**Question 1.  Designing and Evaluating Interventions:**

The director of an Autism Treatment Center recently realized that there is much variability in the way in which each of the 6 full-time staff members implement discrete trial training (DTT) procedures with their students.  Some use incorrect prompt-fading techniques, others do not provide sufficient opportunity for a student to emit a response, etc.  The director then inquires about the type of training that each staff member received when first hired by the treatment center.  She is surprised to learn that no formal training protocol was followed.  Her solution to the problem is to conduct a staff training experiment.  The intervention would consist of implementing Behavioral Skills Training (BST) across all 6 staff members and measuring their DTT performance.  BST involves providing instructions, modeling of the appropriate behavior, rehearsal of the skill, and feedback on performance.

1) Describe, in detail, how you would teach a staff member to correctly implement DTT using Behavioral Skills Training.
2) Describe, in detail, the type of experimental design that the director should use to ensure a high degree of internal validity.
3) List the types of confounds that your suggested design would control for.
4) Describe one way in which the director could assess for integrity of the independent variable.

**Question 2.  Theory and Practice of Applied Behavior Analysis:**

In an experiment to evaluate cognitive behavior therapy for anger, a psychologist runs an anger management group. In the group s/he gives participants information on anger, teaches them to identify triggers for anger, and teaches them to identify their perceived causes for other people's apparently insulting behavior. The procedures also use homework assignments and role play practice in the group of what to do when other people annoy the group members. After each group weekly meeting members share their stories of attempting to control their anger.

The psychologist asks group members and a significant other to rate their anger before and after the group on a 7-point Likert scale. The mean rating was 6.0 before the group and 3.5 after the group which was significant ($p < .01$.) The corresponding mean ratings for a wait list control scored 5.8 and 6.1 ($p = .47$). The psychologist concluded that cognitive behavior therapy is highly effective for anger.

(a) Write a behavior critique of this report.
(b) Describe what a behavior analyst would do differently and why they would do things differently.

**Question 3. Measurement and Graphing:**

Below are data that were collected from a study evaluating the effects different token systems on Celia's responding to math problems. A withdrawal design was implemented that assessed responding to math problems during periods of baseline (no programmed reinforcement) and intervention. During intervention, two different token economy procedures were examined (using an embedded alternating treatments design). The Positive Reinforcement procedure involved presenting Celia with a token for each correct response – she could earn up to 10 tokens each session. The Response Cost procedure involved presenting Celia with 10 tokens and a token was removed for each incorrect response. Following each token procedure, Celia was able to exchange tokens for preferred rewards. The dependent variable was the percentage of correct math problems.

Using the data below:

1. Construct an accurately labeled ABAB graph in Excel.
2. Copy and paste the graph into a Word document.
3. Below the graph describe the results of the study. Make sure to include whether experimental control was demonstrated.

| Session: | Baseline Condition | Positive Reinforcement Condition | Response Cost Condition |
|---|---|---|---|
| 1 | 30 | | |
| 2 | 40 | | |
| 3 | 40 | | |
| 4 | 30 | | |
| 5 | | 80 | |
| 6 | | | 80 |
| 7 | | | 80 |
| 8 | | 100 | |
| 9 | | | 70 |
| 10 | | 90 | |
| 11 | 60 | | |
| 12 | 40 | | |
| 13 | 60 | | |
| 14 | 40 | | |
| 15 | | | 90 |
| 16 | | 90 | |
| 17 | | | 70 |
| 18 | | 100 | |
| 19 | | | 80 |
| 20 | | 100 | |

**Question 4.  Principles, Processes, and Concepts:**

Respond to all parts of this question:

1. Define and provide examples of echoics, mands, tacts, intraverbals.  In your answer, compare and contrast these verbal operants.
2. Explain how you could use establishing operations when teaching a child to mand.
3. Define and provide examples of response classes.
4. Define unconditioned and conditioned reinforcement.  Describe how you could make the phrase, "good job" a conditioned reinforcer.
5. Compare and contrast operant and respondent conditioning paradigms.
6. Define rule-governed behavior?  How is this different than contingency-shaped behavior?

**Question 5. Behavioral Assessment and Functional Assessment:**

1. What is a functional (as opposed to topographical) approach to understanding problem behavior?
2. Identify, describe, and discuss the advantages and disadvantages of each of 3 ways of conducting a functional assessment.
3. Describe the conditions in a functional analysis.
4. Illustrate (a simple hand drawn graph will do) a pattern of results that would suggest an automatic reinforcement (or self-stimulatory) function. Illustrate a pattern of results that would suggest attention as the function.
5. An 18 year old man with Down syndrome and intellectual disability displays high rates of inappropriate behavior in the form of standing too close, touching, even grabbing others, including friends, family, and strangers. A functional analysis shows this behavior serves the purpose of obtaining attention, often in the form of lengthy conversations with family and friends about keeping his hands to himself, remaining at arm's length, etc. Describe an intervention plan to decrease this inappropriate behavior.
    a. Your intervention should involve at least functional communication training (FCT).
    b. You must describe procedures for FCT including choice of communicative replacement, prompting procedures for teaching communicative replacement, procedures for when to prompt communicative replacing, and reinforcement.
    c. Also address issues of response efficiency and tolerance for delay of reinforcement.