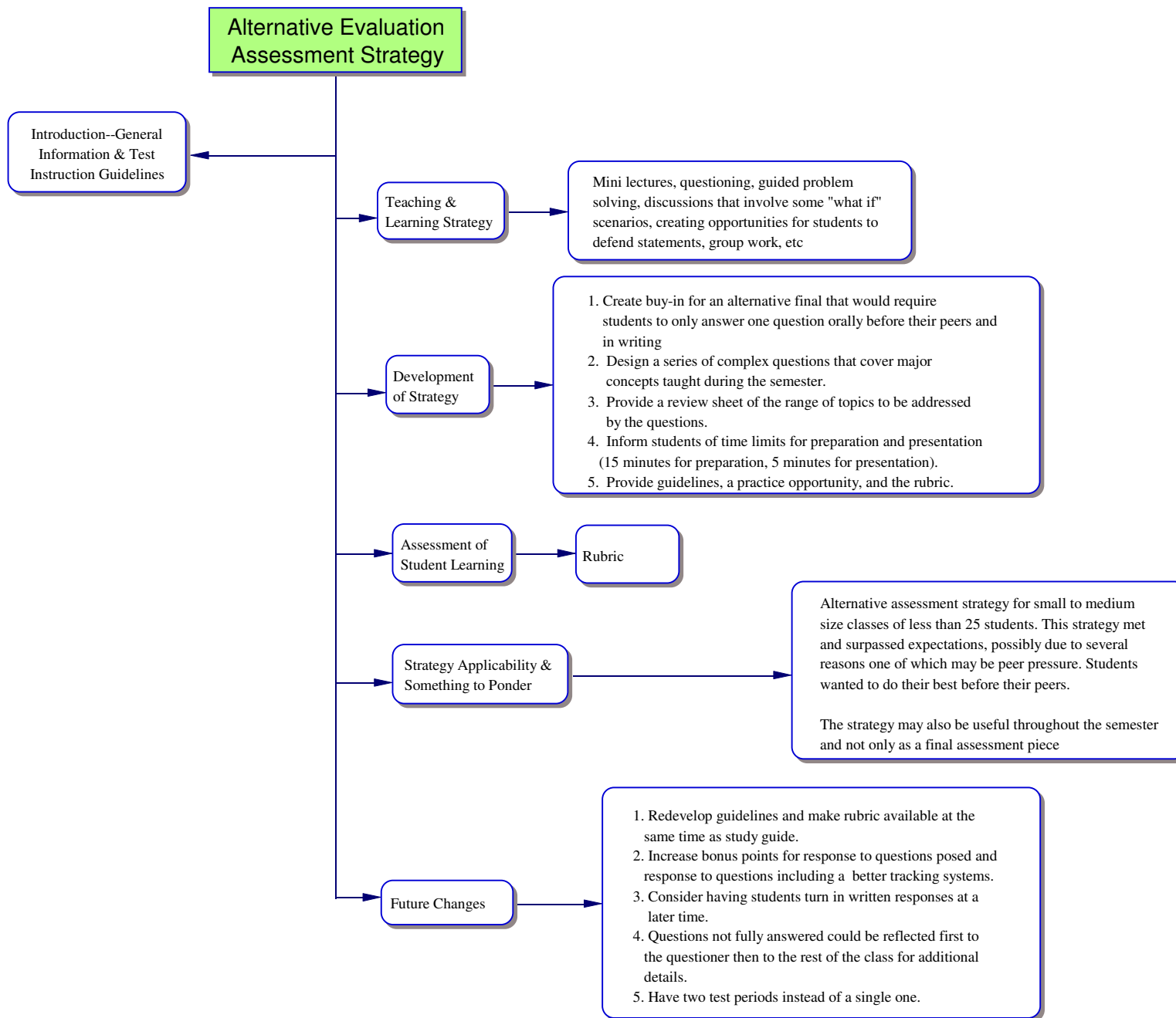


Models of Innovation, Best Practices in Teaching and Learning at UND



An Example of an Alternative Final Test

Test Instructions/Guidelines:

Each two-person group will have 15 minutes to prepare their response to a single question that will be randomly assigned. You will then be expected to present your findings to the assigned question and may take no more than 5-10 minutes to present the results to your peers. During or at the completion of your presentation, you will be expected to respond to questions and provide accurate responses and/or explanations. Failure to adequately respond to a question posed to you will result in a loss of points associated with the question section of the rubric.

Questions posed by any student will be rated on a scale from 1-5 ('5' being a very good question and '1' being a poorly worded question—a question that results in little more than yes, no, or a maybe response; Or, response that adds no real value to the discussion).

- Questioners will be awarded 5 points for a “good” question with no questioner receiving more than 10 points. Two bonus points will be given to anyone providing a reasoned and accurate response to a question that cannot be answered by either of the presenters.

IT - 211 - Fundamentals of Electric Circuit Devices - Final Oral Examination

Department of Technology **Names:** _____ & _____

Special Note: Your response to the question below must demonstrate A FULL understanding about the subject matter indicated. Be concise and to the point. Answer the question directly and as clearly as possible.

A Sampling of Questions

Q:

Provide some explanation/discussion about the concept of Resonance using a simulated circuit designed in MultiSim to demonstrate how resonance works. Here are some things you should include in your discussion: what resonance is, how it is achieved, what purpose resonance serves, a setting in which one is likely to find this principle being applied, etc.

Q:

- a. What is/are the major differences between the AC and DC switch settings of the vertical amplifier input on an oscilloscope?
- b. Explain the purpose of the horizontal and vertical settings on the o-scope and provide some discussion about when you would or would not use these settings. You should consider using examples (a signal that can be viewed from a designed circuit—one that employs both AC and DC variable signals) to help explain the operation of this section of this O-scope function. Please note: Simply depressing the auto capture feature on the O-Scope is NOT an option for your demonstrating the required setup of the O-Scope. You must demonstrate your knowledge of the scope by using the settings (knobs, switches, etc) to capture and interpret the value and characteristics of the signal you are observing. A scope will be selected for you to use other than the one you worked with in preparation to answer the question.

Q:

Provide a brief overview about the operation of each of the following electronic components individually, when placed in a circuit together, and also describe any failure pattern(s) that may be associated with each of the identified components.

Resistors:

Transformers:

Capacitors:

Diodes:

Inductors:

Relays:

Q:

How would you advise a peer to proceed with completing laboratory exercises that are a required part of this course? What should he/she do in preparation, how should they go about setting up and conducting the lab exercises themselves? How would you suggest that any student should proceed when the lab project fails to produce the anticipated results? Be **very thorough** with your response since this is a rather loaded question that requires you to be both diligent and thoughtful. A glib or less than thoughtful response would impact the grade you could receive for this question.