Physics
物理科

2021 Mock Examination
2021 模擬考試

(with marking schemes)

(附評卷參考)

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The Examination
考試範圍

Assessment Objectives
評核目標

The objectives of the public assessment of Physics are to evaluate candidates' ability to:

物理的評核目標為測驗考生下列各項能力：

1. recall and show understanding of the facts, models and principles of physics, and the relationships between different topic areas in the curriculum framework;

    憶述及了解第理學的事實、概念、模型和原理，以及「課程架構」內各課題的相互關係；

2. apply knowledge, concepts and principles of physics to explain phenomena and observations, and to solve problems;

    應用物理學知識、概念和原理，解釋現象和觀察結果，以及解決問題；

3. show an understanding of the use of apparatus in performing experiments;

    顯示在進行實驗時對儀器運用的理解；

4. demonstrate an understanding of the method uses in the study of physics;

    顯示對有關物理桌的研習方法的理解；

5. present data in various forms, such as tables, graphs, charts, diagrams, and transpose them from one form into another;

    以不同形式(例如表格、圖線、圖表、圖解等)表達資料，並將之由一種形式轉為另一種形式；

6. analyse and interpret data, and draw appropriate conclusions;

    分析及詮釋資料，並推導出適當的結論；

7. show an understanding of the treatment of errors;

    顯示對誤差處理的理解；

8. select, organise, and communicate information clearly, precisely and logically;

    選取及綜合資料，並能清楚、準確和邏輯地表達出來；

9. demonstrate understanding of the applications of physics to daily life and its contributions to the modern world;

    理解物理學在日常生活的應用及對現今世界的貢獻；

10. show awareness of the ethical, moral, social, economic and technological implications of physics, and critically evaluate physics-related issues; and

    關注物理學在倫理、道德、社會、經濟及科技上的影響，並以批判性的角度評價與物理學有關的事件；及

11. make suggestions, choices and judgments based on the examination of evidence using knowledge and principles of physics.

    基於物理知識及原理，審視證據並作出建議、選擇及判斷。

Synopsis of curriculum contents
課程內容撮要

The topics in the curriculum of Physics are listed below. For details, please refer to the Physics Curriculum and Assessment Guide (Secondary 4-6) jointly prepared by the Curriculum Development Council and the Hong Kong Examinations and Assessment Authority.

物理課程的各課題如下，至於詳細內容請參閱課程發展議會與本局聯合編訂的《物理課程及評估指引(中四至中六)》。

Compulsory part 必修部分

I.   Heat and Gases 熱和氣體
II.   Force and Motion 力和運動
III.   Wave Motion 波動
IV.   Electricity and Magnetism 電和磁
V.   Radioactivity and Nuclear Energy 放射現象和核能

Elective part 選修部分

VI.   Astronomy and Space Science 天文學和航天科學
VII.   Atomic World 原子世界
VIII. Energy and Use of Energy 能量和能源的使用
IX.   Medical Physics 醫療物理學

Mode of assessment
評核模式

Joint School Physics Mock Examination 2021 assessment directly from the papers and papers composed of two, summarized in the table below:

聯校物理科模擬考試 2021 評核直接由試卷一及試卷二所組成，概略見於下表：

Component 組成部分			Weighting 比重	Duration 時間
Public Examination 模擬考試	Paper 1 試卷一	Questions set on Compulsory Part 試題涵蓋必修部分	75 %	2 hours 30 minutes 兩小時三十分鐘
	Paper 2 試卷二	Questions set on Elective Part 試題涵蓋六選修部分	25 %	1 hour 一小時

Paper 1 comprises two sections A and B. Section A consists of multiple-choice questions and carries 26.25 % of the subject mark. Section B includes short questions, structured questions and an essay question, and it carries 48.75 % of the subject mark. Candidates have to attempt all questions in Paper 1.

試卷一由甲、乙兩部組成，甲部曷多項選擇題，佔本科分數 26.25 %；乙部由短題目、結構式題目和論述題組成，佔本科分數 48.75 %。考生須回答試卷一的全部試題。

Paper 2 contains multiple-choice questions and structured questions set on each of the four elective topics of the curriculum, and questions on each elective carry 12.5 % of the subject mark. Candidates are to attempt questions from any two of the four electives.

