

GCSE

ADDITIONAL APPLIED SCIENCE A

AP1 Life Care

Specimen Paper

F **A324/01**

45 mins

Candidates answer on the question paper:

Additional materials: ruler (cm/mm), calculator

Candidate
Name

--

Centre
Number

--	--	--	--	--

Candidate
Number

--	--	--	--

TIME 45 mins

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above.
- Answer **all** the questions.
- Write your answers on the dotted lines unless the question says otherwise.
- Use blue or black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- There is a space after most questions. Use it to do your working. In many questions marks will be given for a correct method even if the answer is incorrect.
- Do not write in the bar code. Do not write in the grey area between the pages.
- **DO NOT WRITE IN THE AREA OUTSIDE THE BOX BORDERING EACH PAGE. ANY WRITING IN THIS AREA WILL NOT BE MARKED.**

INFORMATION FOR CANDIDATES

- The number of marks is given in brackets [] at the end of each question or part question.
- The total number of marks for this paper is **36**.

This specimen paper consists of 20 printed pages.

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Answer all questions.

1. Johnny is injured whilst playing rugby.



The Sunday Times ©

The physiotherapist says that Johnny has damaged a leg muscle.

The physiotherapist carries out treatment on the injured muscle straight away.

The stages of treatment are shown below.

They are in the wrong order.

- A** Compression
- B** Ice
- C** Elevation
- D** Rest

(a) Fill in the boxes to show the right order. The first one has been done for you.

D			
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[2]

(b) When the swelling stops, Johnny is told to do some exercises.

Describe a set of exercises Johnny can carry out to help his injured muscles.

.....

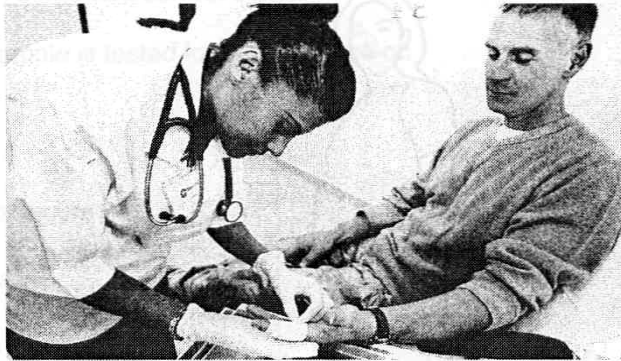
.....

.....

.....[2]

[Total: 4]

2. In October 2003, the government introduced private casualty departments.



cost of the cure

sprained ankle	general treatments	cut hand	fainting
consultation/ examination £29	consultation/ examination £29	tetanus injection £10	blood tests, antibiotics and consultation £73
compression bandage £10	physiotherapy £29	stitches £25	
rental of crutches £10	health screening £29	dressing £20	chest infection
refundable deposit £10			consultation, medication £48

(a) Mr Clark has cut his finger.

The injury needs stitches and the wound is dressed.

He is given a tetanus injection.

Calculate the cost of Mr Clark's treatment.

You must show how you worked out your answer.

.....
[2]

(b) Mr Clark could have received this treatment free of charge.

Write down one organisation that would have offered Mr Clark free treatment.

.....[1]

(c) Several people help in the treatment of injuries.

Write down the job title of one of these people and describe what their job involves.

(i) Job title.....[1]

(ii) Job description

.....

.....[2]

[Total: 6]

3. Sharon is pregnant.



(a) Her midwife needs to check her health by carrying out some observations.

The lists show what is measured and the equipment used.

Draw a straight line from each **observation** to the **equipment used**.

Observation

temperature

pulse rate

Blood
pressure

Equipment used

sphygmomanometer

meter rule

Clinical
thermometer

Stop watch

[3]

- (b) During her pregnancy, Sharon will need to visit her midwife several times.
Explain why.

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

- (c) Sharon needs to give a urine sample so the midwife can carry out some tests.
Put ticks (✓) in the **two** correct boxes.

