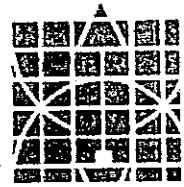


INSTITUTION OF ENGINEERS SRI LANKA  
PART III (B) EXAMINATION – MAY 2010  
ENGINEERING MANAGEMENT – 327



Date: May 2010 From 9.00 am to 12.00 noon

Duration: Three (03) hours

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This question paper has nine (09) questions. Answer **only five (05)** questions.

All questions carry equal marks.

Start answering a new question from a fresh page of the answer book/sheet and write the question number appropriately.

It is extremely important that you write the question number, to which you answer, on the cover page appropriately.

Use graph papers, wherever graphical presentations are required.

Write answers legibly and neatly.

Cross by a line any answers which do not require examiner's attention and/or any scrap work.

Do not use lead pencil and/or red ink to write answers.

Marks will be deducted if the above instructions are not adhered to.

### Question 1

There are many theories that describe ways to lead, but every leader has his or her own leadership style. Some of the more common styles include autocratic, bureaucratic, democratic, and laissez-faire.

- (a) Define each style and describe the situations, where each one might be used.
- (b) Which theory do you think that describes the best style of a successful leader? Explain your answer.

### Question 2

- (a) Focusing on a business, of which the main activity is production of goods and services, explain the following:

Operations

Operations Management

- (b) What are then the responsibilities of the Operations Manager?

### Question 3

- (a) "Authority is the right to perform or command." What are the three types of authority that exist in an organization? Briefly explain the characteristics and role of each of them.
- (b) Explain why conflicts between Line and Staff personnel can exist. Demonstrate your answer with an example.

### Question 4

- (a) State clearly and briefly the scope and objectives of Human Resource Management
- (b) How do HR duties of HR manger and his /her staffs relate to human resource duties of "line managers"?

### Question 5

Answer any three (3) parts

- (a) What was the need for Parliament to consider The Thirteenth Amendment to be brought into the Constitution (1987) and The Provincial Councils Act No 42 of 1987?
- (b) What are the powers devolved to the provinces by the thirteenth Amendment?
- (c) Explain the structure of the organization of a Provincial Council.
- (d) What are the powers vested on the Governor?

### Question 6

Answer Part (a) OR Part (b).

Part (a)

Xao Corporation opened up a business on January 1, 2010 with issuing stocks (shares). As at January 31, 2010 Xao Corporation had made following transactions.

Date	Details of the Transaction Made
January 1, 2010	Issued stocks (shares) to shareholders in exchange of Rs. 2,500,000
January 4, 2010	Paid Rs. 200,000 as advertising expenses for initial advertising programme
January 8, 2010	Provided services to customers for Rs. 400,000 cash
January 15, 2010	Received bill for Rs. 100,000 against a utility cost incurred
January 17, 2010	Provided services to customers on account of Rs. 800,000
January 18, 2010	Paid half the amount due on the utility bill received on January 15, 2010
January 25, 2010	Received 60% of the amount due on the receivable that was established on January 17, 2010
January 28, 2010	Purchased a land for Rs. 1,500,000 paying Rs. 500,000 cash and promising to pay the remainder in 90 days

Prepare the journal, post each transaction into the general ledger (T accounts), balance the T accounts and prepare the balance sheet as at January 31, 2010.

Part (b)

State and explain the Fundamental Conventions and Procedural Conventions in accounting. You may use suitable examples to demonstrate your answer.

Compare and contrast Managerial Accounting and Financial Accounting.

### Question 7

- (a) Explain Job Order costing versus Process costing giving a hypothetical example in each case.
- (b) XYZ Corporation has calculated that it has fixed costs that consist of its lease, depreciation of its assets, executive salaries, and property taxes. Those fixed costs add up to Rs. 6,000,000. Their product is the widget. Their variable costs associated with producing widgets are raw material, factory labor, and sales commissions. Variable costs have been calculated to be Rs 80 per unit. A widget is priced at Rs 200 each. Given the above information, calculate the breakeven point (BEP) for XYZ Corporation's product, the widget. What useful information is available to XYZ Corporation from the above calculated result?
- (c) Present the above cost element on a graph paper, and verify the breakeven point.

A market research indicated that if the selling price of widgets is reduced by 10%, the customer base would increase only by 30%. Should XYZ Corporation decide to switch over to new level of operation? Use the above graphical presentation to explain your answer.

### Question 8

- (a) What are the basic parameters (4Ps) of Marketing Mix? List at least 5 aspects (sub-elements) that feature each parameter.
- (b) How would Marketing Mix help bring marketing success? Explain your answer with the help of a suitable example.
- (c) What are the bases on which the consumer market is segmented?

Question 9

Answer Part (a) OR Part (b).

Part (a)

- (i) Define and discuss the linear programming technique, including assumptions to be made in formulating a problem to be solved by and limitations of this technique.
- (ii) An air line has 26 aircrafts with 20 passenger seats and 13 aircrafts with 30 passenger seats. Each 20-seater aircraft needs a pilot and 2 cabin crew members, while each 30-seater aircraft needs a pilot and 5 cabin crew members. The airline wishes to carry at least 420 passengers on a certain route, and has 60 cabin crew members available. Formulate the problem to be solved using linear programming technique.
- (iii) What is the minimum number of pilots it has to deploy? Use graphical method.

Part (b)

- (i) Explain “seasonality,” “cyclicalitv” and “trend” in time series.
- (ii) The demand for a product in each of the last five months is shown below.

Month	1	2	3	4	5
Demand ('00s)	13	17	19	23	24

Use two month moving average to generate a forecast for demand in month 6.

Apply exponential smoothing with a smoothing constant of 0.9 to generate a forecast for demand in month 6.

Which of these two forecasts do you prefer? Explain your answer with reasons.