UI-focused design

(c) Eliminating the need for customer research

(d) Designing static interfaces for simplicity

6. _____ is NOT considered an element of User Experience (UX).

(a) Accessibility

(b) Content Strategy

(c) Software Development Lifecycle

(d) Usability

7. _____ the primary goal of a pilot study in content creation.

(a) To launch a final product to the market

(b) To test and refine ideas or concepts on a small scale before full-scale implementation

(c) To create multimedia content for marketing purposes

(d) To gather feedback after the final product is launched

8. A mind map typically used for an idea generation is _____

(a) Structuring ideas visually to enhance brainstorming and organization

(b) Evaluating the effectiveness of a product

(c) Identifying marketing trends in multimedia

(d) Designing ergonomic workspaces

9. In which phase of the SDLC are user needs analyzed and documented

(a) Implementation

(b) Design

(c) Requirement Analysis

(d) Maintenance

10. What is a 'sprint" in Agile methodology?

(a) He exclusive use of desktop computing

(b) The integration of computing into everyday objects and environments

(c) A new programming language for AI development

(d) The centralized storage of all computing resources

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

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

11. (a) Describe the Shannon-Weaver Model of Communication.

Or

(b) Compare the artificial and meta languages.

12. (a) Explain the key components of Human-Computer Interaction (HCI).

Or

(b) What are moral rights in the context of intellectual property?

13. (a) Discuss the importance of User Experience (UX) design in modern digital products.

Or

(b) Explain the significance of research methodology in UX design.

14. (a) Illustrate the process of creating a mind map for content development.

Or

(b) Explain the idea of assigning meaning to complex signs in semiotics.

15. (a) Outline the stages of the Software Development Life Cycle (SDLC).

Or

(b) Analyze the role of Scrum in Agile project management.

Part C (5 × 8 = 40)

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

16. (a) Explain the different types of communication and their significance in professional and personal contexts.

Or

(b) Summarize the concept of operant conditioning as demonstrated in Skinner's Box.

17. (a) Discuss the role of patents and contracts in safeguarding digital media innovations.

Or

(b) Explain the concept of knowledge representation in artificial intelligence.

18. (a) Explain the principles of User-Centered Design (UCD).

Or

(b) Outline the core elements of User Experience (UX) as described by Jesse James Garrett.

19. (a) Explain the role of a pilot study in idea generation and content creation.

Or

(b) Define ergonomics and discuss its importance in product and service design.

20. (a) Compare and contrast different software development methods, such as Waterfall, and Rapid Application Development.

Or

(b) Explain the importance of software version control systems in collaborative software development.

———————

C–6037

Sub. Code
82723

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Second Semester

UI Design and Development

UI DEVELOPMENT – I

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is a feature of server-side scripting?

   (a) Direct manipulation of HTML

   (b) Form validation

   (c) Data processing on the server

   (d) Event handling

2. What type of operator is used for conditional statements in scripting languages?

   (a) Unary

   (b) Binary

   (c) Ternary

   (d) None of the above

3. What is the main use of the post method in form handling?

(a) Retrieving form data

(b) Sending data to the server

(c) Validating form data

(d) Encrypting form data

4. Which of the following describes a function that is called within itself?

(a) Overloading

(b) Recursion

(c) Overriding

(d) Callback

5. How does event . stopPropagation( ) differ from event . preventDefault( )?

(a) It stops the event from propagating but does not cancel its default action

(b) It cancels the event's default action but does not stop its propagation

(c) It both cancels the default action and stops propagation

(d) It only handles the event's data

6. What type of function is typically used to validate user inputs in JavaScript?

(a) Callback function

(b) Recursive function

(c) Event handler

(d) AJAX function

7. In jQuery, which function is used to hide an element gradually?

(a) fadeOut( ) (b) fadeIn( )

(c) slideUp( ) (d) slideDown( )

8. What is the main advantage of using a framework like jQuery for animations?

(a) It eliminates the need for JavaScript

(b) It provides easy-to-use functions for animations

(c) It requires no HTML or CSS

(d) It automatically handles server-side interactions

9. What is the purpose of breakpoints in responsive design?

(a) To change styles based on device screen size

(b) To validate user inputs

(c) To manage form data

(d) To create animations

10. Which component of Bootstrap helps in creating a flexible layout?

(a) Grid system (b) Forms

(c) Tables (d) Buttons

Part B

$(5 \times 5 = 25)$

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

11. (a) Compare client-side scripting with server-side scripting in terms of performance and security.

Or

(b) Describe the use of user-defined data types such as structs and enums in scripting languages.

12. (a) Explain the purpose of callback functions in JavaScript and their role in asynchronous programming.

Or

(b) Discuss the differences between one-dimensional and two-dimensional arrays in the context of JavaScript applications.

13. (a) Outline the steps and best practices for developing a dynamic image slider using jQuery.

Or

(b) Explain how XML and JSON parsing are performed in JavaScript and their applications in web development.

14. (a) Define responsive design and discuss how media queries are used to create responsive web pages.

Or

(b) Analyze the impact of mobile-first design on the development of responsive websites.

15. (a) Describe the key features of Bootstrap's grid system and how it facilitates responsive design.

Or

(b) Compare the use of Bootstrap with other responsive design frameworks in terms of flexibility and ease of implementation.

Part C (5 × 8 = 40)

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

16. (a) Evaluate the role of client-side and server-side scripting in modern web applications, focusing on their respective advantages and limitations.

Or

(b) Discuss the evolution of scripting languages and their impact on the development of interactive and dynamic web applications.

17. (a) Analyze the benefits and challenges of using advanced JavaScript techniques and frameworks such as jQuery in enhancing web application performance.

Or

(b) Compare the functionalities and advantages of various JavaScript frameworks for building interactive web applications.

18. (a) Examine the methods for creating and handling animations in web applications using JavaScript and jQuery, including best practices and potential pitfalls.

Or

(b) Discuss the role of file handling and data parsing in web applications and the tools available for managing these tasks in JavaScript.