試卷二的多項選擇題及結構式題目涵蓋課程內四個選修課題，各選修課題的試題佔本科分數 12.5 %。考生須從四個選修課題中選答其中兩個選修課題的試題。

The simulation test does not have a school-based assessment. Therefore, the test scores will be adjusted by the scores of the first and second papers.

是次模擬試並無校本評核一環，因此模擬試成績會由試卷一及試卷二的分數經比重調整後評分。

Marking Schemes
評卷參考

This document was prepared for markers' reference. It should not be regarded as a set of model answers. Candidates and teachers who were not involved in the marking process are advised to interpret its contents with care.

本文件專為閱卷員而設，其內容不應視為標準答案。考生以及沒有參與評卷工作的教師在詮釋本文件時應小心謹慎。

General Marking Instructions
閱卷員需知

1. It is very important that all markers should adhere as closely as possible to the marking scheme. In many cases, however, candidates may have obtained a correct answer by an alternative method not specified in the marking scheme. In general, a correct answer merits *the answer mark* allocated to that part, unless a particular method has been specified in the question.

   為保持評卷的一致性，閱卷員需按照評卷參考作為評分的準則。本評卷參考不能盲各試題羅列所有可能的答案。閱卷員可根據專業判斷，接納未列於本評卷內其他正確和合理的答案。考生很多時候會以有別於評卷參考的方法作答並得到正確答案。除非該題已訂明須以特定方法解題，一般來說該正確答案可得答案分。

   In the marking scheme, alternative answers and marking guidelines are in rectangles.

   在評卷參考中，其他作答方式和評卷指引顯示於方格內。

2. In the marking scheme, answer marks or 'A' marks are awarded for a correct numerical answer with a unit. If the answer should be in km, then cm and m are considered to be wrong units.

   在評卷參考中，附有單位的正確數值答案可得答案分或 'A' 分。如果答案須以 km 表達，則 cm 和 m 會被視作錯誤單位。

3. In a question consisting of several parts each depending on the previous parts, method marks or 'M' marks are awarded to steps/methods or substitutions correctly deduced from previous answers.

   在包括數個連鎖分題的試題中，承接前一部的正確步驟/方法或代入方程可得方法分或 'M' 分。

4. In cases where a candidate answers more questions than required, the answer to all questions should be marked. However, the excess answer(s) receiving the lowest score(s) will be disregarded in the calculation of the final mark.

   如考生的答案超出要求的答案數量，閱卷員須評閱所有答案，惟最低分的過量答案將在計算總分時被剔除。

Paper 1 Section A
卷一甲部

Question No. 題號	Key 答案	Question No. 題號	Key 答案
1.	D	26.	B
2.	D	27.	B
3.	C	28.	B
4.	A	29.	C
5	C	30.	A
6.	D	31.	B
7.	C	32.	D
8.	A	33.	B
9.	D		
10.	A		
11.	B		
12.	C		
13.	D		
14.	C		
15.	B		
16.	A		
17.	C		
18.	A		
19.	D		
20.	D		
21.	B		
22.	B		
23.	C		
24.	A		
25.	A		

