

Imperial College London

BSc/MSci EXAMINATION **May** 2022

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

PHYSICS OF MEDICAL IMAGING AND RADIO-THERAPY

For Third and Fourth-Year Physics Students

XX May 2022: YY:00 to ZZ:30

*Candidates are required to answer **ALL** questions.*

Marks shown on this paper are indicative of those the Examiners anticipate assigning.

General Instructions

At the top of each page of your answers, write your CID number, module code, question number and page number. Scan and upload your answers to the Turnitin dropboxes as described in the guidance documents in the Blackboard module for this exam. Upload each answer to the dropbox provided for that specific question.

For each answer you should prepare a coversheet which should be the first page of your scanned answer. The coversheet should contain the following:

- your CID
- module name and code
- the question number
- the number of pages in your answer

You should not write your name anywhere on your answers.

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

Physics of Medical Imaging and Radiotherapy May 2022 ANSWERS November 17, 2021

This time-limited remote assessment has been designed to be open book. You may use resources which have been identified by the examiner to complete the assessment and are included in the instructions for the examination. You must not use any additional resources when completing this assessment.

The use of the work of another student, past or present, constitutes plagiarism. Giving your work to another student to use constitutes an offence. Collusion is a form of plagiarism and will be treated in a similar manner. This is an individual assessment and thus should be completed solely by you. The College will investigate all instances where an examination or assessment offence is reported or suspected, using plagiarism software, vivas and other tools, and apply appropriate penalties to students. In all examinations we will analyse exam performance against previous performance and against data from previous years and use an evidence-based approach to maintain a fair and robust examination. As with all exams, the best strategy is to read the question carefully and answer as fully as possible, taking account of the time and number of marks available.

Physics of Medical Imaging and Radiotherapy **May 2022 ANSWERS** November 17, 2021

1. (i) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[7 marks]

(ii) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[12 marks]

[Total 19 marks]

2. (i) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[7 marks]

(ii) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[12 marks]

[Total 19 marks]

3. (i) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[7 marks]

(ii) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[12 marks]

[Total 19 marks]

4. (i) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[7 marks]

(ii) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[12 marks]

[Total 19 marks]

5. (i) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[7 marks]

(ii) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[12 marks]

[Total 19 marks]

6. (i) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[7 marks]

(ii) (a) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

(b) Subsub question!

ANSWER: SEEN/UNSEEN/New instance of SEEN
Subsub answer!

[12 marks]

[Total 19 marks]