

## Level 3 Cambridge Technical in Health and Social Care

05831/05832/05833/05871

### Unit 4: Anatomy and physiology for health and social care

Monday 15 January 2018 – Morning

Time allowed: 2 hours

**You may have:**

- no materials required

First Name						Last Name				
Centre Number						Candidate Number				
Date of Birth	D	D	M	M	Y	Y	Y	Y		

#### INSTRUCTIONS

- Use black ink.
- Complete the boxes above with your name, centre number, candidate number and date of birth.
- Answer **all** the questions.
- Write your answer to each question in the space provided.
- If additional answer space is required, you should use the lined page(s) at the end of this booklet. The question number(s) must be clearly shown.

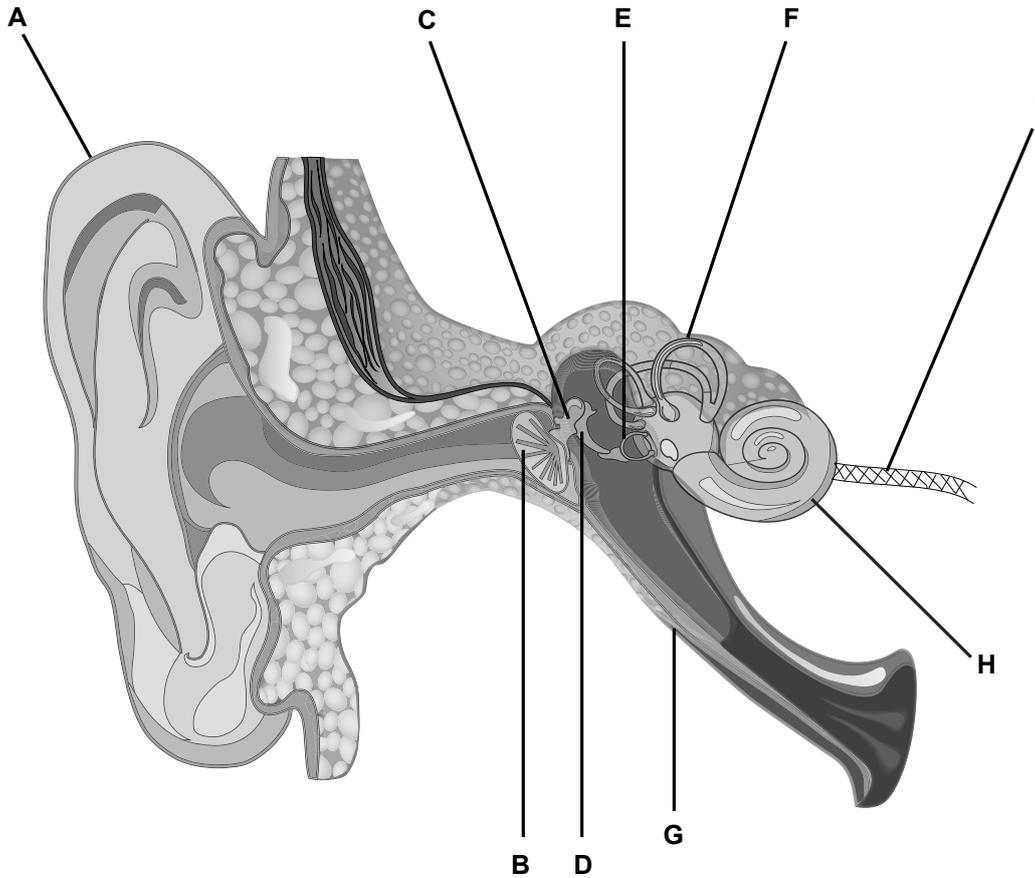
#### INFORMATION

- The total mark for this paper is **100**.
- The marks for each question are shown in brackets [ ].
- Quality of extended response will be assessed in questions marked with an asterisk (\*).
- This document consists of **16** pages.

FOR EXAMINER USE ONLY	
Question No	Mark
1	/13
2	/24
3	/13
4	/24
5	/26
<b>Total</b>	<b>/100</b>

Answer **all** the questions.

1 The diagram below shows the human ear.



(a) Identify the parts of the ear labelled **A - I** in the diagram above. Put the correct letter in the table below.

