



**UNIVERSITI KUALA LUMPUR
BUSINESS SCHOOL**

**FINAL EXAMINATION
JULY 2025 SEMESTER**

COURSE CODE : ECB20903

COURSE NAME : TECHNOLOGICAL INNOVATION IN BUSINESS
DEVELOPMENT

PROGRAMME NAME : BACHELOR OF MANAGEMENT AND
(FOR MPU: PROGRAMME LEVEL) ENTREPRENEURSHIP

DATE : 17 SEPTEMBER 2025

TIME : 2:00 PM – 5:00 PM

DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please **CAREFULLY** read the instructions given in the question paper.
2. This question paper has information printed on both sides of the paper.
3. This question paper consists of **TWO (2)** sections; Section A, and Section B.
4. Answer **ALL** questions from **Section A** and **Section B** choose **ANY THREE (3)** from **Section B**.
5. All questions must be answered in **English** (any other language is not allowed).
6. This question paper must not be removed from the examination hall.

THERE ARE SEVEN (7) PAGES OF QUESTIONS, EXCLUDING THIS PAGE.

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

Question 1

A food delivery startup aims to foster creativity and sustainability by reducing plastic waste. Critically evaluate **FOUR (4)** innovative eco-friendly strategies the company can implement, discussing both their potential to attract customers and the challenges the company may face in sustaining competitiveness.

(10 marks)

Question 2

A retail company wants to adopt Artificial Intelligence (AI) to improve customer experience. As an innovation consultant, demonstrate **FOUR (4)** ways the company can apply *technology innovation* to personalize shopping and sustain competitiveness.

(10 marks)

Question 3

A startup is introducing biodegradable packaging as part of its *sustainability strategy*. Show **FIVE (5)** ways on how the company can creatively apply this innovation to strengthen its brand image and attract environmentally conscious customers.

(10 marks)

Question 4

A transportation company is exploring *creativity-driven innovation* to reduce carbon emissions. Analyze **FIVE (5)** possible benefits and challenges of shifting from traditional fuel-powered vehicles to electric or hydrogen-powered fleets.

(10 marks)

SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

Question 1**Synergy Robotics**

Tech Innovate Inc. is a medium-sized, agile technology company known for its cutting-edge research and development in robotics and artificial intelligence (AI). While they possess brilliant R&D teams and have developed a revolutionary new AI-powered robotic arm (the "SmartArm"), they lack the financial resources and global manufacturing and distribution networks to bring it to market effectively.

Global Manufacturing Group (GMG) is a multinational corporation with extensive, cost-effective manufacturing capabilities and a vast, established supply chain and sales network across the globe. However, GMG's own R&D department is slow and risk-averse, and they have been falling behind in technological innovation.

Recognizing their complementary strengths and weaknesses, the two companies form a strategic joint venture named Synergy Robotics. The goal is to combine Tech Innovate's groundbreaking technology with GMG's manufacturing and market reach to commercialize the SmartArm and secure a dominant position in the industrial robotics market. The joint venture agreement stipulates that Tech Innovate will contribute its intellectual property (IP) and R&D expertise, while GMG will provide the capital, manufacturing infrastructure, and marketing/sales channels.

- (a) Based on the scenario, apply the principles of resource complementarity to explain why this joint venture is a more effective strategy for both Tech Innovate and GMG than if they had attempted to develop and commercialize the SmartArm on their own.

(5 marks)

- (b) Analyze the specific risks that each company (Tech Innovate and GMG) faces within the Synergy Robotics joint venture. In your analysis, differentiate between financial, operational, and strategic risks for each party.

(5 marks)

- (c) The joint venture's success hinges on a critical exchange of knowledge. Analyze the specific challenges related to knowledge transfer and intellectual property (IP) protection that could arise between Tech Innovate and GMG. How could these challenges be managed?

(5 marks)

- (d) Imagine the joint venture is struggling to integrate the two corporate cultures—Tech Innovate's nimble, innovative culture versus GMG's more bureaucratic, cost-conscious culture. Analyze how this cultural clash could impede the commercialization of the SmartArm and propose two specific strategies to bridge this divide.

(5 marks)

Question 2**GreenTech Motors**

AutoCorp, a global leader in traditional internal combustion engine (ICE) vehicles, faces immense pressure to transition to electric vehicles (EVs). While they have decades of manufacturing expertise, they lack the specific technological know-how in advanced battery technology and charging infrastructure.

PowerCell, a nimble startup, has developed a revolutionary solid-state battery that offers superior range and faster charging times than current market leaders. However, PowerCell lacks the capital, large-scale manufacturing capacity, and global supply chain needed to produce these batteries for the mass market.

To bridge this gap, the two companies form a joint venture named GreenTech Motors. The venture aims to combine PowerCell's battery technology with AutoCorp's manufacturing prowess to develop and commercialize a new line of long-range, affordable EVs. The agreement grants AutoCorp a controlling stake in the joint venture, while PowerCell maintains a minority share and is responsible for all R&D.

- (a) Analyze the primary risks for PowerCell in this joint venture. Consider risks related to intellectual property (IP), strategic control, and future market position.
(8 marks)
- (b) Analyze the potential for cultural clash between AutoCorp's established, hierarchical manufacturing culture and PowerCell's agile, innovation-focused startup culture. How could this clash impact the joint venture's success?
(6 marks)
- (c) If the joint venture is successful and launches a new line of EVs, analyze the potential for cannibalization. How might GreenTech Motors' products affect AutoCorp's existing ICE vehicle sales, and what strategies could AutoCorp use to manage this?
(6 marks)

Question 3**BioPlast Innovations**

ChemicalCo, a major producer of petroleum-based plastics, is facing intense pressure to reduce its environmental footprint. While it has immense manufacturing scale and a global distribution network, its R&D into biodegradable alternatives has been slow and costly.

BioPolymers, a small research firm, has developed a patented bio-polymer derived from agricultural waste that is fully compostable and boasts comparable durability to traditional plastics. However, BioPolymers lacks the capital and production know-how to manufacture this material at a commercial scale.

The two companies form a strategic alliance to co-develop a manufacturing process and commercialize the new material. The alliance agreement is based on a licensing model, where ChemicalCo pays an upfront fee and royalties to BioPolymers, and both share the cost and expertise in adapting the new technology to ChemicalCo's factories.

- (a) Apply the concept of transaction cost economics to explain why this strategic alliance is a more viable option for ChemicalCo than attempting to acquire BioPolymers or developing the technology internally.

(5 marks)

- (b) Analyze the strategic motives for each company to enter this alliance. How does it align with their long-term business goals?

(5 marks)

- (c) Analyze the potential for asymmetric information and moral hazard within this alliance. What specific examples could arise from the unequal knowledge between the partners?

(5 marks)

- (d) Analyze the challenges of knowledge transfer in this alliance, particularly regarding the conversion of BioPolymers' lab-scale technology into a large-scale, cost-effective manufacturing process for ChemicalCo.

(5 marks)

Question 4**AeroTech Innovations**

Global Airways (GA), a traditional full-service airline, operates an extensive fleet and has a strong brand reputation. However, its operational costs are high, and its legacy systems are inefficient. GA wants to adopt new technologies to improve fuel efficiency and customer experience but lacks the internal expertise and agility to develop them.

SkySense, a tech startup, has developed a proprietary AI-powered platform that optimizes flight paths in real time to reduce fuel consumption and predicts maintenance needs for aircraft parts. SkySense's technology could save airlines millions, but it lacks the capital and large-scale testing environment of a major airline.

To leverage their respective strengths, the two companies form a strategic alliance to test and refine SkySense's technology. The agreement gives GA exclusive rights to the technology for a period and a minority stake in SkySense, while GA provides a large fleet for testing and operational data.

- (a) Analyze the primary risks for each company (GA and SkySense) in this alliance, focusing on operational, technological, and reputational risks.
(6 marks)
- (b) Apply the concept of shared risk to explain why the strategic alliance is a better option for both GA and SkySense than if SkySense had attempted to develop its technology independently and then sell it to GA.
(4 marks)
- (c) Analyze how the alliance could create a first-mover advantage for GA in the highly competitive airline industry. What specific benefits would this provide?
(5 marks)
- (d) Analyze the potential for cultural conflicts between GA's established, safety-first, and highly regulated culture and SkySense's rapid, agile, and experimental culture. How could this cultural clash be managed?
(5 marks)

END OF EXAMINATION PAPER



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