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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020**

COURSE NAME : ENGINEERING MANAGEMENT
COURSE CODE : BNR 35203
PROGRAMME CODE : BNE / BNF
EXAMINATION DATE : DECEMBER 2019 / JANUARY 2020
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER **FIVE (5)** QUESTIONS ONLY

THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

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- Q1** (a) Briefly explain strategic planning. (2 marks)
- (b) Four businessmen seeking advice to form different types of company. The company chosen by each businessman are as below:
- (i) 1st businessman intent to form a company where the legal entities is owned by the shareholder.
 - (ii) 2nd businessman intent to form a company with association of two partners.
 - (iii) 3rd businessman intent to form a company owned and operated by one person.
 - (iv) 4th businessman is looking for special type of company owned by users or customers.
- You are the expert to advice these businessman. Based on your experience, what type of company legal forms should they choose and outline the characteristics for each type of company. (12 marks)
- (c) **Table Q1 (c)** shows the balance sheet of a Food Company for December 2018. From this table, calculate the ratio:
- (i) that can portray the enterprise's capital to stockholders and outside creditors. (2 marks)
 - (ii) for "readily converted into cash". Does the ratio value considered safe. (2 marks)
 - (iii) that can measure the company ability to meet short term obligations. From the ratio, determine whether the assets are used efficiently. (2 marks)
- Q2** (a) An engineer possessing both abilities to apply engineering principles and skills in organizing and directing people and projects is call an *Engineering Manager*. As such, the manager is expect to perform the Interpersonal, Informational and Decisional roles. Explain any **TWO (2)** of the roles. (6 marks)
- (b) In a large company, the Engineering Managers can be categorize as First Line Managers, Middle Managers and Top-level Managers. Differentiate their responsibilities in terms of undertaking planning for the company. (9 marks)
- (c) Sharif is a Chief Executive Officer of a company dealing with the manufacturing and sales of sports equipment. A new manager is urgently need to oversee the quality and marketing of the product. Which criteria will Sharif go after: An engineering manager with business skills or a business manager with technical skills. Provide a justification for your answer. (5 marks)

- Q3** You are appointed as a project manager to lead a project on developing Mini Hydro Electric Power Station in Kampung Peta, Taman Negara, Johor. Several plans and tasks have to be considered in order to ensure the project are properly executed and controlled.
- (a) If you are to develop the detail plan, propose the proper steps of planning. (5 marks)
 - (b) Propose the criteria of good staff you are looking for, when interviewing and selecting your project team members. (5 marks)
 - (c) As a project manager, you have to manage the project resources. Debate the possible types of resources that you have to manage in this project. (5 marks)
 - (d) Your top management needed you to establish the budget development for this Mini Hydro Project. Outline the reason why your top management need you to establish the budget development. (5 marks)
- Q4**
- (a) Quality is meeting and exceeding the implied and stated needs of the customer. In order to achieve quality, a company must be willing to bear the costs identified as Prevention costs, Appraisal costs, Internal costs and External costs. Elaborate on any **THREE (3)** of the costs. (6 marks)
 - (b) Discuss Total Quality Management (TQM). Differentiate TQM from the traditional notion that quality cannot be improved without significant losses in productivity. (4 marks)
 - (c) Pareto chart is one of the basic tools of quality. It is used to identify factors that have the greatest cumulative effect on the product. A disk drive manufacturer is trying to perform failure analysis of Model X of its disk drive. They want to identify the top issues that cause the Model X drives to fail in order to reduce the failure rate and the resulting warranty returns. A sample of 1000 drives are taken and the frequency of each failure cause is counted and shown in **Table Q4 (c)**.
 - (i) Plot and label the Pareto chart to figure out the causes and frequency of failure of Model X disk drive. (8 marks)
 - (ii) Identify on the plot the causes that contribute to 80% of Model X to fail. (2 marks)

- Q5** (a) As a company CEO, you are in the process of interviewing the candidates for the position of Financial Manager. Besides asking general questions, what are the important business finance questions you should probe from the candidates. (4.5 marks)
- (b) Explain the importance of Financial Ratios (4.5 marks)
- (c) Define the term “marketing management”. (3 marks)
- (d) Marketing is all about managing the 4P’s. Elaborate thoroughly the 4P’s concept in marketing. (8 marks)
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- Q6** (a) Illustrate and explain the FOUR (4) phases of a product life cycle. (8 marks)
- (b) The two basic roles of Human Resource Manager are acquiring human resources and maintaining human resources. List **THREE (3)** activities that need to be undertaken for each of the role. (6 marks)
- (c) (i) Discuss Product Life-cycle Management (PLM). (3 marks)
- (ii) List **THREE (3)** activities which fall under the scope of PLM. (3 marks)

- END OF QUESTIONS -

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Table Q1(c) Balance Sheet for Food Company (December 2018)

	ASSETS	
Current Assets		
Cash	200,000	
Securities	300,000	500,000
Account Receivable		450,000
Inventories		
Raw Material & Supplies	250,000	
Work in Progress	150,000	
Finished Good	350,000	750,000
Prepaid Expenses		40,000
TOTAL CURRENT ASSETS		1,740,000
Property, Plant & Equipment	4,500,000	
Less accumulated depreciation & depletion	1,000,000	3,500,000
TOTAL ASSETS		5,240,000
	Liabilities & Stockholders	
	Equity	
Current Liabilities		
Account Payable	150,000	
Installment due within 1 year on debt	40,000	
Taxes	190,000	
Other Liabilities	95,000	
TOTAL CURRENT LIABILITIES		475,000
Long term Debt		1,000,000
TOTAL LIABILITIES		1,475,000
Stockholders Equity		
Capital Stock	495,000	
Retained Earnings	990,000	1,485,000
TOTAL LIABILITIES & EQUITY		2,960,000

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Table Q4 (c)

Causes	Frequency
Firmware issues	410
Heat	30
Mechanical failure	370
Electronics failure	80
Human error	90
All other causes	20

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