



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2018/2019**

COURSE NAME : PRODUCT DEVELOPMENT
COURSE CODE : BPC 32403
PROGRAMME CODE : BPB
EXAMINATION DATE : JUNE / JULY 2019
EXAMINATION DURATION : 3 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF SIX (6) PAGES

- Q1** (a) Describe the following statements:
- (i) Internet dependent lifestyle. (2 marks)
 - (ii) New product concept of wearable computing. (2 marks)
 - (iii) Newly innovated product of foldable smartphone. (2 marks)
- (b) Determine the success factor of these successful new product concepts:
- (i) Sony Walkman (2 marks)
 - (ii) Apple Macintosh (2 marks)
 - (iii) Microsoft Word Processing software (2 marks)
- (c) Discuss typical task done based on each nailing machine (nailer) users' category:
- (i) Lead users (4 marks)
 - (ii) Individual users (4 marks)

- Q2** (a) List **FIVE (5)** major steps in the Pugh Concept Scoring Matrix (PCSM) for product concept selection. (5 marks)
- (b) Assess **FOUR (4)** potential cars using the PCSM method that you and your parents are thinking of buying to be used when studying at UTHM, as shown in **Table Q2**. (10 marks)

Table Q2 : Concept Scoring Template

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

- (c) Propose the main reason to purchase the chosen car with highest rank, based on **Q2 (b)**. (5 marks)

- Q3 (a) (i) Illustrate a schematic diagram of DeskJet printer mechanism. (4 marks)
- (ii) Differentiate **TWO (2)** elements between product Integral Architecture and Modular Architecture. (4 marks)
- (b) Apply the following modular architectures, as shown in **Figure Q3**, in the respective real products' application as listed below:

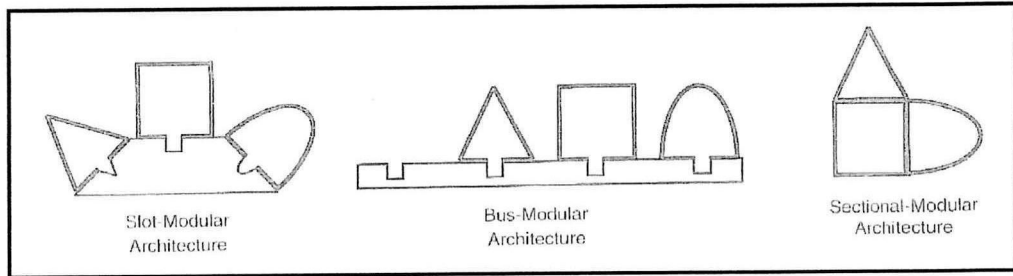


Figure Q3: Typical Types on Product Architecture

- (i) Slot-modular architecture product in automobile. (4 marks)
- (ii) Bus-modular architecture product in personal computer. (4 marks)
- (iii) Sectional-modular architecture product in office environment. (4 marks)

Q4 (a) Since the new millenium, Samsung's Strategic Push for Smartphones was to build distinctive competency in technological innovation, affordable pricing, excellent technical support, and global brand management, as shown in **Figure Q4**. Its strategic push required huge growth in the core businesses of smartphones and telecommunications networks. This goal was achieved by Samsung's development of new products, reliable technology and expansion into new markets. By the end of 2015, Samsung was the clear market leader in the mobile phone industry in terms of sales and profitability, and way ahead of giant telecommunications companies like Apple and Huawei.

(Source: Samsung Business Report, 2018)



Figure Q4: Samsung product line best sellers

Analyse **THREE (3)** most important success factors of above Samsung smartphones' in its communication business.

(12 marks)

(b) Compare **TWO (2)** product design perspectives of end customers on how industrial designs of Volvo car and Lexus car that could clearly establish their corporate identities.

(8 marks)

- Q5** (a) Define the following terms;
- (i) Patent (2 marks)
 - (ii) Stereo-lithography (2 marks)
 - (iii) Design for Manufacturing (2 marks)
 - (iv) Environmentally Sustainable Energy (2 marks)
- b) (i) State **FOUR (4)** purposes of constructing a technical prototype for new product development project. (4 marks)
- (ii) Compare **FOUR (4)** roles of 3D printer to produce small-to-moderate sized parts with conventional approach of mould-based production. (8 marks)

- END OF QUESTIONS -