19. (a) Assess the principles of responsive design and their implementation in creating adaptable web experiences across different devices.

Or

(b) Analyze the role of CSS media queries and viewport settings in achieving an effective responsive design strategy.

20. (a) Explore the use of Bootstrap for creating responsive web designs, including its grid system, components and customization options.

Or

(b) Compare Bootstrap with other CSS frameworks in terms of their approach to responsive design, ease of use and flexibility.

———————

C–6038	Sub. Code 82725

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Second Semester

UI Design and Development

UX DESIGN – I

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which UX design principle focuses on the balance and harmony of design elements?

   (a) Economy of motion

   (b) Unity and variety

   (c) Affordance

   (d) Responsive design

2. What does "economy of motion" in UX design refer to?

   (a) Reducing the number of design elements

   (b) Minimizing unnecessary animations and transitions

   (c) Balancing visual elements

   (d) Enhancing visual appeal

3. What is a key advantage of using heuristic reviews in user research?
   (a) Gathering quantitative data
   (b) Understanding user emotions
   (c) Identifying usability issues based on expert evaluation
   (d) Conducting ethnographic studies

4. Which method focuses on analyzing user behavior through direct observation?
   (a) Contextual enquiry
   (b) Heuristic review
   (c) Survey
   (d) User interview

5. How can personas enhance the UX design process?
   (a) By providing insights into marketing strategies
   (b) By defining the project scope
   (c) By representing diverse user needs and goals
   (d) By analyzing competitive products

6. What is the main goal of creating a problem statement in UX research?
   (a) Defining project objectives
   (b) Identifying user needs and issues
   (c) Analyzing competitors
   (d) Creating marketing content

7. Which aspect of the UXD ecosystem involves assessing the market and user needs?
   (a) Competitor's analysis
   (b) Creating personas
   (c) Content source
   (d) Stakeholders meetings

8. What does responsive design aim to achieve?

(a) Uniform design across all devices

(b) Adapting the design to different screen sizes and orientations

(c) Reducing the number of design elements

(d) Standardizing content presentation

9. How does the empathy map aid in UX design?

(a) By visualizing user feedback

(b) By mapping out user emotions, needs and behaviors

(c) By evaluating marketing effectiveness

(d) By defining business objectives

10. What is an essential component of a UXD proposal?

(a) User research analysis

(b) Market segment analysis

(c) Content source

(d) Project discovery

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

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

11. (a) Explain the importance of visual design principles in creating an effective UX and how they influence user interactions.

Or

(b) Discuss the role of focal point and balance in visual design and their impact on user engagement.

12. (a) Describe how different user research methods, such as surveys and interviews, contribute to understanding user needs and preferences.

Or

(b) Compare the effectiveness of qualitative and quantitative research methods in UX design.

13. (a) Explain the process of creating user personas and how they can be used to guide design decisions.

Or

(b) Discuss the role of ethnographic observations in gathering insights about user behavior and needs.

14. (a) Describe the components of the UXD ecosystem and how they are integrated into the project development process.

Or

(b) Analyze how stakeholder meetings and competitor analysis help in defining UX design goals and strategies.

15. (a) Discuss the key aspects of content strategy and how they impact the overall user experience.

Or

(b) Explain the benefits of flexible content strategies in delivering a consistent user experience across different devices.

Part C (5 × 8 = 40)

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

16. (a) Evaluate the role of visual design principles in UX and their influence on creating engaging and user-friendly interfaces.

Or

(b) Analyze how principles such as unity, balance and economy of motion contribute to effective UX design.

17. (a) Discuss the various user research methods and their impact on developing a user-centered UX design.

Or

(b) Compare and contrast the use of qualitative and quantitative research techniques in understanding user behavior and preferences.

18. (a) Examine the process of creating and utilizing personas in UX design and their role in shaping user experience.

Or

(b) Explore the significance of ethnographic observations and how they contribute to a deeper understanding of user needs and contexts.

19. (a) Analyze the components of the UXD ecosystem and their integration into the project lifecycle to meet user and business goals.

Or

(b) Discuss the importance of creating a comprehensive UXD proposal and how it aligns project objectives with user needs and expectations.

20. (a) Evaluate the principles of content strategy and their application in creating flexible and personalized user experiences across various digital platforms.

Or

(b) Discuss the role of content personalization in enhancing user engagement and satisfaction in UX design.

———————

C–6039

Sub. Code
82733

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

UI Design and Development

UI VISUAL DESIGN

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. _____ component of a web page is typically used to provide primary navigation links.

   (a) Header (b) Footer

   (c) Sidebar (d) Main Content

2. _____ is the primary purpose of masks in UI design.

   (a) To add 3D effects to buttons

   (b) To adjust the resolution of an image

   (c) To hide or reveal parts of an image or layer

   (d) To apply shadows and highlights

3. _____ is NOT a principle of effective logo design.

(a) Simplicity (b) Scalability

(c) Complexity (d) Relevance

4. The primary goal of icon design is _____.

(a) To create large, detailed graphics

(b) To convey meaning clearly in a small, simple format

(c) To prioritize aesthetics over functionality

(d) To replace text completely in user interfaces

5. _____ is a characteristic of vector graphics.

(a) Made up of pixels and lose quality when scaled

(b) Ideal for photographs and complex shading

(c) Resolution - independent and defined by mathematical equations

(d) Created exclusively for raster-based designs

6. The primary role of animations in user interfaces is _____.

(a) To make the interface look decorative

(b) To provide feedback, guide the user and enhance interactions

(c) To slow down transitions for better readability

(d) To replace all static content

7. The primary goal of the mobile-first approach in web design is _____.

(a) To create a visually appealing design for desktops

(b) To ensure compatibility with all browsers

(c) To design for smaller screens first and then scale up for larger screens

(d) To focus on server-side optimization

8. _____ mobile design pattern is best suited for handling large data sets.

