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Universiti Tun Hussein Onn Malaysia

**FINAL EXAMINATION
(TAKE HOME)
SEMESTER II
SESSION 2019/2020**

COURSE NAME : PRODUCT DEVELOPMENT
COURSE CODE : BPC 32403
PROGRAMME CODE : BPB
EXAMINATION DATE : JULY 2020
DURATION : 24 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS.
OPEN BOOK EXAMINATION

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

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TERBUKA

Q1 (a) According to Industrial Designers Society of America (IDSA), industrial design is “the professional service of creating and developing concepts and specifications that optimize the function, value, and appearance of products and systems for the mutual benefit of both user and manufacturer.” This definition is broad enough to include the activities of the entire product development team. In fact, industrial designers focus their attention upon the form and user interaction of products. Dreyfuss (1967) lists five critical goals that industrial designers can help a team to achieve when developing new products.

- **Utility:** The product’s human interfaces should be safe, easy to use, and intuitive. Each feature should be shaped so that it communicates its function to the user
- **Appearance:** Form, line, proportion, and color are used to integrate the product into a pleasing whole.
- **Ease of maintenance:** Products must also be designed to communicate how they are to be maintained and repaired.
- **Low costs:** Form and features have a large impact on tooling and production costs, so these must be considered jointly by the team.
- **Communication:** Product designs should communicate the corporate design philosophy and mission through the visual qualities of the products.

Propose a new concept-idea of ‘fingernail clipper’, based on the above definition and goals stated. You may browse and find many kinds of the clippers, but please focus on the adult fingernail clipper.

(10 marks)

(b) Assess **FOUR (4)** potential cars using the PCSM method that you and your parents are thinking of buying to be used while studying at UTHM, as shown in **Table Q1(b)**. Fill Up the empty **Table Q1(b)**.

(10 marks)

Table Q1(b): Concept Scoring Matrix

Selection Criteria	Weight	Selection of Car							
		(Reference) Perodua Axia		Kia Picanto		Proton Iriz 1.3L Standard		Honda Jazz	
		Rating	Weight Score	Rating	Weight Score	Rating	Weight Score	Rating	Weight Score
Price	30%								
Fuel Saving	20%								
Engine Power	15%								
Internal Space	15%								
Sleek Design	10%								
Safety Rating	5%								
Resale Value	5%								
	Total Score								
	Rank								
	Purchase?								

- (c) Explain the main reason to purchase the chosen car which with the highest rank, based on **Q1(b)**.

(4 marks)

- Q2** (a) Scenario A: Prof. Karl Ulrich and his authoring partner, Prof. Steven Eppinger wrote the textbook of Product Design and Development in 2007. They applied for the textbook publication at the McGraw-Hill Companies, New York, USA and got published in 2008. This well-known design and development book, particularly on university learning environment, has been republished 6 times, including its e-book version.

Scenario B: Programmer Linus Torvalds invented Linux in 1991. Torvalds was a computer science student at the University of Helsinki in Finland where he had been experimenting on Minix system. He began writing his own kernel for his new portable operating system, now famously known as LINUX. He keeps his Linux OS as an “open source operating system”, to promote further development applications on this flexible OS.

Scenario C: Nike Inc. was founded in 1971 by Bill Bowerman and Phil Knight, and “Nike” literally means the Greek goddess of victory and opts for the product symbol of Nike “Swoosh”. Nike markets its products under its own brand and among its top selling model is “Air Jordan”, attributing to Michael

Jordan success with basketball club, Chicago Bull. Nike remains the major brand in sporting goods and commercial games sponsor.

Scenario D: Beverage holder, especially for hot drinks, became famous and instantly needed after legal case of Stella Liebeck, a 79-year-old woman who accidentally spilled hot coffee in her lap after purchasing it from a McDonald's restaurant. New Mexico court granted victory to Liebeck and she was awarded \$640,000. As a result, many inventors crafted beverage holder for commercial companies. A famous commercial patent of recyclable corrugated beverage container and holder was designed and filed to the US Patent Office by David Coffin in 1993, with registered number U.S. Patent 5,205,473.

Scenario E: John Pemberton formulated the recipe formula for soft-drink, namely Coca-Cola in 1888, and this was a well-kept industrial formulation since then. Now, the recipe mixture is no longer a secret. This drink contains ingredients among others caffeine citrate, citric acid, vanilla, lime, sugar, caramel and water. Since then this formulation has had changed to many hands due to business take-over and management change. However, Coca-Cola still remains the same entity of world-famous soft drink

Elaborate **ONE (1)** scenario for each sub-question based on the above scenarios that is relevant to the given options listed below:

- (i) Patent
- (ii) Trademark
- (iii) Trade secret
- (iv) Copyright

(16 marks)

(b) The US government has been at trade war with the People's Republic of China. In 2019, the US Department of Commerce blacklisted Huawei that bars it from buying parts and components from US companies without the government's approval. As a result, a number of US firms began to back away from their business with Huawei, including Google. Hence, Google banned all its applications and software from being used by Huawei products, especially on smartphone platform.

- (i) Analyze the current legal issue pertaining to the intellectual property battle between Google and Huawei.

(5 marks)

- (ii) Outline your opinion of the reciprocal action by China for imposing equal tariffs on American imported goods to the Chinese mainland.

(5 marks)

- END OF QUESTIONS -