**Design & Technology (Product Design)**

**A-Level**

MARK SCHEME

**Mark /120**

**Q12a)**

* 15 x 80 x 9.21 = £11,052

**Q12b)**

* Half to 40 hours

**Q12c)**

* High set up cost
* Lower labour costs
* High unemployment/anger among employees
* Highly skilled technician jobs
* No human error
* Machinery is inflexible

\* List is not exhaustive

**Q13)**

* Automation -> explanation (2)
* Robotics -> explanation (2)
* Specialist buildings -> explanation (2)

**Q14a)**

* Strong (1) -> resist static forces (1) -> won’t break under loading from people (1)
* Durable (1) -> will last a long time (1) -> suitable for outdoor weather (1)
* Tough (1) -> can withstand impacts (1) -> won’t break if something hits it (1)
* Hard (1) -> won’t wear away (1) -> will last a long time outside (1)

**Q15c)**

* Material standard might not be great (1) -> poor quality product (1)
* Hard to upcycle certain products

**Q16a)**

* Compression
* Tension
* Bending

**Q16b)**

**Q18a)**

**Q18b)**

**Q19a)**

**Q19b)**