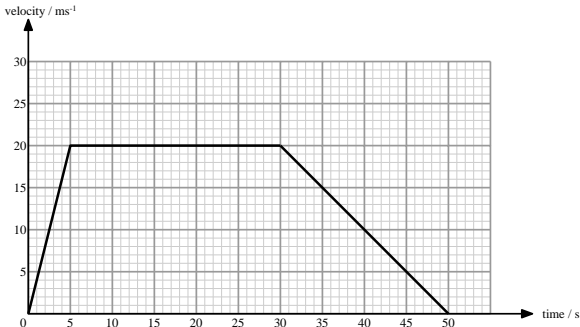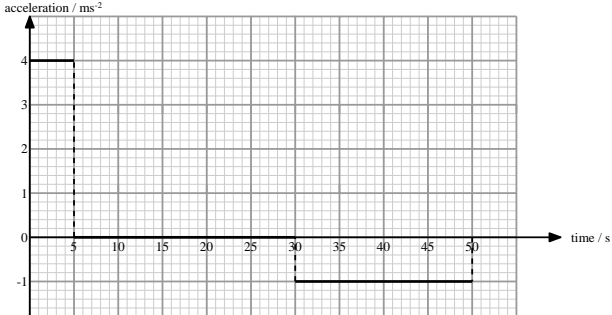*Note: Figures in brackets indicate the percentages of candidates choosing the correct answers.*
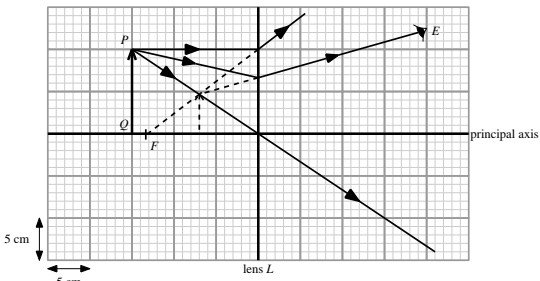
註：括號內數字為答對百分率。

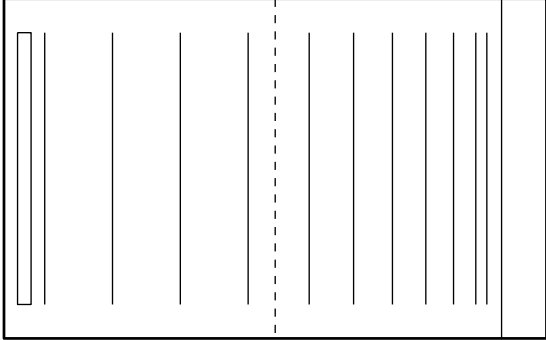| Solution 答案	Marks 分數	Remarks 說明
1. (a) (i) $Pt = mc\Delta T$		
$\quad VIt = mc\Delta T$	1M	
$\quad (12)(4)(5 \times 60) = (1.2)c(67.4 - 23.8)$		
$\quad c = 275$ Jkg^{-1}°C^{-1}	1A	
Assume there is no heat loss to surroundings.	1A	
假設沒有熱散失至四周。		
(ii) The result is higher than the actual value.	1A	
結果比真實數值高。		
There is heat loss to surroundings.	1A	
有熱散失至四周。		
(iii) Using a polystyrene cup instead of a beaker.	1A	
使用發泡膠杯代替燒杯。		
Adding a stirrer and stirring the liquid around throughout the experiment.	1A	
加入攪拌器並於實驗中一直攪拌著液體。		
(either one 任何一個)		
(b) Gas pressure increases with temperature.	1A	
氣壓隨溫度而上升。		
Specific heat capacity of liquid increases with pressure.	1A	
液體的比熱容會隨壓強而上升。		
	8	
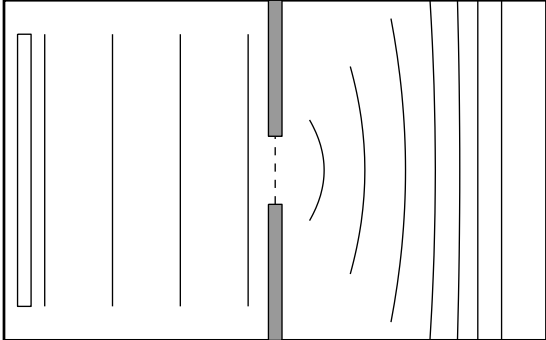
Solution 答案	Marks 分數	Remarks 說明
2. (a) (i) At t = 0 to 5 s, it moves forward with acceleration. 在 t = 0 至 5 s，它向前以加速移動。 At t = 5 to 30 s, it moves forward with constant velocity of 20 ms^{-1}. 在 t = 5 至 30 s，它向前以均速 20 ms^{-1} 移動。	1A 1A	
(ii) Distance = area of v-t graph 距離 = v-t 圖的面積 $$= \frac{(25 + 30)(20)}{2}$$ $= 550$ m	1M 1A	
(b) (i) (decelerate uniformly 均減速) (stops at t = 50 s 在 t = 50 s 時停下)	1A 1A	
(ii) (t = 0 – 5 s, a = 4 ms^{-2}) (t = 5 – 30 s, a = 0 ms^{-2}) (t = 30 – 50 s, a = -1 ms^{-2})	1A 1A 1A	
	9	

