

# Assignment 1

1. A company has developed a new weather application for mobile devices. In this app, the home screen shows only the current temperature without any context (like location or time of update). To access the forecast, users must tap a small, unlabeled icon in the corner of the screen, which is easy to miss. There is no back button, and users must close the app and reopen it to return to the home screen after checking the forecast. Additionally, when users interact with the app during a slow internet connection, it does not indicate that it's loading, making it unclear if the app is working or frozen. Lastly, the app's terms of service are presented in a pop-up message that covers the entire screen, and users cannot dismiss it until they scroll through the entire document.

Based on the above scenario,

- i. Identify which of Nielsen's 10 Heuristic Principles are violated. (4)
  - ii. Briefly explain how each of the principles is violated and how these issues can be resolved to improve the user experience. (6)
2. (a) What is Hypothesis Testing? Define null hypothesis ( $H_0$ ) and alternative hypothesis ( $H_1$ ) with proper examples. (3)  
(b) Provide three detailed scenarios (with variables/factors) where you should use:
  - i. Chi-squared test (2)
  - ii. Paired sample t-test (2)
  - iii. One-way anova (2)  
(c) What does the p-value mean in inferential statistics? Explain. (1)