Unit 26 · Health Disorders

ANSWER KEY · FOR TEACHERS

Full marks 30.5

Give the marks for the points in the marking scheme; an answer in other words that says the same is right.

1 Key words

1. infarction
2. atherosclerosis
3. hypertension
4. emphysema
5. glomerulonephritis
6. calculi
7. narcotics
8. cirrhosis

Each carries 0.5 mark. **K · 4**

2 Label the diagram

1. wall
2. thick wall
3. clot

Each carries 0.5 mark. **K · 1.5**

3 Multiple choice

i. **c.** emphysema **K · 1**

That is **emphysema**. In asthma the airways narrow; in pneumonia the alveoli fill with fluid and pus; in pleurisy the pleura is inflamed.

ii. **c.** smoking **U · 1**

Smoking raises the chance of getting a CVD, so it is a **risk factor**. Angina, shortness of breath and dizziness are **symptoms**: what a person with the disorder feels.

iii. **a.** beer **U · 1**

Beer is only fermented; the others are distilled.

iv. **b.** hypertension **A · 1**

It is above **140/90 mmHg**, so it is **hypertension**. It is not a crisis, which starts at 180/120 mmHg.

v. **b.** Their urethra is much shorter, so bacteria reach the bladder more easily. **A · 1**

The female urethra is about **4 cm** long against about **20 cm** in men, so bacteria from outside (mostly *E. coli* from the gut) have a much shorter way to climb to the bladder.

4 Short answers

a. **K · 2**

MARKING SCHEME

- ✓ Arteriosclerosis: the whole wall thickened, hardened, less elastic.
- ✓ Atherosclerosis: fatty plaques in the lining narrow the lumen.

b. **U · 2**

MARKING SCHEME

- ✓ No symptoms for years, so it goes unnoticed.
- ✓ Meanwhile it damages the heart and arteries (heart attack, stroke, kidney failure).

c. **A · 2**

MARKING SCHEME

- ✓ Widened skin vessels lose heat while he feels warm.
- ✓ Shivering and the feeling of cold are dulled, risking hypothermia.

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d. MARKING SCHEME U · 3

✓ Inflamed, oversensitive airways set off by triggers.
✓ Smooth muscle tightens; the lining swells and makes mucus.
✓ The narrowed airways cause wheezing and difficult breathing.

5 Numerical problem

ANSWER A · 4

- Beer: $650 \times 5 \div 100 = 32.5$ mL of ethanol; $32.5 \times 0.789 \approx$ **25.6 g**.
- $25.6 \div 10 \approx$ **2.6 standard drinks**.
- Raksi: $180 \times 40 \div 100 = 72$ mL; $72 \times 0.789 \approx$ **56.8 g** (nearly the 60 g a day counted as harmful drinking).
- $25.6 \times 7 \approx$ **179 kcal**, "empty" calories.

MARKING SCHEME

✓ About 25.6 g of ethanol in the beer.
✓ About 2.6 standard drinks.
✓ About 56.8 g in the raksi.
✓ About 179 kcal.

6 Long answer

ANSWER U · 4

Any four, explained:

- It is a **depressant** of the central nervous system: first less restraint, then slower reactions and judgment; in large amounts sleep, coma and death by stopped breathing.
- On the **cerebellum**: unsteady movement (ataxia) and slurred speech.
- It **reduces ADH**, so more urine is passed and the drinker is dehydrated.
- In the **liver**: fatty liver, then alcoholic hepatitis, then **cirrhosis**.
- It **raises blood pressure** and weakens the heart muscle; it is a **carcinogen** (mouth, throat, esophagus, liver, bowel, breast).
- Poor use of **thiamine** gives Wernicke's encephalopathy and Korsakoff syndrome; harm to a baby in the womb (fetal alcohol syndrome).

MARKING SCHEME

✓ A first effect explained (e.g. CNS depressant).
✓ A second (e.g. cerebellum: ataxia, slurred speech).
✓ A third (e.g. less ADH, dehydration).
✓ A fourth (e.g. fatty liver to cirrhosis, raised blood pressure, cancer).

7 Think

ANSWER HA · 3

Stones form when **salts in the urine crystallize** (most often calcium oxalate); more water makes the urine **more dilute**, so the salts stay dissolved.
More urine also means the bladder is **emptied more often**, which **flushes out bacteria** (mostly *E. coli*) before they can multiply and climb.
So a good flow of dilute urine works against both.

MARKING SCHEME

✓ Dilute urine keeps the salts dissolved, so fewer stones form.
✓ Frequent urination flushes bacteria out of the urinary tract.
✓ So plenty of water prevents both.

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8 Activity: Read a cigarette packet

(not marked)

WHAT STUDENTS SHOULD FIND

Nepal's packets carry large **picture warnings** of tobacco's harms (diseased mouths, lungs, and so on) with written warnings. Tobacco causes **COPD**, **chronic bronchitis**, **emphysema** and **lung cancer** in the lungs, and **coronary artery disease**, **heart attack**, peripheral artery disease and **Buerger's disease** in the heart and blood vessels, as well as mouth cancer and stroke.

Marks by level	Knowledge	Understanding	Application	Higher ability	Total
Marks	8.5	11	8	3	**30.5**

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