00301

The Open University of Sri Lanka
Faculty of Engineering Technology

Study Programme	:	Bachelor of Technology (Engineering)
Name of the Examination	:	Final Examination
Course Code and Title	:	**MEM5336-Management for Engineers**
Academic Year	:	2014/2015
Date	:	**31st AUGUST 2015**
Time	:	**1330 -1630 HRS**
Duration	:	3 hours

THIS QUESTION PAPER HAS TWO SECTIONS, SECTION A AND B. ANSWER ANY FIVE PARTS FROM SECTION A AND FIVE QUESTIONS FROM SECTION B.

SECTION A

(a) Explain briefly, the significant changes that brought about as a result of industrial revolution. **4 marks**

(b) What is the concept of hierarchy of needs put forwarded by Abraham Maslow in his theory of human motivation? **4 marks**

(c) List the basic steps in a procedure to be followed when selecting manpower for a particular job. **4 marks**

(d) How do you categorize marketing variables? Explain them briefly. **4 marks**

(e) What are the factors that influence the coordination and control within an organization structure? **4 marks**

(f) List the three types of leadership styles which are based on the use of authority and explain them briefly. **4 marks**

(g) Write the steps that you would follow to determine the price of a commodity. **4 marks**

(h) What are the main functions of a leader in an organization? **4 marks**

SECTION B

Q1 (a) What is SWOT analysis? **3 marks**

(b) Why and how would you apply SWOT analysis tool to your organisation? **5 marks**

(c) Define the term "Quality Circle" **3 marks**

(d) "Quality Circle is an effective tool in an organization". Explain why. **5 marks**

Q2 (a) What is meant by the term "Marketing Mix"? **4 marks**

(b) What are the '4P's of marketing mix? Explain each 'P' using suitable examples. **4 marks**

(c) Briefly describe the types of competitions faced by market structures. **4 marks**

(d) Select any product which you are familiar with, and describe how you contemplate to promote the marketing of that product using labeling, packaging and advertising. **4 marks**

Q3 (a) Explain the following related to costing.

(i) Contribution **2 marks**
(ii) Break-Even Point **2 marks**
(iii) Margin of safety **2 marks**

(b) XYZ Co. Ltd. manufactures packing cases. Company has a maximum production capacity of 150,000 units for a given period. Its cost structure is as follows.

	Rs.
Variable cost (per unit):	
Manufacturing	10.00
Selling and administrative	4.00
Fixed cost:	
Manufacturing	500,000.00
Selling and administrative	300,000.00

The current selling price is Rs. 22.00 per unit. Calculate the following.

(i) Unit contribution and total contribution. **3 marks**
(ii) Break-Even point in units and rupee sales. **3 marks**
(iii) How many units should be sold during the given period to earn a profit of Rs. 100,000.00 after paying tax? The tax rate is 50%. **4 marks**

Q4 (a) Compare the differences between Trial balance and Balance sheet. **4 marks**

(b) The following balances were extracted from the ABC company on 30 December 2014. Using the balances and the notes given below prepare the following.

(i) Profit and Loss account for the year ended 31 December 2014. **6 marks**

(ii) The Balance sheet as at that date. **6 marks**

Balances as at 31 December 2014.

	Debit (Rs'000)	Credit (Rs'000)
Capital		19,400
Purchases	41,400	
Sales		55,140
Trade debtors	7250	
Trade creditors		3,860
Stock on 1, January 2014	4,120	
Purchase returns		100
Balances at bank	3,920	
Drawings	4,600	
Motor van expenses	510	
Motor van	6,250	
Rent and rates	750	
Salaries	8,120	
Reserve for doubtful debts		250
Bad debts	230	
General expenses	1,120	
Discount allowed	1,050	
Discount received		930
Insurance	24	
	79,680	79,680

Notes:

(i) Salaries and rent accrued but not paid Rs. 820,000 .00
Rs.150,000.00

(ii) Insurance paid in advance is Rs. 40,000.00

(iii) Maintain the reserve for doubtful debts at Rs.300,000.00

(iv) