

## Design & Technology

# Stages of a products life cycle

### Materials required for questions

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- Pencil
- Rubber
- Calculator

### Instructions

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- Use black ink or ball-point pen
- Try answer all questions
- Use the space provided to answer questions
- Calculators can be used if necessary
- For the multiple choice questions, circle your answer

### Advice

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- Marks for each question are in brackets
- Read each question fully
- Try to answer every question
- Don't spend too much time on one question

# Good luck!

**Q1.** What happens to a product when it reaches the maturity stage of the product life cycle?

- A** Sales revenue grows over time
- B** Sales revenue declines over time
- C** Sales revenue is constant over time

**Q2.** Which of these statements about product life cycles is true?

- A** The length of every product's life cycle is the same
- B** The length of each phase in a product's life cycle can be different
- C** A product will be withdrawn once it enters maturity

**Q3.** In which phase of the product life cycle is a product launched?

- A** Growth
- B** Maturity
- C** Introduction

**Q4.** What is the purpose of a product extension strategy?

- A** To lengthen the life cycle of a product
- B** To prevent a product being successful
- C** To lengthen the introduction phase of a product's life cycle

**Q5.** Which of these extension strategies would be most likely to succeed in extending the life cycle of a breakfast cereal?

- A** Making the breakfast cereal available in a new flavour
- B** Increasing advertising of the breakfast cereal
- C** Increasing the price of the breakfast Cereal

**Q6.** Which of the following statements is true?

- A** Disposal is the final step in a product life cycle
- B** Using cheapest material will always Extend a product life
- C** Maturity is when the sales start to decline

**Q7.** Discuss cost, sales, profit and market implications to the manufacturer during the various stages of a products life cycle **(9 marks)**

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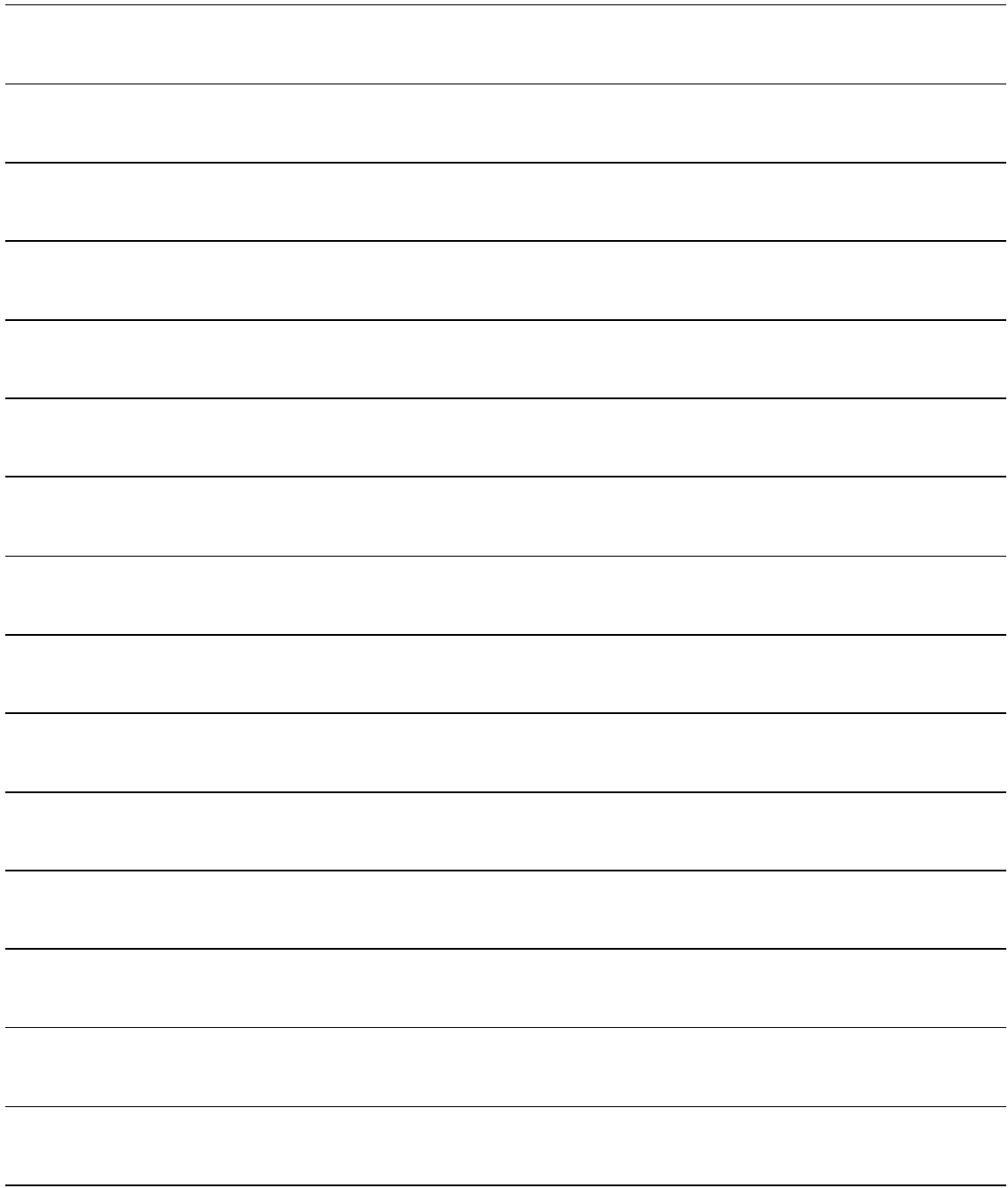
**Q8.** Discuss the advantages and disadvantages surrounding the use of software updates as part of the ongoing maintenance of electronic products. **(9 marks)**

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## Answers

Q1. C

Q2. B

Q3. B

Q4. A

Q5. A

Q6. A

Q7.

Introduction stage

- Set-up and marketing costs
- Low output high marginal costs
- Advertising / attracting early adopters
- Slow sales / uptake
- Small market share

Growth stage

- Increasing consumer awareness
- Increasing popularity and sales
- Product tweaking and updates in response to feedback
- Increasing market share
- Development costs covered
- Increasing economies of scale
- Can price goods to give increasing competitive edge
- Higher marginal profit
- Competitors take an interest in product success

Maturity stage

- Market saturation achieved
- Competitors release competing products
- Levelling/slowing of demand
- Price adjustments
- Redevelopment / updates to increase demand
- Facelifts
- Incorporation of updated technology
- Preparation for replacement models

Decline stage

- Reduction in sales
- Impacts on profits
- Development costs fully covered

- Eventual loss of profitability
- Withdrawal from market

**Q8.**

### **Advantages**

- Software updates ensure that a device is continually protected from phishing software as it will have the most up to date security settings.
- They can be released frequently to help manufacturers address issues with legacy software and remove any bugs or unwanted features or functions.
- They can ensure that the software on the electronic product is in line with that of the software developers to ensure compatibility with new programmes or apps.
- They can extend the lifespan of a product reducing the need to continually upgrade or replace a device.
- Most software updates are free so the consumer has piece of mind that there will be no additional costs in the lifetime of the product.

### **Disadvantages**

- Software updates can often lead to a variation in versions being installed on different devices, preventing files from being opened or updated on machines with incompatible versions.
- They can require access to Wi-Fi or mobile data which may impact updates being downloaded in areas with poor signals.
- On some devices they can only take place when the device such as a phone is connected to a power supply.
- They can take a long time to download and may cause electronic devices to be unusable whilst the download and installation takes place.
- They can make some legacy software redundant if they haven't been updated in line with an operating system or are no longer supported.
- Often the option for software updates is automatically pushed out to a device, removing the responsibility and control from the user.
- They can affect the function of the product without the user being aware such as slowing down the speed to conserve the battery.
- In some cases, the hardware of the product can prevent any further software updates from taking place, rendering the product obsolete.