

## JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

## TEST -3 EXAMINATIONS- 2026

B.Tech-II Semester (CSE/IT/BT/ECE/CE)

COURSE CODE (CREDITS): 25B11CI212 (4)

MAX MARKS: 35

COURSE NAME: Fundamentals of Computers &amp; Programming II

COURSE INSTRUCTOR: Dr. Saurabh Sharma

MAX. TIME: 2 Hours

**Note:** (a) All questions are compulsory.

(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

(c) Use of calculator is not allowed

| Q. No | Question                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CO  | Marks |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|
| Q1    | <p>An online food ordering app needs to create four segments for their users based on their monthly spending on food orders. The four categories are:</p> <p>Budget Explorers (Low spenders &lt; ₹500)<br/> Value Seekers (Moderate spenders ₹500-₹1500)<br/> Premium Foodies (High spenders ₹1500-₹3000)<br/> Luxury Diners (Elite spenders &gt; ₹3000).</p> <p>Design personalized discount strategies for each segment to maximize customer retention and increase order frequency.<br/> Write a C program to perform customer segmentation based on user behaviour analysis.</p> | CO1 | 5     |
| Q2    | <p>Design and implement an online display assistive service for elders that requires users to input a valid 10-digit mobile number.<br/> Once entered, the system should automatically convert each digit into its corresponding English word and display the digits in sequence.<br/> The solution must ensure accurate digit recognition, seamless text output, and a user-friendly interface to support customer verification and communication needs.</p>                                                                                                                        | CO2 | 5     |
| Q3    | <p>A company needs to develop a social media ROI analysis program that parses user-generated text reviews to measure engagement and sentiment.<br/> Your task is to write a C program which automatically count the total number of words and characters in each review, providing structured metrics (character count and word count) that can be integrated into ROI dashboards. This will enable the company to quantify review length, assess user effort, and correlate textual activity with business outcomes such as customer satisfaction and brand loyalty.</p>            | CO3 | 5     |

|         | Use this user review (about a mobile phone) as an input string for your program and give word count and character count as output.<br>user_review = "Great performance and battery life, but the camera struggles in low light."                                                                                                                                                                                                                                                                                                                                                               |          |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------|----------|---|-------|---|---|-------|---|---|--------|---|-------|--|---|------|---------|-------|------|---------|----|------|----|---------|----|-----|---------|
| Q4      | (a) Explain in details minimum five features of Object Oriented Programming (OOP).<br>(b) List differences between OOP and POP (Procedural Oriented Programming)                                                                                                                                                                                                                                                                                                                                                                                                                               | CO4      | 3 + 2 |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| Q5      | Write the HTML code for the following tags.<br>a) Write the HTML tag used to insert a line break in a webpage.<br>b) Which HTML tag is used to display the largest heading?<br>c) Name the tag used to create an unordered list.<br>d) Write the tag used to insert an image in HTML.<br>e) Which tag is used to create a hyperlink in HTML?                                                                                                                                                                                                                                                   | CO5      | 1 x 5 |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| Q6      | Write HTML code for the following:<br>(a) <table border="1"><thead><tr><th>Sr. No.</th><th>Item</th><th>Quantity</th></tr></thead><tbody><tr><td>1</td><td>Apple</td><td>2</td></tr><tr><td>2</td><td>Mango</td><td>2</td></tr><tr><td>3</td><td>Orange</td><td>1</td></tr><tr><td colspan="2">Total</td><td>5</td></tr></tbody></table><br>(b) <table border="1"><thead><tr><th>Name</th><th>Subject</th><th>Marks</th></tr></thead><tbody><tr><td rowspan="3">Ajay</td><td>English</td><td>67</td></tr><tr><td>Math</td><td>82</td></tr><tr><td>Science</td><td>91</td></tr></tbody></table> | Sr. No.  | Item  | Quantity | 1 | Apple | 2 | 2 | Mango | 2 | 3 | Orange | 1 | Total |  | 5 | Name | Subject | Marks | Ajay | English | 67 | Math | 82 | Science | 91 | CO5 | 2.5 x 2 |
| Sr. No. | Item                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Quantity |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| 1       | Apple                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2        |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| 2       | Mango                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 2        |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| 3       | Orange                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1        |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| Total   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 5        |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| Name    | Subject                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Marks    |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| Ajay    | English                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 67       |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
|         | Math                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 82       |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
|         | Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 91       |       |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |
| Q7      | Develop a simple web-based login page using HTML, JavaScript, and PHP that allows users to securely access a system. The page must provide a user interface for entering a username and password, validate inputs on the client-side using JavaScript, and authenticate credentials on the server side using PHP. The solution should deliver a user-friendly experience.                                                                                                                                                                                                                      | CO5      | 5     |          |   |       |   |   |       |   |   |        |   |       |  |   |      |         |       |      |         |    |      |    |         |    |     |         |