



UNIVERSITI KUALA LUMPUR
MALAYSIA ITALY DESIGN INSTITUTE

FINAL EXAMINATION
MARCH 2026 SEMESTER

COURSE CODE : PXB10603
COURSE TITLE : TECHNOLOGY MANAGEMENT 2
PROGRAMME NAME : BACHELOR OF TECHNOLOGY MANAGEMENT (HONOURS)
DATE : 24 JUNE 2026
TIME : 2:00PM - 4:30PM
DURATION : 2 HOURS 30 MINUTES

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of TWO sections.
4. Answer ALL questions for Section A.
5. Section B consist of four questions. Answer THREE (3) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Please answer MCQ/EMQ questions using OMR sheet. ☐ *Tick if applicable*
9. Refer to the attached Formula/ Appendices. ☐ *Tick if applicable*

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

Question 1

Describe how individual creativity and organisational creativity can become sources of technological innovation in a business organisation.

(5 marks)

Question 2

Explain how research and development, users, and inventors can contribute to a firm's competitive advantage.

(5 marks)

Question 3

Explain the meaning of first mover advantage and how it can help a firm gain a competitive advantage in the market.

(5 marks)

Question 4

Discuss two disadvantages first movers face when entering a new technology market too early.

(5 marks)

Question 5

Describe how collaboration strategies can help firms strengthen their technology capabilities.

(5 marks)

Question 6

Explain why firms may choose collaborative arrangements instead of developing all technologies internally.

(5 marks)

Question 7

Distinguish between patents and trademarks as methods of protecting technology and innovation.

(5 marks)

Question 8

Explain how trade secrets and copyrights can protect a firm's innovation and support competitive advantage.

(5 marks)

SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

Question 1

A Malaysian start-up has developed a new smart food packaging system for small food manufacturers. The packaging uses a special material that changes colour when the food is no longer fresh. The company also created a mobile application that allows customers to scan the package and check product information, expiry status, and storage instructions.

The company plans to sell the product under the brand name FreshGuard. However, the management team is worried that competitors may copy the packaging material, imitate the brand name, duplicate the mobile application design, or hire former employees to reveal the secret formula used in the colour-changing material.

Based on the scenario, answer the following questions:

- (a) Differentiate the four methods of protecting technology and innovation that the company can use: patent, trademark, copyright, and trade secret. Relate each method to the FreshGuard product.
- (b) Determine the most suitable protection strategy for FreshGuard by selecting the appropriate protection method for the packaging material, brand name, mobile application, and secret formula. Justify your answer.

(20 marks)

