Solutions

Marking: **M1** a correct method, **A1** the correct answer, **B1** an independent mark.

Each answer shows the steps, then the **result**.

2.1

the change in the main causes of death as a country develops: from infectious diseases to non-communicable diseases such as heart disease and cancer, while life expectancy rises

2.2

$\frac{79-59}{59} \times 100 \approx$ **34** %; any one: clean water and sanitation / vaccines / better health care / more and better food

2.3

contagious: the disease spreads from person to person to nearby places, like ripples; hierarchical: it spreads down an urban hierarchy, from large cities to smaller towns, often along transport links

2.4

food may be available, but poor people cannot afford it if prices rise faster than their wages (access); e.g. Sen on the Bengal famine of 1943; food may not reach people because of poor roads, conflict or hoarding

2.5

any two, explained: insecticide-treated bed nets stop mosquitoes biting at night and kill them; indoor spraying with insecticide kills mosquitoes resting in homes; draining standing water removes places where mosquitoes breed; quick testing and medicine cure people before they become seriously ill; vaccines for young children lower severe illness and deaths

3.1

(a) infectious diseases fell from 45 % to 15 % of deaths; non-communicable diseases rose from 40 % to 70 %, while injuries stayed at 15 %

(b) any two, explained: people live longer, and heart disease and cancer are more common in old age; diets with more sugar, fat and processed food raise obesity and diabetes; less physical work in cities, more cars; smoking and air pollution; fewer people die young of infectious diseases, so a larger share of deaths come from NCDs

3.2

Mark with the markbands: [9-10] focused on the command term, detailed and accurate knowledge, well-developed explanation, specific named examples (places, dates, numbers), balanced evaluation and a supported conclusion; [7-8] mostly focused, good knowledge and examples, some evaluation; [5-6] relevant knowledge and examples, explanation partly developed, little evaluation; [3-4] general knowledge, few examples, mostly description; [1-2] little that is relevant. Points that may be included: Green Revolution: high-yield seeds, fertilizer and irrigation raised grain output faster than population from

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the 1960s; but it needed much water and fertilizer, causing falling water tables and polluted rivers; richer farmers gained most; poor farmers often went into debt; GM crops: Bt cotton in India is widely grown, uses less pesticide and gives higher yields; but seeds are costly and some consumers and countries oppose GM food; irrigation lets dry areas grow food, but can make soils salty; aquaculture gives protein, but can pollute water and destroy mangroves; producing more food does not end hunger if people cannot afford it (Sen); conclusion: these strategies have greatly raised food production, but they are sustainable only if they protect water and soil and help poor farmers too

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