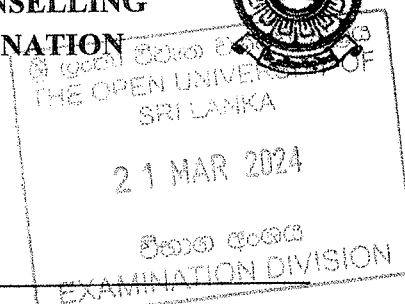




THE OPEN UNIVERSITY OF SRI LANKA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF PSYCHOLOGY & COUNSELLING
2023/2024 – SEMESTER I —FINAL EXAMINATION



BSc HONOURS IN PSYCHOLOGY
PLU6307 - BEHAVIOURAL GENETICS - LEVEL 06
FINAL EXAMINATION PAPER
DURATION: 03 HOURS



DATE: 21.03.2024

TIME: 1.30 – 4.30 PM

SECTION 2: STRUCTURED ESSAY QUESTIONS (60 MARKS)

Choose 04 out of the 06 questions given below and answer using the provided answer sheets

- 2.1**
- a) Discuss the ethical principles that should be considered and followed in behavioral genetics research and genetic testing. (3 marks)
 - b) How do they apply to individuals or groups involved in genetic studies or testing? (7 marks)
 - c) Provide examples to illustrate how these principles ensure ethical conduct in behavioral genetics research and genetic testing. (5 marks)
- 2.2**
- a) Discuss the historical context and ethical implications of eugenics, and its connection to the current debate surrounding the concept of "designer babies." (7 marks)
 - b) How has eugenics evolved over time. (3 marks)
 - c) What are the potential ethical concerns associated with the selection of traits in the context of in vitro fertilization (IVF) procedures? (5 marks)
- 2.3**
- a) Explain the relationship between genes and behavior according to the principles of behavioural genetics. (5 marks)
 - b) Discuss the role of both genetic and environmental factors in shaping human behavior, and analyze the complexity of studying this interaction in the field of behavioural genetics. (5 marks)
 - c) Identify the skills, knowledge, and critical thinking abilities required for research in this area. (5 marks)

- 2.4
- a) Define mutation and describe the types of mutations that can occur at both the DNA and chromosomal levels. (5 marks)
 - b) Explain the difference between germline and somatic mutations, and discuss the heritability of each type. (5 marks)
 - c) differentiate between polymorphisms and mutations, highlighting their significance in genetic variation within a population. (5 marks)
- 2.5 Joshua, a 50 year old man suffering from obesity, is unable to lose weight. Given that 95% of all obesity cases are mostly due to obesogenic lifestyle, as a genetic counsellor, how would you:
- a) Identify an obesogenic lifestyle to explain the meaning of an obesogenic lifestyle to Joshua? (3 marks)
 - b) Explain the biological basis of obesity in the regulation of body mass composition. (7 marks)
 - c) Describe the concept of genetics of obesity in relation to non-syndromic obesity, and help Joshua understand the roles genes play in obesity and the possibility of losing weight. (5 marks)
- 2.6 Write the benefits of studying the gene-environment (GE) interaction to understand mental disorders, and describe the methods used to study the GE interaction in the field of behavioural genetics. (15 marks)

-----END OF QUESTION PAPER-----