The urine sample is tested for the presence of:

acid	<input type="checkbox"/>
------	--------------------------

blood pressure	<input type="checkbox"/>
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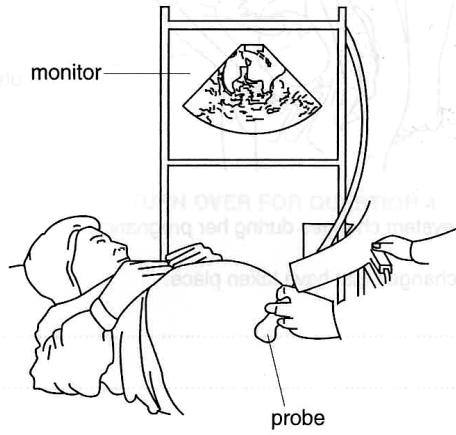
glucose	<input type="checkbox"/>
---------	--------------------------

protein	<input type="checkbox"/>
---------	--------------------------

urea	<input type="checkbox"/>
------	--------------------------

[2]

(d) Sharon visits her hospital for an ultrasound scan.



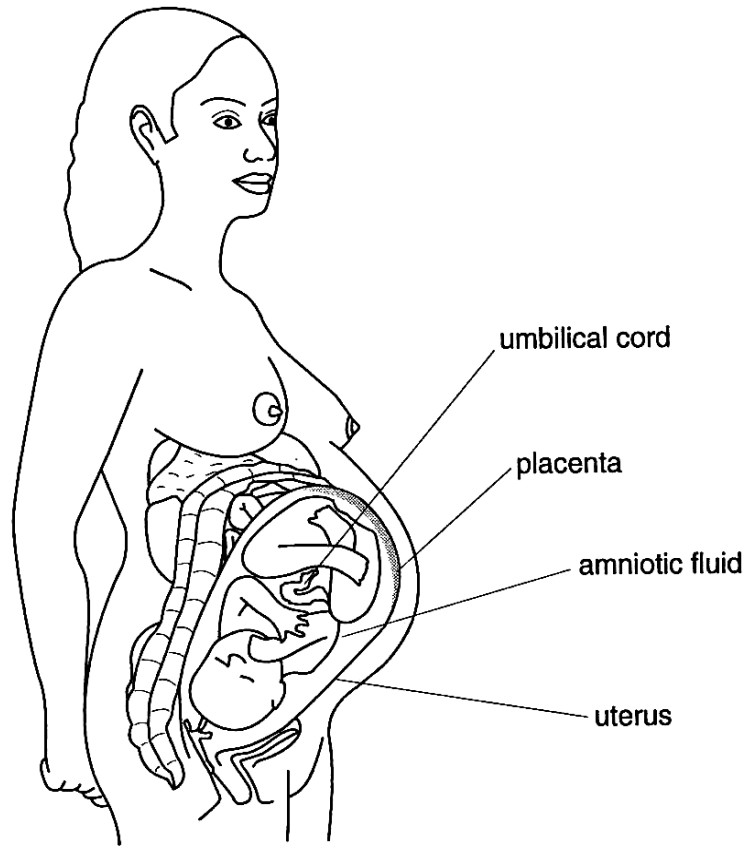
(i) Suggest **one** reason why Sharon needs to have an ultrasound scan.

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

(ii) Suggest why Sharon should not have an X-ray taken.

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

(e) The diagram shows Sharon's reproductive system and fetus.



Sharon's reproductive system changes during her pregnancy.

Describe **three** of the changes that have taken place.

- 1
 - 2
 - 3
-[3]

[Total: 11]

4. Ruth fell down a hole and injured her arm.
She is taken to the accident and emergency unit.

(a) A nurse asks Ruth some questions.

The nurse has a good medical knowledge but he also needs other skills to help him assess the problem.

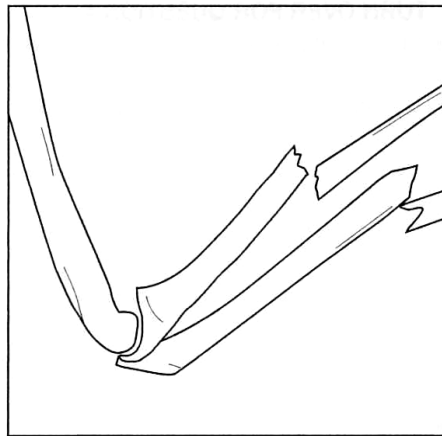
Describe one **other** skill this nurse must have to enable him to carry out his job.