One answer is completed for you.

Part of the ear	Diagram label
Auditory nerve	
Cochlea	
Eardrum (tympanic membrane)	
Eustachian tube	
External Ear	
Incus (anvil)	
Malleus (hammer)	
Semi-circular canals	F
Stapes (stirrup)	

[8]

(b) The paragraph below describes how the ear enables us to hear sounds.

Fill in the blank spaces with the correct parts of the ear from the table below.

Part of the ear
Auditory nerve
Cochlea
Eardrum (timpanic membrane)
Eustachian tube
External Ear
Incus (anvil)
Malleus (hammer)
Semi-circular canals
Stapes (stirrup)

Sound is channelled in through the \_\_\_\_\_ where it causes a vibration in the \_\_\_\_\_. The vibrations are amplified as they pass along the three auditory ossicles or bones in the middle ear. The vibration then enters the coiled chamber called the \_\_\_\_\_ in the inner ear. Hairs in the organ of Corti cause electrical signals to be transmitted along the \_\_\_\_\_ to the brain.

[4]

(c) Identify **one** function of the semi-circular canals.

.....  
 .....[1]

2 Audrey has been diagnosed with osteoporosis.

(a) Identify **four** possible risk factors or causes of osteoporosis.

1.....

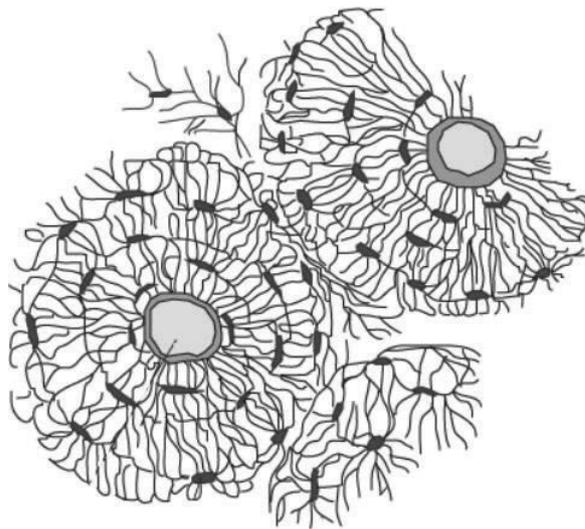
2.....

3.....

4.....

[4]

(b) The diagram below shows a section of a healthy bone and the cells that cause bone growth.



(i) What type of diagram is the one above?

Tick (✓) **one** box.

(a) a transverse section of a bone

(b) a vertical section of a bone

[1]





3 The kidneys play a role in the excretion of waste product from the body.

(a) (i) Name the waste product which is excreted by the kidneys.

.....[1]

(ii) Identify the organ which makes this waste product.

.....[1]

(iii) Which of the following processes produces this waste product?

Tick (✓) **one** answer only.

ultrafiltration	
deamination	
osmoregulation	
homeostasis	

[1]

(b) Identify which part of the kidney nephron performs each of the functions in the table below.

Use the correct answers from the options provided below.

**Calyx      Collecting duct      Convoluted tubule      Loop of Henle      Glomerulus**

Function	Part of kidney nephron
Carries out ultrafiltration of the blood	
Establishes a salt gradient to draw water out of the filtrate	
Selective reabsorption occurs	
Transfers urine to the renal pelvis	

[4]









(c) Explain **two** differences between the structure of veins and the structure of arteries.

1.....

.....

.....

.....

2.....

.....

.....

.....

**[4]**

(d)\* The organ of the body which adds oxygen to the blood is the lungs.

Describe how this happens.

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

**[6]**



**ADDITIONAL ANSWER SPACE**

If additional answer space is required, you should use the following lined page(s). The question number(s) must be clearly shown – for example 1(c) or 2(d).

A large rectangular area with a solid vertical line on the left side and horizontal dotted lines across the page, providing space for writing answers.

A series of horizontal dotted lines for writing, spanning the width of the page.



**Copyright Information:**

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website ([www.ocr.org.uk](http://www.ocr.org.uk)) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact the Copyright Team, First Floor, 9 Hills Road, Cambridge CB2 1GE.

OCR is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.