	Solution 答案	Marks 分數	Remarks 說明
3. (a) (i)	Inelastic collision. 非彈性碰撞。	1A	
(ii)	$mu + mu = mv + mv$ $0.4u + 0.6(0) = 0.4(4) + 0.6(4)$ $u = 10 \text{ ms}^{-1}$	1A	
(iii)	$PE = KE$ $m(10)(r) = \dfrac{1}{2}m(10)^2$ $r = 5 \text{ m}$	1M 1A	
(b)	The final speed of metal ball Q increases. 金屬球 Q 的最終速率會增加。	1A	
	As the change in momentum of metal ball P increases, 因為金屬球 P 的動量轉變增加，	1A	
	by law of conservation of momentum, momentum gain by metal ball Q is also increased. 根據動量守恆定律，金屬球 Q 得到的動量會增加。	1A	
		7	

Solution 答案	Marks 分數	Remarks 說明
4. (a) Reading 讀數 $= mg$ $13 = 1.4g$ $g = 9.29 \ \text{ms}^{-2}$	 1A	
(b) $\omega = \dfrac{2\pi}{T}$ $\omega = \dfrac{2\pi}{24 \times 3600}$ $\omega = 7.27 \times 10^{-5} \ \text{s}^{-1}$	 1M 1A	
(c) $mg - mg_{measured\,量度} = m\omega^2 r$ $g - 9.29 = (7.27 \times 10^{-5})^2(6400 \times 10^3)$ $g = 9.32 \ \text{ms}^{-2}$	1M 1A	
(d) $g = \dfrac{GM}{R_E{}^2}$ $9.32 = \dfrac{(6.67 \times 10^{-11})M}{(6400 \times 10^3)^2}$ $M = 5.72 \times 10^{24} \ \text{kg}$	 1A	
(e) The result would not change. 結果不會改變。 Mass of object is independent. 物體的質量是無關的。	1A 1A	
	8	

Solution 答案	Marks 分數	Remarks 說明
5. (a) (i) Concave lens is used. 使用的是凹透鏡。	1A	
The image formed is virtual, erect and diminished. 所形成的影像是虛像、直立和縮小。	1A	
(ii)		
(Correct light rays 正確光線)	1A	
(Correct image formed 正確形成影像)	1A	
Focal length 焦點 = 13 cm	1A	(Accept 13 – 14 cm) (接受 13 – 14 cm)
(iii) (Correct light ray to eye E 正確連至眼睛 E 的光線)	1A	
(Correct bending of light ray 正確光線折向)	1A	
(b) (i) $\dfrac{1}{u}+\dfrac{1}{v}=\dfrac{1}{f}$		
$\dfrac{1}{15}+\dfrac{1}{v}=\dfrac{1}{10}$	1M	
$v = 30$ cm	1A	
(ii) Real, inverted, magnified. 實像、倒置、放大。	2A	2A – All correct 全對 1A – Any two correct 任何兩個正確
(iii) The whole image can be seen but it is dimmer than before. 整個影像都可以被看到，但它會比之前較暗。	1A	
	12	

Solution 答案	Marks 分數	Remarks 說明
6. (a) (i) (Wavelength is shorter 波長較短) (Wavelength keeps decreasing 波長持續下降)	 1A 1A	
(ii) Refraction. 折射。	1A	
(iii) Wavelength decreases. 波長下降。 Frequency remains unchanged. 頻率保持不變。 Speed decreases. 速率下降。	2A	2A – All correct 全對 1A – Any two correct 任何兩個正確
(b) (i) (Curved wavefront 彎曲的波陣面) (Wavelength decrease 波長下降)	 1A 1A	

Solution 答案	Marks 分數	Remarks 說明
(ii) Add more water. 加多些水。	1A	
Reduce the gap width. 減少間隙闊度。	1A	
Reduce the frequency of vibration. 減少振動頻率。 (any one 任合一個)	1A	
(iii) Reduce the reflection of water wave so that the pattern of waves can be observed clearly. 減少水波的反射以至可以清晰觀察到波動的圖案。	1A	
	9	

