***Subject: STAT***

***No of Questions: 3***

***Datasets and notes: Will be added later***

***Requirement: Report with R Studio script***

***Question 1***

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***Question 2***

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**Question 3**

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**Things to consider**

1. **Only models from following categories** must pick based on the data set.
2. GLM – Generalized Linear Models ( Poisson, Binomial)
3. Mixed effects models (Random effects and Mixed models)
4. GLMM – Generalized Linear Mixed Effects Models
5. Relevant lecture notes will be provided accordingly
6. R script must be clearly commented and easier to follow
7. For each question following must be there
   1. Exploratory analysis (numeric summary and graphical summary) – For this simple box plots would not be sufficient. Instead, more meaningful graphical plots needs to be drawn
   2. Followed by exploratory analysis plot interpretations must provide accordingly
   3. Indicate which model type would fit to the given data and scenario and indicate why you chosen that method
   4. Fit 2/3 models with a mix of mixed effects, random effects, interactions based on the chosen model
   5. Use IT approach to compare models (aicTab() ) and determine which is the best model
   6. Provide a detail analysis on the chosen model
      1. Intepret all co-efficients
      2. Variances
      3. Confidence intervals
      4. Summary outputs
      5. Residual analysis (if it fits to the model)
      6. Model Equations (use mathematical notations also adequately)
   7. Final overall summary relating to the research question