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

(b) Ruth is kept waiting whilst other people are rushed in before her.
Suggest why other people would be treated before Ruth.

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

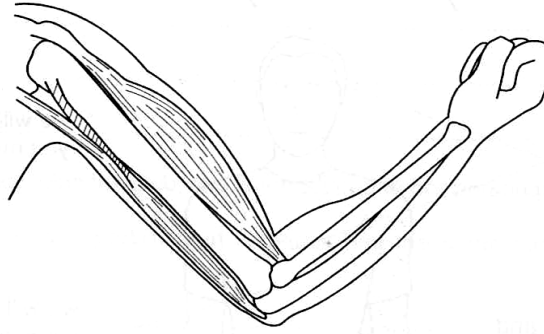
(c) Ruth is taken for an X-ray.
This X-ray shows the damage to Ruth's arm.



Describe what is wrong with Ruth's arm.

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

- (d) The doctor drew a diagram of Ruth's arm to explain the problem.
Add labels to the diagram to show the **humerus** and **radius**.



[2]

- (e) The doctor explains that Ruth has also damaged the ligaments and tendons.
Describe the difference between ligaments and tendons.

.....

.....

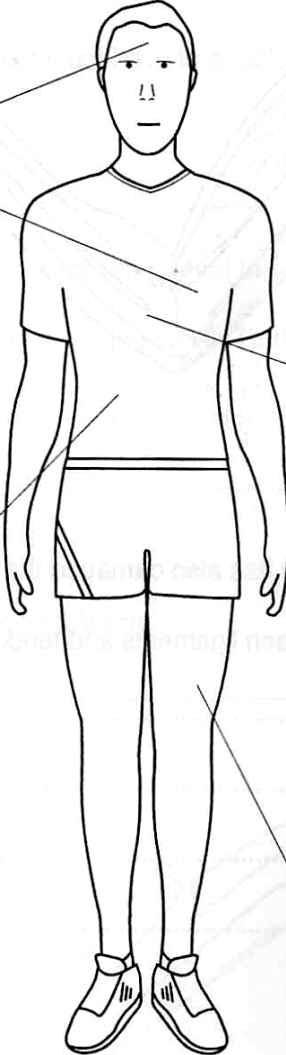
.....

.....[2]

[Total: 7]

5. Rebecca received this leaflet from a Health and Fitness Club.

***This is what we'll do
for you this year***



we will relieve pain and tension

we will keep you motivated

we will relax and unwind you

we will get your heart, lungs and muscles working harder

we will increase your stamina and all round fitness

we will provide a variety of ways to work out

we will tone you up

***ULTRA FIT
HEALTH CLUB***

Rebecca thinks the best reason for joining would be to get her heart, lungs and muscles working harder.

(a) Explain why this will be good for Rebecca.

.....
.....
.....
.....[2]

(b) When Rebecca joins the club, she is introduced to her personal trainer.

Suggest why it is important that Rebecca has the same trainer during her training programme.

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

(c) Rebecca fills in a questionnaire. She is surprised to see questions about her family medical history and the number of cigarettes she smokes each day.

Explain why the club needs this information.

(i) family medical history
.....
.....
.....[1]

(ii) number of cigarettes smoked each day
.....
.....
.....[1]

(d) The trainer needs to calculate Rebecca’s body mass index.

(i) What **two** measurements will the trainer need, in order to calculate Rebecca’s body mass index?

.....
.....[2]

(ii) Describe what the body mass index is used for.

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

[Total: 8]

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GCSE

ADDITIONAL APPLIED SCIENCE A

AP1 Life Care

Specimen Mark Scheme

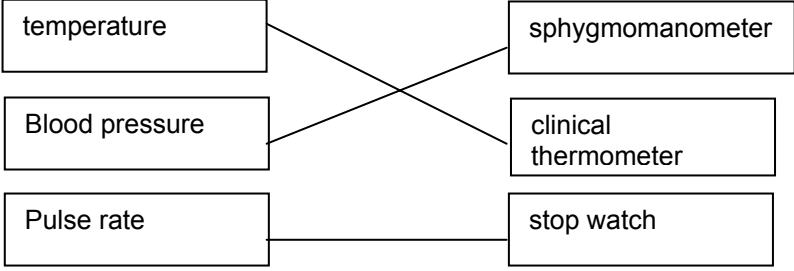
Maximum mark for this paper is [36]

F **A324/01**

45 mins

This specimen mark scheme consists of 4 printed pages.

