Imperial College London

BSc/MSci EXAMINATION June 2050

This paper is also taken for the relevant Examination for the Associateship

A PHYSICS COURSE

For mth-Year Physics Students

Oneday, nth June 2050: hh:mm to HH:MM

Answer a lot of questions
Marks shown on this paper are indicative of those the Examiners anticipate assigning.

General Instructions

Complete the front cover of each of the NN answer books provided.

If an electronic calculator is used, write its serial number at the top of the front cover of each answer book.

USE ONE ANSWER BOOK FOR EACH QUESTION.

Enter the number of each question attempted in the box on the front cover of its corresponding answer book.

Hand in NN answer books even if they have not all been used.

You are reminded that Examiners attach great importance to legibility, accuracy and clarity of expression.

SECTION A

1. Here is a question.

(i) How much is 2+2? [2 marks]

For the rest of this question, assume that $\pi = 3$

(ii) Show that $\sigma\alpha\cos\theta = 0$? [1 mark]

[Total 3 marks]

[You may assume throughout this question that $\int \mathbf{B} \cdot \mathbf{dA} = \beta + \mathbf{\Gamma} \cdot \alpha\mathbf{A} = 0$]

2. (i) This question has only sub and subsub questions

(a) 1st subsub
ANSWER: 1st subsub answer is 42 [5 marks]

(b) 2nd subsub [2 marks]

The remaining elements of this question are based on A-level physics. Perhaps you should have revised more carefully.

(c) Using the results from (**??**) above, show that

$$E = mc^2$$ [2 marks]

(ii) Describe briefly your logic.
ANSWER: There is no such thing as logic [3 marks]

[Total 12 marks]

This equation may be used without proof.

$$A = B$$

This is the last bit of endmatter