

UNIVERSITY COLLEGE LONDON

University of London

EXAMINATION FOR INTERNAL STUDENTS

For the following qualifications :-

M.B., B.S.

BMS Part II: Mechanisms of Drug Action

COURSE CODE : **BMSCNP2G**

DATE : **01-MAY-02**

TIME : **10.00**

TIME ALLOWED : **3 hours**

Candidate Identifier.....

MECHANISMS OF DRUG ACTION

RETURN THIS QUESTION PAPER, WHICH CONTAINS SECTIONS A and B

SECTION A MULTIPLE CHOICE QUESTIONS

pages 3,5,7,9,11,13,15,17,19,21

Attempt **EVERY** question. Marks will be deducted for incorrect answers.

Allow approximately 1 hour 10 minutes. (40 marks)

SECTION B SHORT ANSWERS

pages 4,6,8,10,12,14,16,18,20

Write short notes on the lines in the space provided on **FIVE** of the listed subjects. That part of any answer which extends beyond the boxed lines will not be marked unless it replaces an equivalent amount of work crossed out within the box.

Allow approximately 1 hour 10 minutes. (38 marks)

MULTIPLE CHOICE QUESTIONNAIRE

You are provided with a question paper and an answer card for computer processing. Please complete the MCQ card with your name, PRN and the MCQ test number.

Read the instructions on the answer card carefully.

For each question **ANY NUMBER OF ITEMS** may be correct and any number incorrect. Thus, for each statement decide whether it is **TRUE** (strike out the [T]) or **FALSE** (strike out the [F]) or if you choose not to guess strike out the [D]. If you change your mind use a soft clean rubber to make your change. The computer card reader will score the most densely marked answer.

Mark this question paper with V's (true) and X's (false) so that your paper may be checked if a problem arises. If you feel a question is ambiguous you may qualify your answer on the question paper. Every mark you make will carry the same weight, +1 for a correct answer, -1 for an incorrect answer and 0 if you do not respond.

TURN OVER

SECTION C : ESSAY QUESTIONS

Answer **ONE** question only.

1. Draw the metabolic pathways for arachidonic acid and briefly describe the effects of the products. What are the therapeutic consequences of drugs interacting with this system?
2. "Dopamine is an important neurotransmitter in the central nervous system." Discuss this statement in the context of drugs which can either reduce or increase dopaminergic neurotransmission.
3. Describe experiments to study drug antagonism at pharmacological receptors. Draw appropriate graphs to illustrate the results. What is the usefulness of the information obtained? Does it have relevance to the clinical use of receptor antagonists?

END OF SECTION

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BASIC MEDICAL SCIENCES EXAMINATION PART 2, 2002
for Internal Students of University College London

MECHANISMS OF DRUG ACTION

SECTION B (Short Answers; 5 out of 9)

1. Why are new drugs evaluated in double-blind controlled clinical trials?
2. What is the difference between a full and a partial agonist?
3. In the presence of what type of drug may the eating of some types of cheese lead to a marked rise in blood pressure? How does this occur?
4. How do local anaesthetics produce their effects?
5. Compare the mechanisms of action of the anti-coagulant drugs heparin and warfarin.
6. Explain the rationale for the use of amine uptake inhibitors in the treatment of depression.
7. Compare the factors affecting onset and recovery for the inhaled (volatile) anaesthetics and the intravenous anaesthetics.
8. Describe the mechanisms of action and uses of the oral hypoglycaemic agents.
9. What is the significance of the plasma protein binding of drugs?

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