INDIVIDUAL CASE STUDY (CASE CODE: 9)

BIOTECHNOLOGY & HEALTHCARE ADMINISTRATION COMMITTEE

PARTICIPANT GUIDELINES

- Event will be presented to you through your reading of CURIS Skills, CURIS Knowledge and Case Details
- Each case study must be completed individually and should take approximately 1 hour
- You should take approximately 10 minutes to review this information and 20 mins to conduct external research to help prepare your response
- You should then take approximately 20 minutes to write your response and allot 10 minutes to edit your response and submit your work
- Please also include a citations page to indicate which external sources were used
- All submissions will be made through the CurisConnect website
- You will be evaluated on how well you demonstrate the CURIS Skills and meet the CURIS Knowledge criteria. The last page in your case study package consists of an Evaluation Form whereby the evaluator will allot points for the completion of the case study.
- The points allotted will be based on the depth and detail of your explanation in your response since there are no defined right or wrong answers, but rather we want to see your thinking, research, knowledge and understanding on the situation at hand.
- The amount of points earned will correspond to the amount of volunteer minutes or hours you will earn. The threshold and range for this grading scheme can also be found at the bottom of the Evaluation Form.
- Participants who successfully complete the case study will receive a Certificate of Participation

CURIS SKILLS

- Critical Thinking – Reason effectively and use systems thinking.
- Communication – Communicate clearly.
- Creativity and Innovation – Show evidence of creativity.
- Healthcare Oriented Mindset - Utilizes proper terminology and demonstrates foundational educational understanding in discipline.

CURIS KNOWLEDGE

- Participants are encouraged to apply their knowledge of biotechnological principles and techniques to address the challenges posed by Emily's case.
- By proposing innovative solutions grounded in scientific evidence and ethical considerations, participants can demonstrate their ability to navigate complex healthcare scenarios and contribute to advancements in biotechnology-driven personalized medicine.

CASE DETAILS

BioGenetix Inc. is a leading biotechnology company specializing in innovative research and development solutions. Established in 2005, BioGenetix has been at the forefront of biotechnological advancements, catering to a diverse clientele ranging from pharmaceutical companies to agricultural organizations. With a mission to improve human health, environmental sustainability, and agricultural productivity, BioGenetix is committed to pushing the boundaries of scientific innovation.

The case revolves around a patient named Emily, a 35-year-old woman diagnosed with metastatic breast cancer. Emily has undergone several rounds of chemotherapy and hormonal therapy, but her cancer continues to progress despite treatment. As a last resort, Emily's oncologist refers her to BioGenetix in hopes of exploring experimental biotechnological interventions to target her aggressive cancer cells.

Emily's case presents a unique challenge for BioGenetix's team of biotechnologists. They must leverage cutting-edge biotechnological tools and techniques to develop personalized treatment strategies tailored to Emily's specific cancer subtype and genetic profile. The goal is to pioneer innovative therapies that can effectively target and eliminate Emily's cancer cells while minimizing adverse effects on healthy tissues.

Please also address the following questions in your response:

- How can biotechnological methods such as next-generation sequencing and gene expression profiling be utilized to characterize the molecular profile of Emily's tumor and guide treatment decision-making?
- How can biotechnologists leverage this information to design novel targeted therapies, such as monoclonal antibodies or gene therapies, that selectively inhibit tumor growth and metastasis?
- How can biotechnological approaches like cell culture systems and 3D organoid models be used to simulate tumor behavior and predict treatment responses in preclinical settings?
- How can biotechnologists integrate data from multiple sources, including genetic testing, biomarker profiling, and therapeutic efficacy assays, to tailor treatment options to Emily's individual needs and preferences?
- How can BioGenetix ensure that its research and development efforts prioritize patient safety, informed consent, and equitable access to innovative therapies while upholding ethical standards in healthcare?

EVALUATION FORM

PARTICIPANT:_____

EVALUATOR: _____

Did the participant:		**Below expectations**	**Meets expectations**	**Exceeds expectations**	**Judged score**
CURIS KNOWLEDGE					
1	Explain the principles of orthodontic treatment.	2	4	6	
2	Describe pros and cons of different orthodontic appliances.	2	4	6	
3	Identify factors affecting patient decisions on treatment options.	2	4	6	
CURIS SKILLS					
4	Critical Thinking & Problem-Solving	1	2	3	
5	Communication, Terminology & Professionalism	1	2	3	
6	Creativity & Innovation	1	2	3	
7	Healthcare Oriented Mindset	1	2	3	
				TOTAL SCORE	

Total Score	Volunteer Minutes
25-30 points	1 hour
20-24 points	45 mins
15-19 points	30 mins
10-14 points	15 mins