Solution 答案	Marks 分數	Remarks 說明
7. (a) (i) $\Delta y = \dfrac{1 \times 10^{-3}}{9} = 1.11 \times 10^{-4}$ m $\Delta y = \dfrac{\lambda D}{a}$ $1.11 \times 10^{-4} = \dfrac{\lambda(0.8)}{5 \times 10^{-3}}$ $\lambda = 6.94 \times 10^{-7}$ m	1M 1A	
(ii) Red light. 紅光。	1A	
(b) (i) Bright lines formed by grating are much sharper than that formed by double-slit. 亮線紋由光柵所形成時會比雙縫所形成的更光更清楚。	1A	
(ii) Smaller percentage error. 較少的百分比誤差。	1A	
(iii) Repeat the procedures on both sides of observer. 在觀察者的兩邊重複步驟。 Take the average value obtained from both sides to calculate the wavelength. 將兩邊所得的數值取其平均值以計算出波長。	1A 1A	
	7	

Solution 答案	Marks 分數	Remarks 說明
8. (a) Radio wave / Microwave. 無線電波 / 微波。	1A	
(b) There is alternating current flowing through the coil inside the machine. 在機器內的線圈有交流電流經。	1A	
Magnetic field strength produced by coil varies with current. 線圈所產生的磁場強度隨電流而轉變。	1A	
When there is a changing magnetic flux, e.m.f. is induced in coil inside the card to oppose the change. 當有電通量轉變時，卡內的線圈感生出電動勢以對抗轉變。	1A	
(c) The magnetic flux acting on the coil inside the card decreases with distance. 作用於卡內線圈的磁通量隨距離而減少。	1A	
The magnitude of induced e.m.f. is not large enough to power the microchip. 感生電動勢的大小不夠用於推動微晶片。	1A	
(d) Mobile phone emits EM wave that may interfere with the signal emitted by the machine. 手提電話會發射電磁波而干擾了機器所發射的訊號。	1A	
Magnetic field strength produced by the mobile phone may affect the magnetic flux acting on the coil so that the microchip cannot be powered at rate. 手提電話所產生的磁場強度會影響了線圈上的磁通量，所以微晶片因電力問題而不能於額值中正常運作。	1A	
	8	

Solution 答案	Marks 分數	Remarks 說明
9. (a) (i) *Y*	1A	
(ii) $F_B + R = W$	1M	
$B(15)(0.08) + 11.2 = 11.8$	1M	
$B = 0.5$ T	1A	
* (b) The wooden block can let the conducting wire placed on it more stable. 木塊可以使放置在其上的導線更穩定。	1A	
The reading on the balance would not be fluctuating too much. 電子秤的讀數不會有太大波動。	1A	
	6	

This part of question is cancelled.

此部份題目被取消。

			Solution 答案	Marks 分數	Remarks 說明
10.	(a)		Radioactive decay is a random process.	1A	
			放射性衰變是隨機過程。		
	(b)	(i)	Since the reading does not change obviously when a paper is inserted, there is no α radiation.	1A	
			因當紙張放置其中時讀數沒有可見的轉變，α 輻射並不存在。		
			Since the reading drops significantly when a 2 mm thick aluminium is inserted, there is β radiation.	1A	
			因當 2 mm 厚的鋁板放置其中時讀數有明顯下跌，證明了 β 輻射的存在。		
		(ii)	150 counts per minute.	1A	
			每分鐘 150 次。		
	(c)	(i)	slope 斜率 $= \dfrac{2.8 - 8.8}{15.2 - 0}$		
			$= -0.395 \ \text{day}^{-1}$	1A	
			It is the negative value of the rate constant.	1A	
			它代表衰變率的負數值。		
		(ii)	$\ln A_o = y - intercept \ y-$ 截距	1M	
			$\ln A_o = 8.8$		
			$A_o = 6630 \ \text{Bq}$	1M	
			$A = kN$		
			$6630 = 0.395 N_o$		
			$N_o = 1.45 \times 10^9$	1A	
			Assume it is a pure source of radiation.	1A	
			假設它是一個純放射源。		
			Assume it is non-radioactive after decay once.	1A	
			假設它於衰變一次後會變得非放射性。		
			(either one 任何一個)		
				10	