(a) Infinite scrolling with lazy loading

(b) Navigation drawer

(c) Fixed-width tables

(d) Hamburger menu

9. The primary purpose of creating mock-ups in web and mobile design is _____.

(a) To directly code the final design for implementation

(b) To visualize the design layout and user interface before development

(c) To replace wireframes and prototypes entirely

(d) To test the applications backend functionality

10. _____ is a key characteristic of responsive web design.

(a) Designs are static and fixed for specific devices

(b) Uses a single layout for all screen sizes

(c) Adjusts content and layout dynamically based on the device's screen size

(d) Focuses only on desktop-first design principles

Part B (5 × 5 = 25)

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

11. (a) Explain the key characteristics of raster graphics.

Or

(b) Compare soft buttons, 3D buttons and realistic buttons in UI design.

12. (a) Discuss the principles of icon design.

Or

(b) Outline the concept of perspective views in design.

13. (a) Discuss the role of UI illustrations in enhancing user interfaces.

Or

(b) Analyze the role of animated icons in user interfaces.

14. (a) Explain the concept of the mobile-first approach in web design.

Or

(b) Describe the major differences between Android and iOS design guidelines.

15. (a) Explain significance of mock up design in the web and mobile application design process.

Or

(b) Describe Metro UI design principles.

Part C

($5 \times 8 = 40$)

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

16. (a) Explain the concepts of emphasis and blending in visual design.

Or

(b) Summarize the role of header, navigation, menus and form elements in web design.

17. (a) Explain the key principles of effective logo design.

Or

(b) Analyze the concept of grid layout design in graphic and web design.

18. (a) Outline the characteristics and advantages of vector graphics.

Or

(b) Discuss the differences between raster-based and vector-based UI animations.

19. (a) Compare and contrast the key considerations when designing for native applications versus hybrid applications.

Or

(b) Discuss the considerations and best practices for designing forms on mobile devices.

20. (a) Explain responsive web design and its core principles.

Or

(b) Discuss the challenges of creating single-page designs with a focus on usability and performance.

———————

C–6040

Sub. Code
82734

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Third Semester

UI Design and Development

UI DEVELOPMENT — II

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which Bootstrap component is primarily used for creating responsive navigation menus?

   (a) Jumbotron

   (b) Carousel

   (c) Navbar

   (d) Pagination

2. What attribute must be added to an element to activate a tooltip using Bootstrap?

   (a) data-tooltip = “text”

   (b) data-toggle = “tooltip”

   (c) tooltip-text = “value”

   (d) tooltip-enable = “true”

3. What is the purpose of the Buffer class in Node.js?

(a) Managing database connections

(b) Streaming video files

(c) Handling HTTP requests

(d) Working with binary data

4. Which of the following is NOT a core module in Node.js?

(a) fs

(b) http

(c) express

(d) events

5. In AngularJS, what is a directive?

(a) A server-side function

(b) A method to define controllers

(c) A marker in HTML that triggers AngularJS behavior

(d) A data storage object

6. In AngularJS, what is the $scope object used for?

(a) To handle server-side logic

(b) To link the view and the controller

(c) To manage routing configurations

(d) To define form validation rules

7. Which of the following is a correct HTTP method used to update existing data?

(a) GET

(b) POST

(c) PUT

(d) DELETE

8. What is the purpose of a templating engine in Express.js?

(a) To manage cookies and sessions

(b) To debug server-side issues

(c) To generate dynamic HTML pages

(d) To handle HTTP methods

9. What is the primary purpose of indexing in MongoDB?

(a) To enforce data validation rules

(b) To improve query performance

(c) To create backups of the database

(d) To sort documents in collections automatically

10. What type of database is MongoDB?

(a) Relational Database

(b) Key-Value Store

(c) Document-Oriented Database

(d) Column-Family Store

Part B

$(5 \times 5 = 25)$

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

11. (a) Discuss how Bootstrap's grid system contributes to responsive web design. How can advanced techniques enhance the grid system's functionality?

Or

(b) Differentiate between labels and badges in Bootstrap. How are they typically used in web applications?

12. (a) Discuss the role of JavaScript in enabling the asynchronous and non-blocking nature of Node.js.

Or

(b) Explain the role of Node Package Manager (NPM) in Node.js development. How does it simplify dependency management?

13. (a) What is the purpose of modules in AngularJS?

Or

(b) Explain the various techniques for form validation in AngularJS.

14. (a) Explain how to serve static files in Express.js using the express.static middleware.

Or

(b) Explain how Express.js can interact with databases.

15. (a) Explain the steps to set up the MongoDB environment on a local machine and connect to a MongoDB Atlas cluster.

Or

(b) What are indexes in MongoDB, and why are they important? Discuss the different types of indexes supported by MongoDB.

Part C

$(5 \times 8 = 40)$

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

16. (a) Explain the importance of pagination in web development. How does Bootstrap simplify the process of creating and styling pagination components?

Or

(b) Explain how Bootstrap's alert plugins can be used to create interactive and dismissible messages. Provide examples of their practical applications.

17. (a) Discuss the fs module in Node.js and its role in handling file operations. How does it support both synchronous and asynchronous methods?

Or

(b) Discuss the event-driven architecture of Node.js. How do the *EventEmitter* class and event listeners work?

18. (a) What are filters in AngularJS, and how are they applied in templates? Discuss at least three commonly used filters with examples.

Or

(b) What is the role of controllers in AngularJS? Discuss how controllers facilitate communication between the view and the model.

19. (a) Compare and contrast cookies and sessions in terms of their usage, storage mechanisms and security implications in Express.js applications.

Or

(b) Discuss error handling in Express.js. How can middleware be used to manage errors effectively, and what are the best practices for debugging and logging errors?

20. (a) Discuss the MongoDB Node.js driver. How can it be used to build robust and scalable applications? Provide examples of basic operations.

Or

(b) Explain the concept of validation in MongoDB. How can schema validation rules be enforced when inserting or updating documents?

———————

C–6041	Sub. Code 82736

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025.

Third Semester

UI Design and Development

UX DESIGN – II

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which design principle refers to the consistent use of visual elements to create a sense of cohesion?

