Statistics Special Cases NET, IAS, State-SET (KSET, WBSET, MPSET, etc.), GATE, CUET, Olympiads etc.

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1. A medical researcher wants to determine if there is a relationship between race and blood pressure. The researcher samples a group of 250 individuals and records their race (Hispanic, Asian, African-American, Caucasian) and whether they have high or low blood pressure. The appropriate statistical procedure is: _____Contingency Table Chi Square

2. The following experiment is conducted. Participants arrive at the lab and listen to a persuasive message over headphones. The accent used to deliver the message was manipulated. In one condition, the person delivering the persuasive message spoke with a British accent, and in a second condition, the speaker delivered the message with an American accent. The length of the message was also manipulated. In one condition, the persuasive message was fairly short (lasting about 45 seconds), and in a second condition, the message was fairly long (about 4 minutes). After listening to one of the messages, each participant was asked to rate how convincing the message was on a scale where 1 = Not Persuasive and 10 = Extremely Persuasive. The appropriate statistical procedure is: _____Two Way Anova

3. Suppose that Verbal GRE scores are known to have a population mean of 500 and a population standard deviation of 20. An educational psychologist tests a group of college seniors who come from an economically deprived background to determine if their average Verbal GRE score differs from the known population value. The appropriate statistical procedure is: _____One Sample Z

4. A physician measures the glucose (blood sugar) of participants both before and after a one-month special diet. The physician believes that the diet may alter glucose levels. Assume that glucose levels are not normally distributed in the population. The appropriate statistical procedure is: _____Wilcoxon Signed Rank Test

5. A meteorologist is interested in predicting the humidity level jointly from temperature and the degree of cloud cover on a particular day. The appropriate statistical procedure is: _____Multiple Regression

6. A researcher is interested in determining the best way individuals can stick with a commitment to quit or cut back on their smoking. She brings 30 smokers into the lab, all who have expressed a desire to quit. For one-third (n = 10), she tells the smokers to

repeat the phrase, "I will quit smoking" inside their head for 5 minutes. For a different third (n = 10) , she asks the smokers to write out a brief essay for 5 minutes describing why they want to quit smoking. For the final one-third of the smokers, she asks them to give a 5-minute speech to the group on why they want to quit smoking. One-month later, all participants are contacted by the researcher and are asked to report how many cigarettes they smoked that day. The researcher wants to determine if smoking rates differ among the conditions. The appropriate statistical procedure is: _____One Way Anova

7. Imagine the following experiment. Participants are exposed to different types of words subliminally before reading about a person. In one condition, participants are flashed negative words like "disease" and "trash." In a second condition, participants are flashed positive words like "sunshine" and "rainbow." In a third condition, participants are flashed neutral words like "chair" and "lamp." The researcher wants to know if exposure to the different types of words affects the impressions that participants render of the person they read about. Assume that impression ratings are not normally distributed in the population. The appropriate statistical procedure is: _____Kruskal Wallis Test