Paper 2
卷二

Section A: Astronomy and Space Science
甲部：天文學和航天科學

1. A	2. C	3. D	4. A
5. D	6. B	7. B	8. C

Solution 答案	Marks 分數	Remarks 說明
1. (a) (i) Consider the surface gravity of Earth. 考慮地球的表面重力。 $g = \dfrac{GM}{R^2}$ $9.81 = \dfrac{(6.67 \times 10^{-11})M}{(6400 \times 10^3)^2}$ $M = 6.02 \times 10^{24}$ kg Consider the orbital speed of satellite *X*. 考慮衛星 *X* 的軌道速率。 $v = \sqrt{\dfrac{GM}{r}}$ $7900 = \sqrt{\dfrac{(6.67 \times 10^{-11})(6.02 \times 10^{24})}{r}}$ $r = 6440$ km ≈ 6400 km So, satellite *X* is a low-altitude satellite. 所以，衛星 *X* 是一顆低軌衛星。	1M 1M 1A	
(ii) $E = \dfrac{U}{2} = -\dfrac{GMm}{2r}$ $E = -\dfrac{(6.67 \times 10^{-11})(6.02 \times 10^{24})(2000)}{2 \times 6400 \times 10^3}$ $E = -6.28 \times 10^{10}$ J	1M 1A	-6.241×10^{10} J

Solution 答案	Marks 分數	Remarks 說明
(b) (i) The maximum distance of the satellite X away from Earth 衛星 X 遠離地球的最大距離 $= 2 \times 7000 - 6440$ $= 7560$ km Consider the conservation of energy, 考慮能量守恆， $KE + PE = KE + PE$ $\frac{1}{2}m(7900)^2 - \frac{(6.67 \times 10^{-11})(6.02 \times 10^{24})m}{6440 \times 10^3}$ $\qquad = \frac{1}{2}mv^2 - \frac{(6.67 \times 10^{-11})(6.02 \times 10^{24})m}{7560 \times 10^3}$ $v = 6620$ ms^{-1}	1M 1M 1A	7600 km 6650 ms^{-1} / 6730 ms^{-1}
(ii) Consider the conservation of energy, 考慮能量守恆， $W + KE + PE = 0$ $W - 6.28 \times 10^{10} = 0$ $W = 6.28 \times 10^{10}$ J	1M 1A	6.241 x 10^{10} J
	10	

Section B: Atomic World
乙部：原子世界

1. C	2. A	3. A	4. D
5. B	6. C	7. D	8. B

Solution 答案	Marks 分數	Remarks 說明
2. (a) $E_3 - E_1 = -11.5 - (-30.4)$ $= 18.9 \ eV < 20 \ eV$ The kinetic energy of the electron is higher than the excitation energy required. 電子的動能比激發所需的能量多。 The electron can cause the excitation. 電子能導致激發。	1M 1A	
(b) (i) Energy released 能量釋出$= E_3 - E_2$ $= -11.5 - (-27.2)$ $= 15.7 \ eV$	1A	
(ii) p: n = 1 q: n = 2	1A 1A	
(c) $\Delta E = E_2 - E_1 = \dfrac{hc}{\lambda}$ $\left(-18.9 - (-34.6)\right)(1.6 \times 10^{-19})$ $\quad\quad = \dfrac{(6.63 \times 10^{-34})(3 \times 10^8)}{\lambda}$ $\lambda = 7.92 \times 10^{-8} \ m$	2M 1A	
(d) $P = \dfrac{E}{t} = \dfrac{(E_2 - E_1) \times 10^{15}}{1}$ $P = \left(-18.9 - (-34.6)\right) \times 1.6 \times 10^{-19} \times 10^{15}$ $P = 2.512 \times 10^{-3} \ W$	1M 1A	
	10	