   (a) Proximity

   (b) Repetition

   (c) Contrast

   (d) Alignment

2. Which of the following best describes a paper prototype?

   (a) A prototype built using computer software

   (b) A static model made from paper to represent a design

   (c) A finalized, interactive product design

   (d) A set of animations used for user testing

3. In PowerPoint, what is a common way to represent a task model?

(a) Using bullet points

(b) Embedding a spreadsheet

(c) Creating a flowchart with shapes and connectors

(d) Designing a presentation with animations

4. What is the key component of the anatomy of a user journey?

(a) Visual aesthetics

(b) Navigation structure

(c) Color schemes and branding

(d) User interactions, emotions, and touch points

5. How are inputs typically represented in wireframes?

(a) Using detailed animations and videos

(b) With placeholder text or labeled boxes

(c) With high-resolution images

(d) With custom code snippets embedded in the wireframe

6. What is a key design principle for wireframes?

(a) Focus on aesthetics rather than functionality

(b) Prioritize structure over detailed visuals

(c) Use extensive color schemes to highlight features

(d) Avoid responsive design considerations

7. What makes a good funnel diagram?

(a) Detailed labeling and highlighting of key metrics

(b) Complex visual elements that are hard to interpret

(c) A lack of focus on drop-off points

(d) Equal representation of all user interactions

8. Which of the following is part of the anatomy of a perfect usability test report?

(a) A summary of findings, insights and recommendations

(b) A list of all user feedback without analysis

(c) Only the positive aspects of the design

(d) A high-level overview without details

9. What does the term "Layout Adoption" refer to in Mobile UX?

(a) The adoption of a layout by different devices

(b) The process of designing for mobile-first interfaces

(c) How users adapt to and interact with mobile layouts

(d) The aesthetic choices made during the design process

10. Which aspect is crucial when understanding a mobile device's impact on UX design?

(a) The device's battery life

(b) The device's operating system and screen size

(c) The device's internal memory

(d) The device's physical durability

Part B (5 × 5 = 25)

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

11. (a) Analyze how proper alignment contributes to a professional and organized appearance in a design. Illustrate your answer with examples.

Or

(b) Describe how the principle of proximity can improve the user's ability to interpret related information in a design.

12. (a) Discuss the challenges and benefits of conducting a tree test.

Or

(b) Describe the purpose of a functions familiarity test.

13. (a) Compare and contrast low-fidelity and high-fidelity wireframes.

Or

(b) Explain the key design principles for wireframes.

14. (a) Discuss the importance of timing in the usability testing process.,

Or

(b) Outline the anatomy of a perfect usability test report.

15. (a) What is Mobile UX, and how does it differ from traditional desktop UX design?

Or

(b) Describe the concept of "Layout Adoption" in mobile UX.

Part C

(5 × 8 = 40)

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

16. (a) Compare and contrast paper prototyping with digital prototyping. Discuss their advantages and limitations in the design process.

Or

(b) Discuss the importance of visibility in communication during the design process. How can designers ensure they maintain transparency with stakeholders?

17. (a) Discuss the importance of communicating effectively during the creation of task models and user journeys.

Or

(b) Discuss the benefits of using user journey maps for cross-functional collaboration in design projects.

18. (a) Explain how wireframes can be adapted to represent multiple devices.

Or

(b) Discuss the process and challenges of representing responsive design in wireframes.

19. (a) Compare and contrast the usability test report with other types of design documentation.

Or

(b) Discuss the characteristics of a good funnel diagram.

20. (a) Discuss the importance of rethinking hyperlinking in mobile design.

Or

(b) Discuss how mobile usability testing is conducted.

———————

C–6043

Sub. Code
82743

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fourth Semester

UI Design and Development

WEB APPLICATION DEVELOPMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which software package is commonly used to set up a PHP development environment?

   (a) LAMP (b) WAMP

   (c) MAMP (d) All of the above

2. Which of the following is true about PHP?

   (a) PHP is a client-side scripting language

   (b) PHP is used for creating dynamic web pages

   (c) PHP cannot be embedded into HTML

   (d) PHP is not compatible with MySQL

3. What is the purpose of the 'imagedestroy( )' function in PHP?

   (a) To delete an image file from the server

   (b) To destroy the image resource in memory

   (c) To create a new image resource

   (d) To save an image resource to a file

4. Which function is used to create a new image from a file in PHP?

(a) 'imagecreate()'

(b) 'imagecreatefromfile()'

(c) 'imagecreatefromjpeg()'

(d) 'createimagefromfile()'

5. Which of the following SQL commands is used to remove a table from a database?

(a) DROP TABLE

(b) DELETE TABLE

(c) REMOVE TABLE

(d) ERASE TABLE

6. Which command is used to modify existing records in a MySQL table?

(a) MODIFY (b) CHANGE

(c) UPDATE (d) EDIT

7. Which normal form is achieved when a table is free of multi-valued dependencies?

(a) First Normal Form (1NF)

(b) Second Normal Form (2NF)

(c) Third Normal Form (3NF)

(d) Fourth Normal Form (4NF)

8. Which SQL command is used to end a transaction and make all changes permanent?

(a) END (b) SAVE

(c) COMMIT (d) FINISH

9. What does AJAX stand for?

(a) Asynchronous JavaScript and XML

(b) Asynchronous Java and XML

(c) Active Java and XML

(d) Asynchronous Java and XHTML

10. What is the role of the Script Manager in an AJAX-enabled web application?

(a) To manage server-side database connections

(b) To load JavaScript files asynchronously

(c) To manage the client-side script for asynchronous post backs

(d) To control user authentication

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

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

11. (a) Explain the role of PHP in server-side development and how it differs from client-side scripting languages.

Or

(b) Explain the purpose of 'if-else' statements in PHP with an example. How do they differ from switch statements?

12. (a) Discuss the advantages and disadvantages of using sessions in PHP for state management.

Or

(b) Write a PHP function to send an email with an attachment. Explain the parameters and steps involved in the function.