Question Number	Answer	Max Mark
<p>1(a)</p> <p>1(b)</p>	<p>B somewhere before A; A somewhere before C; B A C = 2 marks</p> <p>simple stretching routines; to regain mobility; then gradual introduction to aerobic exercising; (1 mark for brief, vague answer, 2 marks for more detailed answer.)</p> <p style="text-align: right;">Total marks</p>	<p>[2]</p> <p>[2]</p> <p>[4]</p>
<p>2(a)</p> <p>2(b)</p> <p>2(c)i</p> <p>2(c)ii</p>	<p>stitches £25 dressing £20 tetanus injection £10</p> <p>25 + 20 + 10 = ; £55</p> <p>full marks for correct answer without working. Accept inclusion of £29 for consultation £84</p> <p>Any one from: hospital; accident and emergency dept; walk in centre; doctor's surgery Accept NHS</p> <p>nurse; doctor; junior doctor; general practitioner (GP); paramedic; job description suited to that stated in (c).i (if no response to (c).i. accept description of medical staff) (1 mark for brief, vague answer, 2 marks for more detailed answer.)</p> <p style="text-align: right;">Total marks</p>	<p>[2]</p> <p>[1]</p> <p>[1]</p> <p>[2]</p> <p>[6]</p>

<p>3(a)</p>		<p>[3]</p>
<p>3(b)</p>	<p>monitor progress of baby; monitor Sharon's progress; develop midwife-client relationship; midwife will know when something is wrong; (Accept any reasonable attempt)</p>	<p>[1]</p>
<p>3(c)</p>	<p>Tick in 3rd and 4th boxes glucose; protein;</p>	<p>[2]</p>
<p>3(d)i</p>	<p>Any one from: check on growth/development of baby/fetus; take measurements of baby's size;</p>	<p>[1]</p>
<p>3(d)ii</p>	<p>X-rays would damage/harm the <u>baby/fetus</u></p>	<p>[1]</p>
<p>3(e)</p>	<p>Any three from: uterus stretched; placenta developed; umbilical cord developed; amniotic fluid present; ovaries stopped producing ova; breasts enlarge/breast with milk</p>	<p>[3]</p>
<p style="text-align: right;">Total marks</p>		<p>[11]</p>
<p>4(a)</p>	<p>Any one from: communication; patience; tact; trust; (Accept any reasonable attempt)</p>	<p>[1]</p>
<p>4(b)</p>	<p>their condition may be more life threatening; younger children in pain;</p>	<p>[1]</p>
<p>4(c)</p>	<p>description of broken arm</p>	<p>[1]</p>
<p>4(d)</p>	<p>humerus labelled correctly; radius labelled correctly;</p>	<p>[2]</p>
<p>4(e)</p>	<p>ligaments hold bones together; tendons attach muscle to bone;</p>	<p>[2]</p>
<p style="text-align: right;">Total marks</p>		<p>[7]</p>

5(a)	improve circulation; strengthen heart muscles; strengthen muscles; increase stamina;	
5(b)	improve general health; trainer can monitor progress; be familiar with any health problems; can change exercise routines to suit Rebecca's progress;	[2]
5(c)i	to be aware of any inherited medical conditions; that may affect Rebecca's health;	[1]
5(c)ii	that may affect Rebecca's ability to use some of the machines/exercise routines; smoking will affect health; adapted version of exercise programme needed; more monitoring of progress will be needed; some routines may not be suitable;	[1]
5(d)i	body mass (in kg); Height (in m);	[1]
5(d)ii	Any one from BMI provides a good range of acceptable weights; provides a reliable comparison of weight conditions; to check to see if overweight;	[2]
		[1]
	Total marks	[8]
	Overall marks	[36]