Question 2

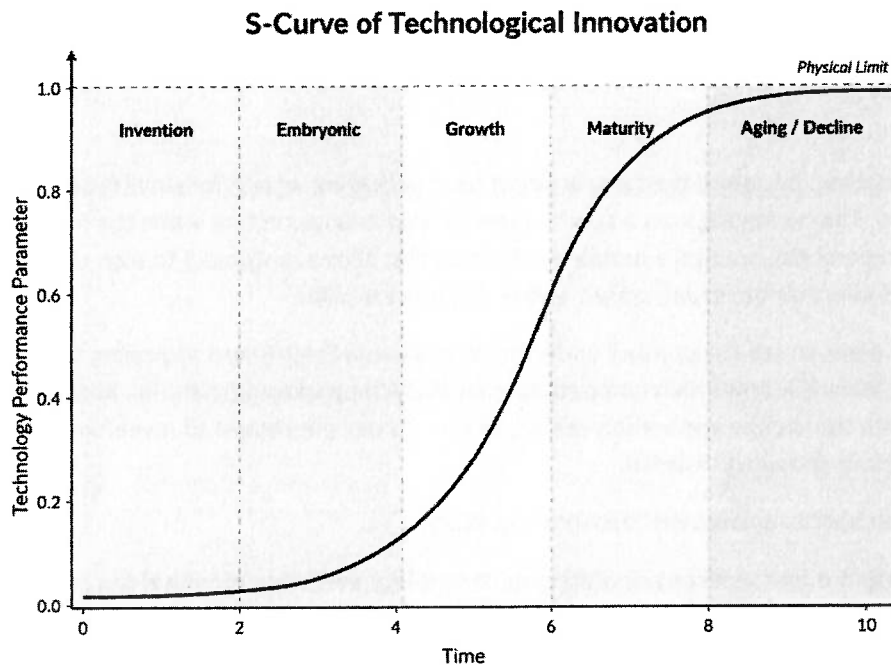


Figure 1: S-Curve of Technological Innovation

Refer to the figure above, which shows the S-Curve of Technological Innovation. The S-Curve explains how a technology develops over time through several stages: Invention, Embryonic, Growth, Maturity, and Aging/Decline.

Based on the figure:

(a) Compare the characteristics of the five stages in the S-Curve and explain how each stage affects business decisions.

(b) Choose one current technology, such as artificial intelligence, electric vehicles, foldable smartphones, or renewable energy. Determine its current position on the S-Curve and justify your answer based on market adoption, performance improvement, and competition.

(20 marks)

Question 3

A Malaysian technology company has developed a new smart inventory management system for small and medium-sized manufacturing firms. The system uses barcode scanning, cloud storage, real-time stock monitoring, automatic reorder alerts, and dashboard reporting.

The company believes the system can help SMEs reduce stock errors, avoid material shortages, and improve production planning. However, the company faces several deployment challenges. Some SMEs still use manual inventory records, some are concerned about subscription cost, and others are worried about system compatibility with their existing accounting or production software. The company is also deciding whether to launch immediately, partner with software vendors, or sell directly to SME manufacturers.

Based on the scenario, answer the following questions:

- (a) Determine a suitable deployment strategy for the smart inventory management system by considering launch timing, compatibility, distribution, and marketing.
- (b) Diagnose five possible challenges that may affect the successful deployment of the smart inventory management system among SME manufacturers.

(20 marks)

Question 4

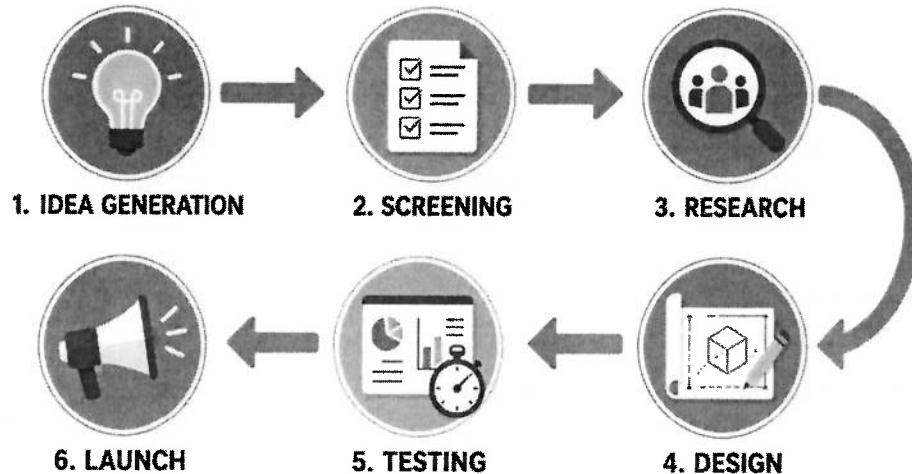


Figure 2: New Product Development (NPD) Process

Refer to the figure above, which shows the New Product Development (NPD) Process. The process consists of six stages: Idea Generation, Screening, Research, Design, Testing, and Launch.

A local SME wants to develop a new smart study desk for university students. The desk includes charging ports, adjustable lighting, posture reminder sensors, and a mobile application to monitor study habits. However, the company has a limited budget, limited technical staff, and strong competition from existing furniture and technology brands.

Based on the figure and scenario, answer the following questions:

(a) Explain the six stages of the New Product Development process shown in the figure and relate each stage to the smart study desk.

(b) Determine four possible problems that may occur if the company poorly manages the New Product Development process before launching the smart study desk.

(20 marks)

END OF EXAMINATION PAPER