13. (a) Discuss the differences between the DELETE and TRUNCATE commands in SQL.

Or

(b) Describe the different types of data base constraints.

14. (a) Describe the use of triggers in a database.

Or

(b) Discuss the importance of data backup and recovery in database management.

15. (a) Discuss the advantages of using JSON over XML in AJAX applications.

Or

(b) Describe how AJAX can be used to interact with a database.

Part C

(5 × 8 = 40)

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

16. (a) Discuss the concept of variable scope in PHP. How does the scope of a variable affect its visibility and lifetime within a PHP script?

Or

(b) Describe the different types of arrays available in PHP and provide an example of each type.

17. (a) Discuss the concept of inheritance in PHP. How does it help in code reuse? Provide an example of a parent class and a child class.

Or

(b) Explain the concept of object-oriented programming (OOP) in PHP. How do classes and objects relate to each other in PHP? Provide an example.

18. (a) Explain the concept of updatable views in MySQL.

Or

(b) Discuss the use of the LIMIT clause in MySQL. How can it be used to paginate query results? Provide examples.

19. (a) Explain how to establish a connection to a MySQL database using PHP Provide a code example using the MySQLi extension.

Or

(b) Explain the concept of database sharding and its benefits. How does sharding differ from replication?

20. (a) Explain how authentication and authorization are handled when connecting to web services. Provide examples of different authentication mechanisms.

Or

(b) Explain how AJAX can be used to send and receive data in XML format. Provide an example of an AJAX request that handles XML data.

———————

C–6045

Sub. Code
82744

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fourth Semester

UI Design and Development

HUMAN CENTERED DESIGN

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is NOT one of the three levels of design proposed by Don Norman?

   (a) Visceral (b) Practical

   (c) Reflective (d) Behavioral

2. _____ is the ultimate goal of emotional design?

   (a) To create products that are highly functional

   (b) To reduce manufacturing costs

   (c) To evoke positive emotions and create a deeper connection with the user

   (d) To increase the complexity of the product

3. Which aspect of operations is most critical in interaction design?

(a) Speed of processing

(b) Efficiency of resource use

(c) User satisfaction and usability

(d) Minimizing errors in data processing

4. Which principle is most important in designing effective interactions?

(a) Consistency

(b) Flexibility

(c) Cost-efficiency

(d) Redundancy

5. Tangible User Interfaces combine physical objects with what type of data?

(a) Audio data

(b) Visual data

(c) Digital data

(d) Analog data

6. Which type of TUI involves the use of interactive surfaces?

(a) Token-based interfaces

(b) Constructive assembly interfaces

(c) Graphical interfaces

(d) Playful interfaces

7. _____ is the primary focus of user experience design for ubiquitous computing?

(a) Creating isolated desktop applications

(b) Designing for seamless interactions across multiple devices and environments

(c) Reducing the cost of hardware

(d) Enhancing graphical aesthetics only

8. _____ principle is most important when designing products for kids

(a) Complexity

(b) Durability

(c) Safety and age-appropriate interactions

(d) Cost reduction

9. What is the main focus of designing for physical work comfort?

(a) Increasing the speed of tasks

(b) Reducing physical strain and preventing injury

(c) Enhancing the visual design of tools

(d) Minimizing the use of technology

10. What is a significant factor in promoting mental comfort in the workplace?

(a) Loud music

(b) Complex workflows

(c) Supportive and clear communication

(d) Dim lighting

Part B (5 × 5 = 25)

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

11. (a) Discuss the different types of emotional responses that products can evoke.

Or

(b) Outline the steps involved in a user-centered design process.

12. (a) Discuss the challenges of balancing operational efficiency with user-centered design.

Or

(b) Explain how interaction designers manage complexities in user interfaces.

13. (a) Discuss the benefits and challenges of integrating physical objects with digital information in TUIs.

Or

(b) Describe the different types of Tangible User Interfaces.

14. (a) Discuss the key principles of designing digital products for children.

Or

(b) Describe the role of context technology in user experience design.

15. (a) Define human factor engineering and discuss its importance in the design of systems and workplaces.

Or

(b) Explain how seating design can impact physical comfort in the workplace.

Part C (5 × 8 = 40)

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

16. (a) Explain the concept of visceral design. How does it influence a user's immediate perception of a product?

Or

(b) Explain the significance of reflective design in shaping long-term user satisfaction and brand loyalty.

17. (a) Describe the key elements of effective interaction design. How do these elements contribute to creating intuitive and engaging user interfaces?

Or

(b) Explain the relationship between aesthetics and usability. Can a visually appealing design compensate for usability issues? Justify your answer.

18. (a) Compare and contrast token-based interfaces with constructive assembly interfaces. What are the unique benefits and challenges of each type?

Or

(b) Discuss the technological advancements that have enabled the development of interactive surfaces. Provide examples of existing interactive surface systems.

19. (a) Discuss the various types of context-aware systems. Provide examples of how these systems adapt to changing user contexts.

Or

(b) Discuss the challenges faced in developing context-aware applications. How can designers overcome these challenges to create effective user experiences?

20. (a) Analyze the relationship between physical work comfort and productivity. How does reducing physical strain impact employee performance?

Or

(b) Discuss the factors that contribute to stress and fatigue in the workplace. How can ergonomic interventions help to mitigate these issues?

———————

C–6046

Sub. Code
82746

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fourth Semester

UI Design and Development

MOBILE APPLICATION DEVELOPMENT

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is a commonly used development tool for Java programming?