Section C: Energy and Use of Energy
丙部：能量及能源的使用

1. C	2. A	3. B	4. C
5. A	6. B	7. D	8. D

Solution 答案	Marks 分數	Remarks 說明
3. (a) (i) $\quad \dfrac{Q_c}{t} = UA\Delta T$ $\dfrac{Q_c}{t} = (0.9)(500)(35 - 30)$ $\dfrac{Q_c}{t} = 2250$ W	1A	
(ii) $\quad \dfrac{Q_R}{t} = I \times A$ $\dfrac{Q_R}{t} = 120 \times 80$ $\dfrac{Q_R}{t} = 9600$ W	1M	
$\quad OTTV = \dfrac{\frac{Q_c}{t} + \frac{Q_R}{t}}{A_{total}}$ $OTTV = \dfrac{2250 + 9600}{500}$ $OTTV = 23.7$ Wm^{-2}	1A	
(b) Total cooling capacity 總冷卻量 $= 3 \times 4.7$ $= 14.1$ kW	1M	
Total rate of heat transfer into the house 房子的總傳熱率 $= 23.7 \times 500$ $= 11.85$ kW < 14.1 kW The temperature inside the room can be further decreased. 房子的溫度可再一步被下降。	1A	

Solution 答案	Marks 分數	Remarks 說明
(c) Cooling capacity 冷卻量 $= \dfrac{Q_c}{t} + \dfrac{Q_R}{t}$ $14.1 \times 10^3 = UA\Delta T + IA$ $14.1 \times 10^3 = (0.9)(500)(35 - T) + 120 \times 80$ $T = 25 \ °C$	1M 1A	
(d) (i) Infra-red radiation is <u>not visible</u> but <u>has heating effect</u>. 紅外輻射是<u>不可見</u>但它<u>有著加熱效果</u>。	1A+1A	
(ii) An air-conditioned room in winter is warmer than outside. The infra-red radiation transferred from the inside to outside will generally be stronger than that from the outside to the inside. 冬天的空調房間比外面的溫暖，從內部傳遞到外部的紅外輻射通常會比從外部傳遞到內部的更強。 So the low-e coating can help trap the infra-red radiation inside the room in winter and decrease the rate for the heat to escape into the outside colder environment. 因此，低輻射塗層可以在冬季幫助將紅外輻射困在室內，並降低熱散失到較冷的外部環境中的速率。	1A	
	10	

Section D: Medical Physics
丁部：醫療物理學

1. D	2. C	3. B	4. C
5. D	6. B	7. A	8. A

Solution 答案	Marks 分數	Remarks 說明
4. (a) To reduce the reflection of the ultrasound waves at the air-skin boundary. 為減少超聲波於空氣-皮膚介面的反射。	1A	
(b) (i) $Z = \rho c$ $Z = 1060 \times 1590$ $Z = 1.69 \times 10^6 \ kg \ m^{-2} \ s^{-1}$	1A	
(ii) For bones, 對於骨骼， $Z = \rho c$ $Z = 1900 \times 4100$ $Z = 7.79 \times 10^6 \ kg \ m^{-2} \ s^{-1}$ $\alpha = \left(\dfrac{Z_2 - Z_1}{Z_2 + Z_1}\right)^2$ $\alpha = \left(\dfrac{1.69 \times 10^6 - 7.79 \times 10^6}{1.69 \times 10^6 + 7.79 \times 10^6}\right)^2$ $\alpha = 0.415$	1M 1A	
(iii) $I = I_o e^{-\mu x}$ $I = 5e^{-(0.93)(1.2)}$ $I = 1.64 \ W \ cm^{-2}$	1M 1A	

Solution 答案	Marks 分數	Remarks 說明
(c) When the <u>fast moving electrons</u> emitted by the filament in the X-ray tube <u>bombard on a heavy metal target</u>, X-ray is produced. 當由 X-射線管中的發熱絲發射出的<u>電子快速移動</u>，並<u>擊中重金屬靶</u>，X-射線被產生。	1A 1A	
(d) Most of the ultrasound wave will be reflected at the air-skin boundary while X-rays does not. 大部份超聲波會在空氣-皮膚介面被反射，而 X-射線則不會。	1A	
(e) X-ray scanning can produce a clearer image for detailed diagnosis than ultrasonic scanning. X-射線掃描可產生出比超聲波掃描更清晰的影像以作詳細診斷。	1A	
	10	