



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016**

COURSE NAME : PRODUCT DEVELOPMENT
COURSE CODE : BPC 32403
PROGRAMME CODE : BPB
EXAMINATION DATE : JUNE / JULY 2016
DURATION : 2 HOURS AND 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

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

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- Q1** (a) Assess by using the Pugh Concept Scoring Matrix (PCSM) method for the below 4 smartphones that you are thinking of purchasing, as shown in **Table Q1**.

State the main reason for you to purchase the chosen smartphone.

(15 marks)

Table Q1

		Smart Phone							
		(Reference) iPhone 6S +		Galaxy S6		Xperia Z5		Huawei T	
Selection Criteria	Weight	Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score	Rating	Weighted Score
Price									
Operating System									
Design Appearance									
Screen Size									
Talk time Power									
Sound quality									
Camera Megapixel									
	Total Score								
	Rank								
	Purchase?								

- (b) List **FIVE (5)** major steps in the PCSM for product concept selection.

(5 marks)

- Q2** (a) Explain **THREE (3)** major concept communication methods that your group project team will apply to promote your designed student hostel locker to potential customers.

(15 marks)

- (b) Calculate the estimated Quantity (Q) of your designed student hostel locker could possibly be sold to UTHM hostels, given purchasing probability is at a value of 0.25.

(5 marks)

- Q3** Product architecture based on “modular architecture” allows a design change to be made to one partial chunk without requiring a change to other chunks for the product to function correctly, as shown below as bicycle brake mechanism separately with control shifting unit, in **Figure Q3**.

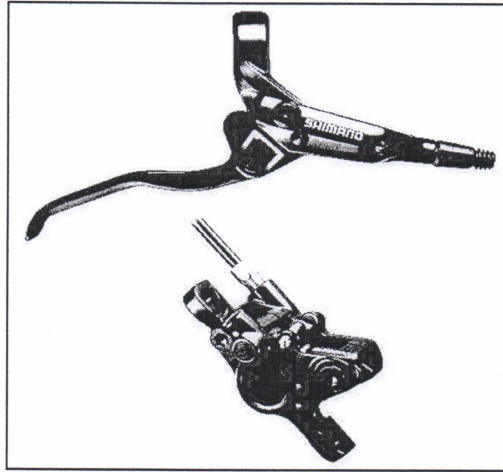


Figure Q3

- (a) Describe product functionality of this modular architecture unit. (4 marks)
- (b) Elaborate **FOUR (4)** steps for the method of establishing a product architecture. (8 marks)
- (c) Sketch a schematic diagram and its operational interactions for a DeskJet printer, showing flow of forces, signals and material. (8 marks)

Q4 (a) In 2003, Motorola Inc. launched a new product development effort to replace its aging flip-style mobile phone design. The StarTAC and V-series were having good industrial design, however these platforms have undergone several generations of product release. Eventually, the RAZR-based design concept of “thin to win”, as shown in **Figure Q4**, successfully emerged as the global market winner.

(Source: Ulrich & Eppinger, 2012)

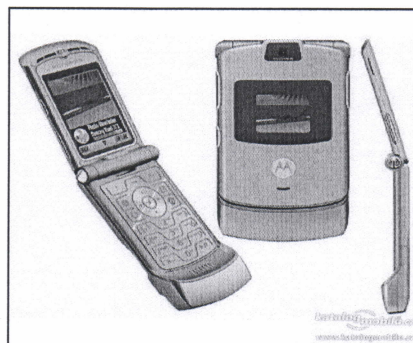


Figure Q4

Describe **FOUR (4)** factors of the Motorola RAZR mobile communication success. (8 marks)

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(b) List **FOUR (4)** phases of Industrial Design (ID) process for designing the aesthetics and ergonomics of a new product. (4 marks)

(c) Describe corporate identity of Germany industrial designs as the following:

(i) BMW automobiles

(ii) Braun appliances

(8 marks)

Q5 (a) Define rapid prototyping for a new product.

(4 marks)

(b) Explain **FOUR (4)** purposes of constructing a prototype for product development project.

(12 marks)

(c) List **FOUR (4)** types of intellectual property.

(4 marks)

- END OF QUESTIONS -