   (a) Microsoft Visual Studio

   (b) PyCharm

   (c) Eclipse IDE

   (d) Xcode

2. What does JDK stand for in the context of Java programming?

   (a) Java Development Knowledge

   (b) Java Development Kit

   (c) Java Deployment Kit

   (d) Java Design Kit

3. What is the result of the expression 5 + 2 * 3 in Java?

(a) 21 (b) 11

(c) 16 (d) 7

4. What is the purpose of the 'extends' keyword in Java?

(a) To create an interface

(b) To inherit a class

(c) To implement an interface

(d) To finalize a class

5. What is the primary programming language used for Android development?

(a) Swift

(b) Java

(c) C#

(d) Ruby

6. Which development environment is commonly used for building Android applications?

(a) Xcode

(b) Visual Studio

(c) Eclipse

(d) NetBeans

7. In which directory are files stored when using the internal storage of an Android application?

(a) /data/data/<package_name>/files

(b) /data/files

(c) /data/internal

(d) /data/internal_storage

8. What is the role of a Content Provider in Android?

(a) To manage application resources

(b) To provide a consistent interface to data storage

(c) To handle user input events

(d) To perform background operations

9. In Android, which layout arranges its children in a single colunm or row?

(a) Relative Layout

(b) Frame Layout

(c) Linear Layout

(d) Constraint Layout

10. Where are layout resource files stored in an Android project?

(a) res/drawable

(b) res/layout

(c) res/values

(d) res/menu

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

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

11. (a) Describe how methods are defined and used in Java.

Or

(b) Discuss the four main principles of Object-Oriented Programming (OOP) in Java.

12. (a) Explain the different primitive data types available in Java.

Or

(b) Explain the difference between local variables, instance variables and class variables in Java with examples.

13. (a) Describe the debugging tools available for Android development.

Or

(b) Explain the purpose and functionality of the Android Emulator.

14. (a) Compare and contrast Alert Dialog and Toast in Android.

Or

(b) Discuss the use of SQLite databases in Android.

15. (a) Describe the steps involved in integrating audio playback in an Android application.

Or

(b) Explain how to set up and use a Count Down Timer in an Android application.

Part C

(5 × 8 = 40)

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

16. (a) Explain how inheritance is implemented in Java. Provide an example demonstrating how a subclass can inherit properties and methods from a superclass.

Or

(b) Describe the steps involved in creating and running a basic Java program.

17. (a) Discuss the process of declaring, initializing and accessing elements in a one-dimensional array in Java. Provide a code example.

Or

(b) Explain the concept of switch-case statements in Java. Provide a code example that demonstrates its usage.

18. (a) Describe the process of building and running an Android application in Eclipse. What are the key steps and configurations required?

Or

(b) Discuss the key features and tools provided by the Android SDK. How do these tools assist developers in creating robust Android applications?

19. (a) Describe the process of creating and using intent classes in Android. How do intents facilitate communication between different components of an application?

Or

(b) Explain the role of broadcast receivers in Android. How can they be used to listen for and respond to system-wide broadcast events?

20. (a) Explain the role of the Animator class in Android. How does it simplify the creation and management of complex animations?

Or

(b) Describe the process of implementing sprite drawing in a custom game view. How do you handle sprite animation and movement within the game loop?

———————

C–6047

Sub. Code
82751

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fifth Semester

UI Design and Development

EMERGING TECHNOLOGIES

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer ALL questions

1. In problem formulation, which of the following represents the starting point of a problem?

   (a) Goal state

   (b) Transition model

   (c) State space

   (d) Initial state

2. What is the main purpose of control strategies in AI?

   (a) To reduce the search space and improve efficiency

   (b) To generate all possible solutions

   (c) To provide the exact solution to the problem

   (d) To analyse data trends

3. Certainty factors in AI are used to:

(a) Measure the probability of a future event

(b) Optimize learning algorithms

(c) Determine the performance of search algorithms

(d) Represent and manipulate uncertainty in expert system

4. Which reasoning approach is used in fuzzy logic systems?

(a) Probabilistic reasoning

(b) Deterministic reasoning

(c) Approximate reasoning

(d) Logical reasoning

5. What is the role of transformation matrices in geometric modeling?

(a) To represent relationships between objects and cameras

(b) To store 3D models in memory

(c) To convert VR software in to hardware

(d) To display scenes on theVR headset

6. Pitch, yaw, and roll are terms used to describe:

(a) Scaling of 3D objects

(b) Rotational movements along specific axes

(c) Transformation of 2D images into 3D models

(d) Texturing methods for virtual environments

7. Which technique is used in AR for identifying distinctive points or patterns in images?

(a) Image rendering

(b) Depth mapping

(c) Feature extraction

(d) Object segmentation

8. Which of the following is NOT a type of AR tracking method?

(a) Sensor-based tracking

(b) Vision-based tracking

(c) Hybrid tracking

(d) Text-based tracking

9. What are sensor networks in the context of IoT?

(a) Networks of devices that provide internet services

(b) A distributed network of sensors that collect and transmit data

(c) A system of physical servers for data storage

(d) A software package for IoT device management

10. Neurogaming refers to:

(a) Using neural networks for gaming AI

(b) The simulation of neural activity in IoT systems

(c) Virtual reality gaming with IoT integration

(d) Games that use brain activity as input through BCIs

Part B (5 × 5 = 25)

Answer **all** the questions, Choosing either (a) or (b)

11. (a) Compare and contrast unionformed (blind) search strategies with informed (heuristic) search strategies.

Or

(b) Discuss the characteristics that make a problem suitable for AI-based solutions.

12. (a) Discuss how fuzzy reasoning and certainty factors are used to handle uncertainty in AI systems.

Or

(b) Explain the difference between machine learning and adaptive learning.

13. (a) Compare axis-angle representations and quaternions as methods for describing rotations in VR.

Or

(b) Define pitch, yaw, and roll, and explain their significance in VR.

14. (a) Explain the steps involved in feature matching and geometric verification.

Or

(b) Discuss the concept of associated information retrieval in AR.

15. (a) Describe the various communication protocols used in IoT systems.

Or

(b) Explain the concept of sensor networks in IoT.

Part C $(5 \times 8 = 40)$

Answer **all** the questions, Choosing either (a) or (b)

16. (a) Explain the different problem-solving methods used in AI.

Or

(b) Explain the hill-climbing algorithm and its variants.

17. (a) Discuss the principles of Bayesian theory and its application in artificial intelligence.

Or

(b) Explain the challenges involved in acquiring knowledge for expert systems and machine learning models.

