

UNIVERSITY OF BOLTON

**SCHOOL OF CLINICAL AND BIOMEDICAL
SCIENCES**

BSC (HONS) MEDICAL BIOLOGY

SEMESTER ONE EXAMINATION 2023/24

BIOLOGICAL BASIS OF DISEASE

MODULE NO: BIO6011

Date: Monday 8th January

Time: 10:00 – 13:00

INSTRUCTIONS TO CANDIDATES:

Candidates are advised that the examiners attach importance to legibility of writing and clarity of expression. YOU ARE STRONGLY ADVISED TO PLAN YOUR ANSWERS .

There are FIVE questions.

Answer ANY THREE questions.

All questions carry equal marks.

This examination paper carries a total of 150 marks.

This examination is THREE hours long.

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Answer **ANY THREE** questions: each question is worth 50 marks. You should spend approximately one hour on each question.

1. Critically appraise the role of cancer therapies in the treatment of tumorigenesis. Your answer should include examples of oncogenes responsible for cancer and the mechanism of action taken by specific treatments.

[50 marks]

2. Inflammatory Bowel Disease (IBD) and Irritable Bowel Syndrome (IBS) are two disorders associated with the gastrointestinal tract. Describe the symptoms associated with each disorder and critically evaluate the effectiveness of a drug available to treat the condition. You should justify the use of each drug mentioned by describing their mechanism of action.

[50 marks]

3. Age can often be a primary risk factor for neurodegeneration. Critically evaluate age related disorders associated with cognitive decline clearly explaining the mechanism of disease for each disorder and current treatment.

[50 marks]

4. With the aid of detailed examples, discuss the mechanisms of bacterial infection and the use of antibiotics as a treatment. Your answer should include the mechanism of action taken by specific drugs used to target bacterial infections.

[50 marks]

Please turn the page

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5. "Immunological tolerance" is essential to prevent the immune system attacking the body's own cells, or harmless antigens. Discuss how this is compromised in disorders associated with autoimmune disease, and compare and contrast the role of immune cells in autoimmunity.

[50 marks]

TOTAL: 150 marks

END OF QUESTIONS

PAST EXAMINATION