**M1.**(a)     (Type 2) diabetes / heart disease / deficiency disease / named

*allow a relevant health problem*

*ignore obesity* ***or*** *over / under weight / anorexia*

**1**

(b)     (i)      provides more (energy / sugar) than is used

*idea of sugar being high in / having a lot of energy eg contains a lot of calories*

*allow it is turned to fat* ***or*** *stored (as fat)*

**1**

(ii)     fat

**1**

(c)     (i)      C

**1**

(ii)     no health problems

*allow as others (may) have (possible) health problems*

*ignore reference to sweetness*

**1**

(iii)    idea of informed choice

*eg in case you have health problems / allergies*

*allow legal requirement*

*ignore diabetes*

**1**

**[6]**

**M2.**          (a)     any **two** from:

*ignore eating disorder*

*ignore cancer*

•        arthritis

*accept worn joints*

•        diabetes

*accept high blood sugar*

•        high blood pressure

*ignore cholesterol*

•        heart disease / heart condition / heart attack / blood vessel disease

*allow blood clots / strokes*

**2**

(b)      (i)     **or**  0.25   **or**  25%

*correct answer gains* ***2*** *marks*

*if answer incorrect, evidence of 1500 ÷ 6000 gains* ***1*** *mark*

*25 without % gains* ***1*** *mark*

**2**

(ii)     majority / most / high proportion of people in trial lost mass / weight

*ignore good results / it worked*

**1**

**[5]**

**M3.**(a)     (i)      64

**1**

(ii)     36

*allow e.c.f from (i) i.e. 100 − answer given in (a)(i)*

**1**

(iii)    any **one** from:

•        only considers 16-year-olds

*ignore lack of evidence*

*allow does not refer to all ages*

•        only about some / 5 countries

*allow does not refer to all countries.*

**1**

(b)     the more exercise done the healthier a person is

*allow the more exercise done the higher the health rating*

*allow the less exercise done the lower the health rating*

**1**

(c)     having a high cholesterol level

**1**

(d)     (i)      antibodies

**1**

(ii)     antibiotics

**1**

**[7]**

**M4.**          (a)     (i)      addictive

*allow addicting / addict / addicted / addiction or similar*

*allow phonetic spelling  
do* ***not*** *accept / additive / addition*

**1**

(ii)     junction / gap / space between neurones

*allow nerve cells / nerves for neurones*

*allow idea where neurones /  
nerve cells / nerves meet / join*

**1**

(b)     (i)      tablet with no drug

*accept answers that convey this idea eg fake / dummy / sugar pill*

*allow injection with no drug*

*ignore drugs that don’t work.*

**1**

(ii)     for comparison

*accept to see if drug / it works*

*allow to see psychological effect* ***or*** *make sure, it is not all in the mind*

*allow as a control*

*ignore ‘to make test fair / unbiased’*

**1**

(iii)     Neither doctors nor volunteers

**1**

(iv)     any **two** from:

•        age (range)

•        sex / gender (mix)

•        previous smoking habits **or** eg number smoked (before trial) **or** length of time smoked

•        number in the group

•        other drugs being taken **or** general health **or** height / weight / BMI / lifestyle / fitness

*ignore factors already controlled*

*ignore reference to all smokers* ***or*** *all want to give up*

**2**

(c)     higher percentage / number of smokers who had stopped smoking (than Drug B)

*answers must refer to data and be comparative*

*allow best results / most effective*

*ignore best drug unqualified*

*ignore references to 12 weeks / 1 year*

**1**

**[8]**

**M5.**          (a)    any **two** from:

•        arthritis

*allow damaged joints*

•        diabetes

*accept high blood sugar*

•        high blood pressure

•        strokes

*allow blocked blood vessels / thrombosis*

•        allow breathing difficulties

*ignore cancer*

*ignore high cholesterol*

**2**

(b)     (i)      any **two** from:

*to gain marks there must be a comparison*

*ignore comparison at single age*

•        lower number of women deaths up to age of 75-80

•        higher number of women deaths after 80

*ignore women die older* ***or*** *men die younger*

•        men’s peak higher

•        men’s peak at an earlier age

•        men’s death start earlier than women

•        more men than women die of heart disease

**2**

(ii)     any **two** from:

•        men smoke more (cigarettes)

*ignore alcohol*

•        more men smoke

•        men under more stress

•        men less active

•        more men overweight / eat more / less diet conscious **or** different fat distribution

*ignore reference to body size*

•        genetic factors

•        men might have lower metabolic rate

*ignore references to hormones*

•        men less likely to visit doctor even though they have symptoms

**2**

(c)     *points can be in any order*

laboratory tests / tests on tissues  
**or**tests on animals  
**or**tests for toxicity

*ignore computer simulations*

**1**

tests for side effects on volunteers / healthy people / small numbers

**1**

widespread testing  
**or**testing for optimum dose  
**or**test on patients / sick people  
**or**test to see if it is effective

*accept use of placebo*

**1**

**[9]**

**M6.**              any **two** from:

•        arthritis

*ignore descriptions*

•        diabetes

•        high blood pressure

•        heart / blood vessel disease

*ignore cholesterol*

**2**

**[2]**

**M7.**(a)     any **two** from:

•        right amount of nutrients **or** different / all foods

•        right amount of energy

•        for (individual) needs

*‘right amount’ only needed once for both marks to be awarded*

**2**

(b)     (i)      ovaries / ovary

*allow placenta*

**1**

(ii)     any **one** from:

•        inhibits follicle stimulating hormone / FSH production

•        inhibits maturation of eggs

*ignore ref to site of production of FSH*

*allow stimulates LH production* ***or*** *stimulates preparation of womb lining*

**1**

(iii)    any **one** from:

•        stimulate muscle growth

•        used in (oral) contraceptives

**1**

(c)     small (rate of) decrease then bigger (rate of) decrease

**1**

idea that change of rate (of decrease) at 900 (mg per day)

*If no other mark awarded allow* ***1*** *mark for decrease*

**1**

(d)     (i)      gene(s) / nucleus / chromosome(s) / DNA

*allow ribosome*

**1**

(ii)     reduces production of cholesterol (by liver)

*allow idea of switching off gene for reductase (production)*

*allow switch off / reduce / inhibit reductase (production)*

*allow reduces absorption of cholesterol (by intestine)*

*allow statins (might) breakdown / destroy cholesterol*

**1**

**[9]**