18. (a) Discuss the role of software and hardware in implementing a bird's-eye view in VR.

Or

(b) Explain the concept of a bird's-eye view in virtual reality systems.

19. (a) Describe the SIFT algorithm and its application in feature extraction for AR.

Or

(b) Explain the working principles of the SURF algorithm and how it improves upon SIFT.

20. (a) Explore the key technologies behind M2M communication, its applications in industry, and the security challenges associated with M2M data exchange.

Or

(b) Discuss the integration of Brain-Computer Interfaces (BCI) with IoT technologies.

———————

C–6048

Sub. Code
82752

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fifth Semester

UI Design and Development

SOFTWARE QUALITY ASSURANCE

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which of the following is NOT a typical stage in process maturity improvement?

   (a) Initial (ad hoc)

   (b) Managed (process defined)

   (c) Optimizing (continuous improvement)

   (d) Free-form (unstructured approach)

2. The Capability Maturity Model Integration (CMMI) is an example of:

   (a) A tool for measuring software defects

   (b) A model for assessing and improving the maturity of software development processes

   (c) A method for improving software user interface design

   (d) A standard for software testing procedures

3. Quality Function Deployment (QFD) is a methodology used to:

(a) Assign roles within a development team

(b) Determine the budget for a software project

(c) Translate customer needs and requirements into engineering characteristics for design

(d) Calculate the project timelines and deliverables

4. What is the purpose of selecting quality goals in software development'?

(a) To set the cost for the project

(b) To minimize the development time

(c) To ensure customer satisfaction and define software performance expectations

(d) To select the project team

5. What does Quality Control (QC) primarily focus on in software development?

(a) Monitoring and improving team collaboration

(b) Detecting and correcting defects during software development

(c) Developing new features

(d) Managing project costs

6. Which of the following is an example of verifiability in software?

(a) The software's ability to perform complex computations without errors

(b) The level of support provided by the development team

(c) The user-friendliness of the software interface

(d) The extent to which the software's functionality can be tested and verified against requirements

7. Which of the following best describes the test process in software development?

   (a) Only involves writing the test scripts

   (b) Includes planning, execution, defect tracking, and reporting

   (c) A single phase that happens after software deployment

   (d) The process of designing and coding new features

8. Which of the following is NOT a phase in the software testing process?

   (a) Testing planning

   (b) Test execution

   (c) Test deprecation

   (d) Test reporting

9. Which of the following best describes a qualitative research approach in usability testing?

   (a) Collecting numerical data to measure software performance

   (b) Gathering user feedback to understand behavior, opinions, and preferences

   (c) Analyzing the software's technical specifications

   (d) Conducting in-depth statistical analysis

10. What is the purpose of visual design mockups in usability testing?

   (a) To define user personas for testing

   (b) To show how the software will look once the development phase is complete

   (c) To provide a rough sketch of the user interface for feedback before development begins

   (d) To test software functionality under different conditions

Part B

(5 × 5 = 25)

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

11. (a) Explain the concept of quality improvement in the context of software development.

Or

(b) Define process maturity and discuss its importance in software development.

12. (a) Explain the importance of selecting clear and measurable quality goals in software development.

Or

(b) Discuss the principles of measurement in software quality.

13. (a) Discuss the key elements of software quality.

Or

(b) Explain the differences between Quality Control (QC) and Quality Assurance(QA) in the context of software development.

14. (a) Explain the concept of test flow diagrams and how they are used in the software testing process.

Or

(b) Discuss the principles of cleanroom testing.

15. (a) Explain the concept of usability metrics.

Or

(b) Discuss the different ways to capture data during usability testing.

Part C (5 × 8 = 40)

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

16. (a) How can organizations improve their process maturity in software development? Discuss specific steps or strategies that organizations can take to move from lower levels of maturity to higher levels.

Or

(b) Discuss the relationship between quality models and process maturity in software engineering.

17. (a) Explain the concept of Quality Function Deployment (QFD) and its role in translating customer requirements into engineering specifications.

Or

(b) Describe the Goal/Question/Measure (GQM) paradigm and its significance in managing software quality.

18. (a) Discuss the techniques and strategies that can be used to enhance software reliability throughout its lifecycle.

Or

(b) Discuss the concepts of verifiability and testability in software engineering.

19. (a) Explain what ad-hoc testing is and its role in the testing process.

Or

(b) Define the concept of defect triggers in software testing. Discuss strategies for dealing with defect triggers and preventing defect from recurring in the software.

20. (a) Explain how to prepare a test report for usability testing.

Or

(b) Discuss the importance of visual design mock-ups in usability testing.

———————

C–6049

Sub. Code
82753A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fifth Semester

UI Design and Development

HUMAN COMPUTER INTERACTION

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. Which human I/O channel is most commonly used for interaction with computers?

   (a) Auditory (b) Visual

   (c) Olfactory (d) Tactile

2. What does “ergonomics” in interaction design focus on?

   (a) Aesthetic appeal

   (b) Efficient memory storage

   (c) User comfort and efficiency

   (d) Hardware processing power

3. Scenarios in interactive design are used to :

(a) Simulate real-world user tasks

(b) Replace prototyping

(c) Improve network speed

(d) Manage memory usage

4. The iterative design process emphasizes :

(a) One-time perfection

(b) Incremental improvement

(c) Avoiding user feedback

(d) Quick deployment

5. Which of the following is NOT a usability evaluation technique?

(a) Heuristic evaluation

(b) Cognitive walkthrough

(c) Iterative design

(d) Formal testing

6. Hypertext primarily supports :

(a) Multimedia storage

(b) Dynamic linking of text

(c) Mobile application development

(d) Cognitive reasoning

7. Mobile information architecture deals with :

(a) Game design

(b) Structuring content for mobile apps

(c) Platform development

(d) Device manufacturing

8. "Mobile 2.0" refers to :

(a) Hardware improvements

(b) Advanced operating systems

(c) User-centric mobile interactions

(d) Networking protocols

9. Direct selection in web interfaces allows users to:

(a) Interact with elements via context menus

(b) Click or touch elements directly

(c) Use keyboard shortcuts exclusively

(d) Execute tasks automatically

10. Overlays in web design are used to :

(a) Reduce interaction complexity

(b) Create layered interfaces

(c) Eliminate navigation

(d) Build hypertext documents

Part B

$(5 \times 5 = 25)$

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

11. (a) Describe the main components of human I/O channels and their relevance to HCI.

