Graphic Era
HILL UNIVERSITY
Established by an Act of the State Legislature of Uttarakhand (Adhiniyam Sankhya 12 of 2011)
University under section 2(f) of UGC Act, 1956

End Term (Odd) Semester Examination Nov 2025

Roll no...............................

Name of the Program and semester: MCA/MCA AI &DS
Name of the Course: Full Stack Development
Course Code: TMC 101/TMD111

Time: 3-hour   Maximum Marks: 100

Note:
- *(i)* All the questions are compulsory.
- *(ii)* Answer any two sub questions from a, b and c in each main question.
- *(iii)* Total marks for each question are 20 (twenty).
- *(iv)* Each sub-question carries 10 marks.

Q1.   (2X10=20 Marks)
a. Explain the main features and advantages of XHTML. Write a well-structured XHTML document that displays your name, course, and a short paragraph using proper tags.   CO1
b. What are HTML elements and attributes? Demonstrate the use of *id*, *class*, *src*, *href*, and *alt* attributes with examples.   CO1
c. Create an XHTML page containing hyperlinks to: CO1
    1. Another page in the same website
    2. An external website
    3. A specific section within the same page

Q2.   (2X10=20 Marks)
a. Define Cascading Style Sheets (CSS). Discuss the difference between **inline**, **internal**, and **external** styles with suitable code snippets.   CO2
b. Design an XHTML form for a *Job Application* that includes: CO1
- Full Name
- Email ID
- Department (drop-down)
- Resume Upload (file input)
- Submit and Reset buttons

c. Compare and contrast the usage of the following CSS properties with examples: CO2
    1. margin vs padding
    2. visibility vs display
    3. position: relative vs position: absolute

Q3.   (2X10=20 Marks)
a. Create an HTML table to display *Student Results* with columns: Roll No, Name, Subject, Marks, and Grade. Merge the header cells appropriately.   CO1
b. Explain the CSS Box Model. Describe the roles of *content*, *padding*, *border*, and *margin*. Write CSS code to apply different margins and padding to a paragraph.   CO1
c. What is the difference between var, let, and const?   CO3, CO4

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Q4.   (2X10=20 Marks)
a. What is the Document Object Model (DOM)? Explain how JavaScript can dynamically modify page
content using DOM manipulation methods.   CO3, CO4
b. Explain the process of event handling in java script.   CO3, CO4
c. Define arrays in PHP. Explain how to create, access, and loop through: CO5
  1. Indexed arrays
  2. Associative arrays
  3. Multidimensional arrays

Q5.   (2X10=20 Marks)
a. Define MySQL and its role in web development. Write the steps and syntax to: CO5
  1. Connect PHP to a MySQL database
  2. Retrieve records using SQL SELECT
b. What is the MERN stack? Explain the role of each component (MongoDB, Express, React, Node) in
developing a full-stack application.   CO6
c. Explain the concepts of Virtual DOM and Component-based Architecture in ReactJS. How do these
features improve performance and maintainability?   CO6

Note For the question paper setters:
  • Question paper should cover all the COs of the course.
  • Please specify COs against each question.