Biofuels

Mark scheme

1. (a) methane | 1

(b) (insulation maintains) higher temperature / warm(er) /
keeps heat in / prevents heat loss / optimum temperature /
heat increases rate of reaction | 1
        *do **not** allow hot(ter) / high temperature*
        ignore same / constant temperature

(c) (i) ($)25 000 | 2
        ignore units
        ignore working or lack of working
        add 3 figures and subtract 10 000
        or
        *use of 35 000 and 10 000 but wrong answer for **1** mark*

(c) (ii) 8 years = **2** marks | 2
        ignore working or lack of working

    or

    correct answer from (c)(i) = **2** marks

$$\frac{200\,000}{(c)(i)}$$ *but wrong answer = **1** mark*

                                                                     [6]

2. (a) (i) bacteria | 1

(ii) 8 | 1

(iii) 4 tonnes | 1

(b) (i) mycoprotein contains less fat | 1

    or

    less circulatory problems

    mycoprotein contains (more) fibre

    or

    reduces colon cancer | 1
        it = mycoprotein
        fat must be comparative

(ii) beef contains <u>more</u> protein |
        it = beef
        must be comparative

    or

    <u>better</u> for growth / making cells /

    enzymes / antibodies | 1

                                                                       [6]

3. (a) burning / combustion fossil fuels / burning wood | 1
        accept named fossil fuel
        accept driving cars / any vehicles

*do **not** accept burning / combustion unqualified*
*do **not** accept factories*
ignore factory chimneys unqualified
ignore respiration

deforestation   1

(b) (i)   (overall) increase   1

fluctuations 1
highs are higher <u>and</u>
*lows are not as low = **2 marks***

(ii)   no – could be due to some other factor **or**   1
could be coincidence **or** fluctuations ±
same size as the overall rise or large
fluctuations or sometimes when CO_2
rises temperature doesn't

(c)   any **one** biotic **or** abiotic effect eg: 1
*do **not** credit just "climate / weather change"*
allow <u>extreme</u> climate / weather change

changes in rainfall
accept drought, desert formation

ice-caps melting / rise in sea level
accept flooding

changed pattern of winds

changed pattern of migration

changed species survival

changed growth

[6]