Or

(b) Explain interaction models and their role in improving user experience.

12. (a) Discuss the importance of navigation and screen design in interactive design.

Or

(b) Explain the concept of usability engineering in the software process.

13. (a) Analyze the significance of cognitive models in understanding user behavior.

Or

(b) Discuss hypertext and its application in multimedia systems.

14. (a) What are the different types of mobile applications? Give examples for each.

Or

(b) Explain the role of mobile design elements and tools in building user-friendly mobile apps.

15. (a) Discuss the design elements of a process flow in web interfaces.

Or

(b) Examine a case study of successful web interface design, highlighting key design features.

Part C (5 × 8 = 40)

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

16. (a) Evaluate the differences between human memory and computer memory and their implications for HCI.

Or

(b) Discuss the ergonomic factors that influence interaction styles and elements in HCI.

17. (a) Explain the iterative process of prototyping in practice, with examples.

Or

(b) Discuss design rules, principles, and guidelines in HCI and their role in creating usable systems.

18. (a) Examine social and organizational issues that influence stakeholder requirements in HCI.

Or

(b) Describe the collaboration models used in designing multimedia systems and web-based applications.

19. (a) Analyze the challenges of designing mobile applications for diverse platforms and frameworks.

Or

(b) Explore the concept of Mobile 2.0 and its impact on modern mobile application design.

20. (a) Discuss advanced techniques like drag-and-drop, contextual tools and overlays in web interface design.

Or

(b) Evaluate a web interface case study, focusing on the application of virtual pages and direct selection.

———————

C–6052

Sub. Code
82754A

B.Sc. DEGREE EXAMINATION, NOVEMBER 2025

Fifth Semester

UI Design and Development

INFORMATION ARCHITECTURE

(2023 onwards)

Duration : 3 Hours Maximum : 75 Marks

Part A (10 × 1 = 10)

Answer **all** questions.

1. What is the primary focus of Information Architecture (IA)?

   (a) Content creation

   (b) Organizing and structuring information

   (c) Designing user interfaces

   (d) Developing coding languages

2. Which of the following is part of the content management system (CMS)?

   (a) Metadata management

   (b) Typography

   (c) Navigation design

   (d) User research

3. What is the key characteristic of global navigation in Information Architecture?

(a) It appears only on the homepage

(b) It is used to navigate between sections of a site

(c) It displays user-related content

(d) It is used to organize content on mobile devices

4. Which of the following is part of a heuristic analysis?

(a) Analyzing competitive websites

(b) Interviewing stakeholders

(c) Evaluating usability based on established principles

(d) Conducting content inventory

5. What is a conceptual blueprint in IA?

(a) A detailed wire frame for a website

(b) A visual representation of a website's user journey

(c) A flowchart that organizes site content and structure

(d) A design layout for individual web pages

6. Swimlanes in task flows are used to

(a) Divide tasks into different user roles or groups

(b) Identify points of navigation failure

(c) Demonstrate content relationships

(d) Manage metadata and tagging systems

7. What is the primary function of metadata in web page design?

(a) To define user personas

(b) To improve searchability and organization of content

(c) To design the visual layout of a page

(d) To create content for the website

8. In knowledge organization, a thesaurus is used to

(a) Help structure page layouts

(b) Define navigation systems

(c) Generate keywords for SEO

(d) Provide synonyms for better content categorization

9. Which of the following is a technique used in Web Mining?

(a) Improving page layout

(b) Analyzing patterns in search queries

(c) Designing user interfaces

(d) Conducting competitive analysis

10. Which of the following is important for effective Search Engine Architecture?

(a) Consistent and relevant content

(b) Strong visual design

(c) Creative copywriting

(d) High-quality navigation menus

Part B (5 × 5 = 25)

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

11. (a) Brief about importance of Information Architecture (IA) in user experience design. How does IA contribute to the overall usability of a website?

Or

(b) Explain in detail about taxonomies and why are they essential in organizing content?

12. (a) Discuss in detail about the different types of navigation systems (global, local and contextual) in Information Architecture.

Or

(b) Briefly explain about the process and importance of gathering business requirements through these interviews.

13. (a) Discuss in detail about the key principles of UCD and how do they impact the development of IA strategies.

Or

(b) Briefly explain about the role of personas and scenarios in Information Architecture.

14. (a) Explain about the role of metadata in web page design.

Or

(b) Explain in detail about are knowledge organization systems.

15. (a) Discuss in detail about the significance of Search Engine Optimization (SEO) in content design for websites.

Or

(b) Explain in detail about the difference between on-page and off-page SEO.

Part C (5 × 8 = 40)

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

16. (a) Discuss the key principles of Information Architecture (IA) and how they contribute to the overall user experience of a web site.

Or

(b) Discuss in detail about the role of taxonomies and metadata in organizing and categorizing content.

17. (a) Compare and contrast global, local and contextual navigation systems in Information Architecture.

Or

(b) Pen down in detail about the process of conducting stakeholder interviews for IA.

18. (a) How does user research, such as persona development and usability testing, inform IA decisions?

Or

(b) Infer the broad view about the process of creating personas and scenarios and discuss how these tools can improve IA decisions for better user experiences.

19. (a) Explain in detail about the role of metadata in enhancing web page design and knowledge organization.

Or

(b) Explain how knowledge organization systems, such as taxonomies, thesauri and controlled vocabularies, support Information Architecture.

20. (a) Discuss in detail about the role of Search Engine Optimization (SEO) in web content design.

Or

(b) Explain in detail about the significance of Search Engine Architecture in improving a website's search ranking.

———————