

Report – Project based learning

Academic Year 2023 -2024

Subject BMT 305- BIOSENSORS & TRANSDUCERS

Faculty Ms. RINY RAJAN

Innovative Teaching method Micro project

Topic/Question Design an amplifier for use with the pH electrode. An output in the range of 1 to 2 mV is desired for normal pH variation of blood.

Goals:

1. Peer group discussion and understanding of real-world applications.
2. Preparation of a simple technical report.
3. Model a basic circuit.

Use of appropriate methods:

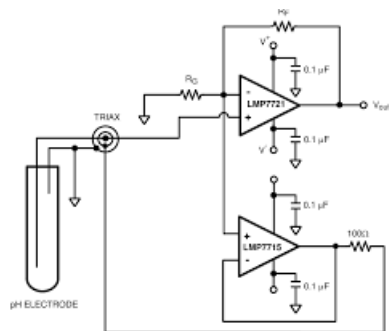
Evaluation Rubrics			
Parameters/Marks	Poor	Fair	Very Good
Engineering Knowledge (5).	The team does not show any evidence of applying engineering knowledge on the design and the methodology adopted. (0-1marks)	The team is able to show some of the design procedure and the methodologies adopted, but not in a comprehensive manner. (2-3marks)	The team is able to show evidence of application of engineering knowledge in the design and development of the micro project to good extent. (4 - 5marks)
Involvement of individual members (5).	No evidence of any Individual	There is evidence for some amount of	The individual contribution is evident.

	participation in the micro project work. (0-1marks)	individual contribution, but is limited to some of the superficial tasks. (2-3marks)	The student has good amount of involvement in core activities of the micro project. (4 - 5 marks)
Relevance of the micro project (5).	The micro project as a whole do not have any societal / industrial relevance at all. (0-1marks)	The micro project has some relevance with respect to social and/or industrial application. (2-3marks)	The micro project is relevant to the society and/or industry. (4 - 5marks)
Results / conclusions / solutions (5).	None of the expected outcomes are achieved. Any kind of observations or studies are not made. (0-1marks)	Only a few of the expected outcomes are achieved. (2-3marks)	Many of the expected outcomes are achieved. Many observations and inferences are made. (4 - 5 marks)

Design:

$$\text{Gain} = (1 + R_f/R_G)$$

Assume the values for R_G & C .



Reference Text Book :

Medical Instrumentation – Application & Design, Third edition, John G Webster

Result:

