Iron and Steel: Answers

1. (a) Produces carbon dioxide

    Removes silicon(IV) oxide from the furnace

    One mark for each correct answer. Deduct a mark if three ticks are given. [2]

    (b) (i) The mass of 1 mole (formula mass) of iron(III) oxide =

    $(2 \times 56) + (3 \times 16) = 160$ g [1]

    Recognising 1 mole of iron(III) oxide produces 2 moles of iron

    atoms $(2 \times 56 = 112$ g$)$ [1]

    Answer $= (160 \div 112) \times 22.4 = 32$ tonnes [1]

    (ii) $(160 \div 112) \times 11.2 = 16$ tonnes [1]

    $(16 \div 48) \times 100 = 33.3$ [1]

    33.3%