

1: Clinical heterogeneity

Question	Marks	Question type
i		Information or resources
1.1	1	Multiple Choice
1.2	1	Multiple Choice
1.3	1	Multiple Choice
1.4	1	Multiple Choice
1.5	3	Essay
1.6	3	Essay
1.7	2	Essay

2: pharmacogenetics, individualized medicine

Question	Marks	Question type
2.1	1	Multiple Choice
2.2	1	Multiple Choice
2.3	1	Multiple Choice
2.4	1	Multiple Choice
2.5	2	Essay
2.6	2	Essay
2.7	2	Essay
2.8	2	Essay

3: functional genetics

Question	Marks	Question type
3.1	1	Multiple Choice
3.2	1	Multiple Choice
3.3	1	Multiple Response
3.4	1	Multiple Choice
3.5	3	Essay
3.6	2	Essay
3.7	3	Essay

- 1.5 Discuss locus heterogeneity in cardiovascular genetic disorders such as hypertrophic cardiomyopathy (HCM) and how it complicates cascade screening and clinical management. (3P)

Write your answer in the box below. Changes are saved automatically.

Format ▾ | **B** *I* U x_2 x^2 | I_x | | | | |

| Σ |

Words: 0

Maximum marks: 3

1.6 Explain how multi-omics approaches deepen understanding of G×E. (3P)

Write your answer in the box below. Changes are saved automatically.

Format | **B** | *I* | U | x_2 | x^2 | I_x | | | | | | | | | | | | |

Empty text area for writing the answer.

Words: 0

Maximum marks: 3

1.7 Why is genetic testing crucial before prescribing CFTR modulator therapy? (2P)

Write your answer in the box below. Changes are saved automatically.












Format | **B** | *I* | U | x_2 | x^2 | I_x | | | | | | | | | | | | Σ |

Words: 0

Maximum marks: 2

- 2.5** The Comirnaty vaccine fast-tracked a technology that had been in the lab benches for almost 2 decades. This means that naysayers are completely misinformed when they say that it was produced within a few months. Explain how it was made (1p), how exactly it differed from traditional vaccines until then (0,5p), and why it does not represent a danger for people to take it (0,5p). (2p)

Write your answer in the box below. Changes are saved automatically.














Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  | Σ | 

Words: 0

Maximum marks: 2

2.6 Name 2 ways in which genetic treatment of diseases can be used, and explain what each of them mean. (2p)

Write your answer in the box below. Changes are saved automatically.














Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  |  | Σ | 

Words: 0

Maximum marks: 2

- 2.7 Describe the role of glutathione-S-transferase (GST) in Phase II metabolism (0,5p), explain how low GST activity affects susceptibility to drugs or carcinogens (1p), and mention one reason why individuals differ in GST activity (0,5 p). (2p)

Write your answer in the box below. Changes are saved automatically.














Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  |  | Σ | 

Words: 0

Maximum marks: 2

- 2.8 Personalized therapy reduces cost while preventing unnecessary toxicity and improving outcomes. Name two examples of medications that are given depending on the genotypes of the patient (1p), and describe how they act on the disease (1p). (2p)

Write your answer in the box below. Changes are saved automatically.














Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  |  | Σ | 

Words: 0

Maximum marks: 2

3.5 Briefly describe how the UAS-Gal4-system works, and explain how it can be used to study gene function. (3p)

Write your answer in the box below. Changes are saved automatically.














Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  |  | Σ | 

Words: 0

Maximum marks: 3

3.6 Name two mammalian model organisms that are used for genetic research and briefly describe one example of how they can be used to investigate human disease. (2p)

Write your answer in the box below. Changes are saved automatically.












Format | **B** | *I* | U | x_2 | x^2 | I_x |  |  |  |  |  |  |  |  |  |  |  |  | Σ | 



Words: 0

Maximum marks: 2

3.7 Describe induced pluripotent stem cells, how they are created and how they can be used to investigate and treat human disease. (3p)

Write your answer in the box below. Changes are saved automatically.

Format ▾ | **B** *I* U x_2 x^2 | I_x |   |    |     |   |

 | Σ | 

Words: 0

Maximum marks: 3