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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS- 2026

B.Tech-IV Semester (CSE/IT)

COURSE CODE (CREDITS): 25B11CI417 (3)

MAX MARKS: 25

COURSE NAME: ADVANCED FRONT-END

COURSE INSTRUCTOR: Ms. PALAK AAR

MAX. TIME: 1 Hour 30 Min

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	Design a React functional component that sets the UI theme based on the current time: enable dark mode from 6 PM to before 6 AM, and light mode from 6 AM to before 6 PM, using state initialization only. Display the current mode and current time on the screen. Explain how the implementation can be modified to automatically update the theme when the time changes.	2	4
Q2	Design and implement a React form component that uses a single state object to manage all inputs via dynamic keyupdates ([e.target.name]). The form must include a text input, a checkbox, a set of radio buttons, and a select dropdown, and display the current values of all fields.	2	6
Q3	Design and implement a responsive services card layout using Tailwind CSS similar to the given design, ensuring proper alignment, spacing, and adaptability across different screen sizes. DAPP Development A decentralized application (dapp) is an application built on a decentralized network that combines a smart contract and a frontend user interface. Web 3.0 Development Web 3.0 is the third generation of Internet services that will focus on understanding and analyzing data to provide a semantic web. Project Audit A Project Audit is a formal review of a project, which is intended to assess the extent up to which project management standards are being upheld. Hacking / RE A security hacker is someone who explores methods for breaching defenses and exploiting weaknesses in a computer system or network. Bot/Script Development Bot development frameworks were created as advanced software tools that eliminate a large amount of manual work and accelerate the development process.	3	5

Q4	Design and implement a React stopwatch that runs only while the "Hold" button is pressed and held, pauses on release, and includes a "Reset" button to clear time. The stopwatch should resume from the previous time and display elapsed time in MM : SS : MS .	2	5
Q5	a) Differentiate between px, em, and rem. b) List scenarios where useRef should be used over useState. c) Explain how Tailwind reduces CSS file size in production? d) Justify the statement: "useRef acts as an escape hatch in React." e) Explain the Following: <div class="p-4 bg-blue-500 text-white rounded-lg"> Submit </div>	3	5