CSE 4181: Mobile Application Development Final: Fall 2023

Total Marks: **30**   Duration: 2 Hours

Question 1.

3+3+3

```tsx
1  import { React, useState, useEffect } from "react";
2
3  export function App(props) {
4    const [counter, setCounter] = useState(0);
5
6    const handleClick = async () => {
7      for (let i = 0; i < 10; i++) await setCounter(counter + i);
8    };
9
10   useEffect(() => {
11     console.log(counter);
12   }, [counter]);
13
14   return (
15     <div className="App">
16       <h1>Hello MAD People.</h1>
17       <h4>Please Write the Console Log when we press the button below!</h4>
18       <div>
19         <button className="magic-button" onClick={handleClick}>
20           Click to see Magic
21         </button>
22       </div>
23     </div>
24   );
25 }
```
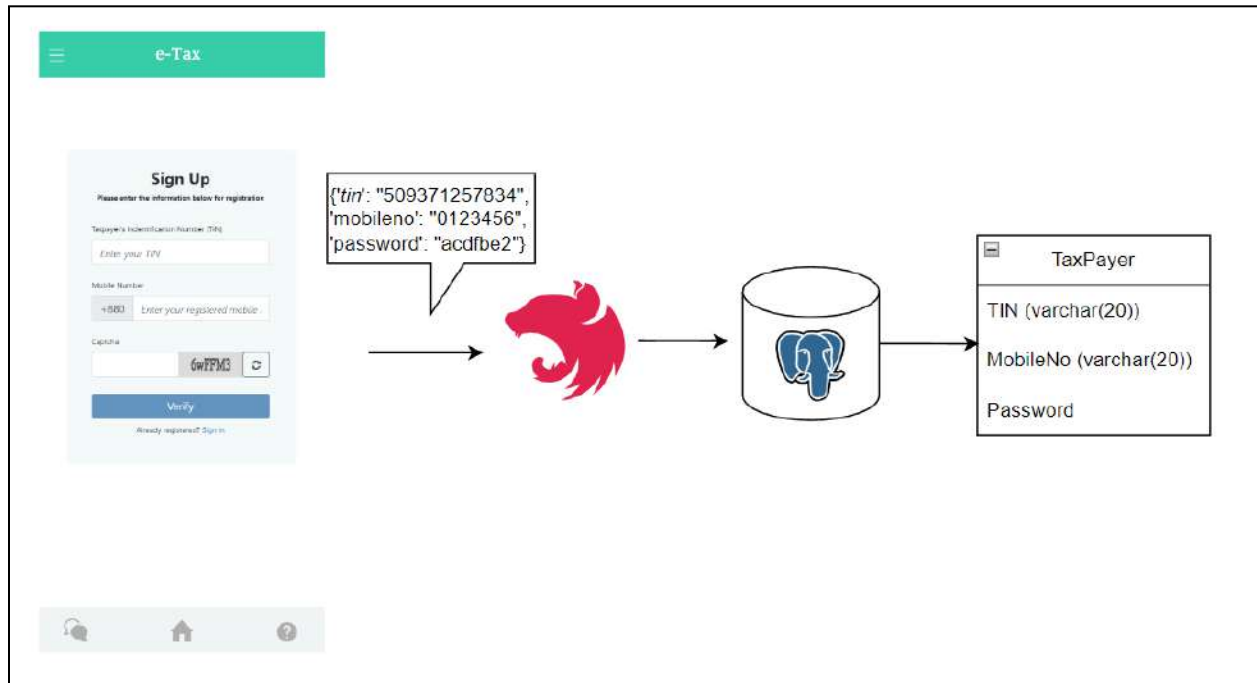
File: **App. tsx**

Consider this React Native code snippet from the file "**App.tsx**".
 a) Write down 2 examples of **Destructuring**.
 b) Write down only the exact console output for the program "**App.tsx**"
 c) Write down only the exact console output for the program "**App.tsx**" after removing *async* and *await* from lines 6 and 7.

Question 2:   **4+4+3**

e-Tax

For **Tax Return**, you have created a mobile app using React Native technology. Now you made a backend application using **NestJS** and you want to do some operation within your database.

a) Make an API for passing the registration data (TIN, MobileNo & Password) to the backend. Only the **Controller** code will suffice. Please make sure to write the correct HTTP method for the function.
b) Now do you think that your API will need a body or only params will suffice? If you think it will need a body, then write down the proper **DTO.** Otherwise, write the necessary parameters and decorators(*@Body or @Params*) for the function.
c) You have to commit all these changes to **GitHub.** Write down the necessary steps for that considering the branch name as *"feature-registration"*.

Question 3:   **4+4+2**

Consider that you are working with a startup that is developing a Job Search and Career
Management app for professionals titled **Rising Talent**. The app aims to provide a
comprehensive platform for users to find, apply for, and manage job opportunities while offering
features for career growth and networking. The app will include the following key screens: Jobs,
User's Profile, Alerts, and Contracts. Additionally, the app will have a user authentication system
to ensure secure access to user-specific data.

a) Design the navigation structure of **Rising Talent** using the fundamental navigation of
React Native. No code is needed, you can describe the navigation tree.
b) How will you ensure that the user is logged in? Design a component that works as a
global state. (You have to write code).
c) Explain the React Hook : **useEffect**. Provide sufficient example and rendering lifecycle.