2.7 The Design Mix: Function, Aesthetics and Cost: 30-minute Pack

Total Marks

AQA 8132 · Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions in the spaces provided. Short answers may be a phrase or sentence; extended answers should use full sentences. Riverside Bags, a fictional UK manufacturer of school backpacks, is used in several questions.

1 Identify one example of an aesthetic choice Riverside Bags might make for a new school backpack.

(Total for Question 1 is 1 mark)

2 Identify one way Riverside Bags could reduce the manufacturing cost of a new backpack without changing the basic shape.

(Total for Question 2 is 1 mark)

3 State two benefits to Riverside Bags of using computer-aided design (CAD) and computer-aided manufacture (CAM) when developing a new school backpack.

(Total for Question 3 is 2 marks)

4 Explain how an emphasis on aesthetics might affect the appearance and features of Riverside Bags' new school backpack aimed at teenagers.

(Total for Question 4 is 1 mark)

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5 Explain one reason why Riverside Bags should balance function and cost when designing a backpack for primary school children.

(Total for Question 5 is 1 mark)

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6 Explain one likely consequence for Riverside Bags if a new backpack has attractive aesthetics but poor function, sold at the same price as competitors.

(Total for Question 6 is 3 marks)

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7 Riverside Bags plans a new waterproof school backpack to sell across the UK. Analyse how Riverside Bags should balance function, aesthetics and cost for this product, using applied reasoning to the case.

(Total for Question 7 is 6 marks)

8 Riverside Bags has two options for its next new backpack launch: (A) invest heavily in CAD/CAM and recycled materials to create a premium, highly sustainable design, or (B) keep its existing hand-pattern process and standard materials to keep unit costs as low as possible. Recommend which option Riverside Bags should choose, justifying your answer with reference to how each option balances function, aesthetics and cost.

(Total for Question 8 is 9 marks)

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Mark scheme · 2.7 The Design Mix: Function, Aesthetics and Cost: 30-minute Pack

Question 1

an aesthetic example, e.g. bright colour patterns, textured fabric, badges, or attractive zips **B1**

Answer: Any one aesthetic example, e.g. bright colour patterns on the fabric.

Question 2

a cost-reduction example, e.g. use a cheaper fabric, buy materials in bulk, simplify stitch patterns, or use a lower-cost supplier **B1**

Answer: Any one cost reduction, e.g. using a lower-cost supplier for fabric.

Question 3

faster or cheaper design changes, e.g. a design can be adjusted on screen without making a new physical sample each time, saving time **B1**

more efficient manufacture, e.g. CAM can cut fabric pieces more precisely, reducing wasted material and cost **B1**

Answer: Any two, for example: designs can be changed on screen without a new physical sample each time, saving time; CAM can cut fabric more precisely, reducing wasted material and cost.

Question 4

identifies effect, e.g. stylish colours, sleek shape, branded logo or designer trims **B1**

Answer: They might use stylish colourways, a sleek profile and visible branding or designer trims to appeal to teenagers.

Question 5

identifies a reason, e.g. if function is poor children or parents will not buy, but if cost is too high parents may not afford it **B1**

Answer: If function is poor the bag will not meet parents' needs, but if cost is too high parents may not buy, so balancing both secures sales and acceptable margins.

Question 6

identifies consequence, e.g. initial sales from looks but high returns or complaints **B1**

develops point, e.g. parents may return the bag if it leaks or straps fail **B1**

links to outcome, e.g. reputational damage or increased after-sales costs reducing profit **B1**

Answer: Attractive looks may give initial sales, but poor function can cause returns and complaints, leading to reputational damage and higher after-sales costs which reduce profit.

Question 7

Level 1 Makes simple, undeveloped points about one or two elements, with limited application to Riverside Bags. **1-3**

Level 2 Provides a developed and applied analysis that weighs how function, aesthetics and cost should be balanced for the waterproof school backpack, referring to likely customer needs and business outcomes. **4-6**

Indicative content:

- Function should be a high priority because waterproof performance and durability are core requirements for a UK school bag used in rainy weather; choices could include coated fabric, sealed seams and tested zips.
- Cost cannot be ignored: Riverside Bags must control material and production costs so the retail price fits the target market; selecting cost-effective waterproof materials or negotiating supplier discounts can help.
- Aesthetics remain important, especially to children and parents who want an attractive design; a balance can be found by using appealing colourways or trims that do not greatly increase production costs.
- Applied trade-offs: investing more in function (better lining) may raise unit cost, so Riverside Bags could offset this by simplifying non-essential aesthetic features, or by offering two versions: basic waterproof model and premium design with extra styling.
- Consider customer segments: price-sensitive parents need reliable waterproofing at a low price, so emphasize function and cost; a smaller premium segment will pay for added aesthetics and branding.
- Conclusion might recommend prioritising function first, controlling cost second, and using selective aesthetic choices to differentiate the product while keeping unit cost acceptable.

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Question 8

Level 1 Makes simple or one-sided points about one option, with limited application to Riverside Bags. **1-3**

Level 2 Gives a developed discussion of both options, applies points to Riverside Bags, and begins to weigh them against each other, but the recommendation is not fully justified. **4-6**

Level 3 Weighs the likely benefits and drawbacks of both options in the Riverside Bags context, uses specific evidence from the case, and reaches a clear, justified recommendation. **7-9**

Indicative content:

- Option A: CAD/CAM plus recycled materials could create a distinctive, on-trend, sustainable product appealing to environmentally conscious parents and could support a higher price, but needs significant upfront investment in equipment, software, training and premium materials, raising risk for a small business.
- Option B: keeping the existing process avoids new investment and keeps unit costs and retail price low, suiting price-sensitive families, but the design may look and perform similarly to competitors' basic bags, offering less differentiation.
- Trade-off: Option A prioritises aesthetics and, through more precise CAM cutting, could still control cost once the investment is repaid; Option B prioritises cost and keeps function acceptable but limits how Riverside Bags can compete on look or sustainability.
- Application: Riverside Bags has already been described as prioritising cost for price-sensitive families on its basic bags, suggesting Option B fits its existing customer base better in the short term, but Option A could open a new, higher-margin segment if genuine demand for a premium eco-friendly range exists.
- Risk consideration: committing fully to Option A before testing demand could leave Riverside Bags with unsold premium stock, whereas Option B carries lower financial risk but may leave the business more exposed to being undercut on price alone.
- Justified recommendation: a reasoned answer could recommend Option B for now, protecting cash flow and matching the existing customer base, while trialling a small premium range (Option A) alongside it to test demand before committing fully; or argue for Option A if the priority is building a stronger long-term brand identity and the investment is judged affordable.

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