Final Exam :

*A researcher is interested in understanding why some people are more conservative than others, and plans to study whether genes influence political ideology, with details as follows. First, they will randomly select 200 liberal activists and 200 conservative activists from an existing list of political activists. They will then identify family members linked by blood (e.g., siblings, children, parents, grandparents, etc) as well as unrelated family (e.g., spouses and/or housemates.)  All identified subjects (activists and family members) will be asked to fill in a survey including questions about demographics, political ideology, core political values, and a range of political issues.*

**A1. Based on this short description of the study, this study is an example of which of the following kinds of research? [check all that apply, and elaborate on your rationale for each] [4 pts]**

\_\_\_\_ Descriptive

\_\_\_\_ Explanatory

\_\_\_\_ Exploratory

\_\_\_\_ Experimental

\_\_\_\_ Observational

\_\_\_\_ Qualitative

\_\_\_\_ Quantitative

**Answer :**

**X** Descriptive: This study is descriptive because it seeks to describe the characteristics of a particular group (in this case, political activists and their families). It will collect information on various factors such as demographics, political ideology, core political values, and a range of political issues, thereby providing a detailed account of these groups.

**X** Explanatory: The research can also be considered explanatory as it is seeking to understand why some people are more conservative than others. By examining genetic links and political ideology, it is trying to explain whether there's a relationship between genes and political orientation.

**X** Exploratory: The research could also be considered exploratory, especially if this is an early or novel attempt to examine the potential genetic influence on political ideology. The researcher may not have a clear hypothesis at the outset and may be aiming to generate new insights or hypotheses based on the data gathered.

**X** Observational: This study is observational because it does not manipulate any variables or conditions. Instead, it merely observes and records the characteristics and behaviors of the participants as they naturally occur.

\_\_\_\_ Experimental: This study is not experimental because there's no manipulation of variables, no treatment and control groups, and no intervention being applied by the researcher.

**X** Quantitative: The study can be considered quantitative if the responses to the surveys are coded numerically and statistical analysis is used to analyze the relationships among variables. For instance, the demographic information, political ideology, and responses to political issues could all be quantified and statistically analyzed.

\_\_\_\_ Qualitative: There's no indication from the description that qualitative data, such as in-depth interviews or open-ended responses, are being collected or analyzed. However, if the survey included open-ended questions, the research could also have a qualitative component. For now, without this information, we can't definitively classify it as qualitative.

**A2. Identify two constructs used in the study. Clearly indicate which is treated as the explanatory or independent construct, and which is treated as the outcome or dependent construct. [2 pts]**

**Answer** : In this research, the two key constructs being studied are:

1. Political Ideology: This is the dependent or outcome construct. The researcher is interested in understanding why some people are more conservative than others. This implies that political ideology (ranging from liberal to conservative) is the outcome that the researcher is attempting to explain or predict.
2. Genetic Relationships: This is the independent or explanatory construct. The researcher is studying whether genes influence political ideology. This implies that the genetic relationship between family members (e.g., siblings, children, parents, grandparents) is the factor that the researcher is hypothesizing might influence or explain variations in political ideology.

In the context of this study, the researcher is investigating whether a relationship exists between these two constructs: does the genetic relationship (independent variable) explain or predict the political ideology (dependent variable) of the individuals in the study.

**A3. The subject selection process can best be described as... [check all that apply and elaborate on your rationale as needed] [2 pts]**

\_\_\_\_ Simple random sample

\_\_\_\_ Snowball sample

\_\_\_\_ Convenience sample

\_\_\_\_ Stratified random sample

\_\_\_\_ Quota sample

Answer : **X** Convenience sample: The initial selection of 200 liberal activists and 200 conservative activists from an existing list of political activists can be seen as a convenience sample. The researchers are choosing individuals that are readily available and easy to reach, rather than randomly sampling from all possible political activists.

**X** Snowball sample: After the initial selection, the researchers identify family members linked by blood as well as unrelated family (e.g., spouses and/or housemates). This process of using current participants to identify further participants is characteristic of a snowball sample.

\_\_\_\_ Simple random sample: This would require every member of the population to have an equal chance of being selected. Given the described process, this does not appear to be the case.

\_\_\_\_ Stratified random sample: This would involve dividing the population into distinct subgroups (or "strata") and then randomly sampling from each subgroup. While the researchers are selecting from two groups (liberal and conservative activists), the selection within these groups is not described as random.

\_\_\_\_ Quota sample: Quota sampling would require the researchers to ensure certain proportions of the sample represent different subgroups in the population. There is no evidence of such quotas in the described selection process.

**A4. The researcher plans to create an additive political values index from the questions as described in Appendix A. How would you describe the constructed index? [Choose 1, provide any rationale below if needed][2 pts]**

\_\_\_\_ Nominal

\_\_\_\_ Ordinal

\_\_\_\_ Interval/Ratio

Answer :

\_\_\_\_ Nominal

\_\_\_\_ Ordinal

**X** Interval/Ratio

An additive political values index, constructed from multiple questions, would likely be an interval/ratio type of data. This is because the scores from different questions would be added together to create a composite score, which would be a numerical value. The difference between scores would have meaning, and there would be a clear zero point indicating the absence of the measured construct (i.e., political values).

Nominal data would not be appropriate for this type of index because nominal data is categorical and does not involve a numerical value that can be added or subtracted.

Ordinal data involves ranking, and while the individual questions might produce ordinal data (depending on their format), the process of adding these scores together would produce interval/ratio data.

**A5. The researcher has already run a pilot study to learn more about the characteristics of the survey measures they intend to include in the activists & family members study. In his pilot study, they found that the average score on the political values index was -0.95. Provide a substantive interpretation of this result. [2 pts]**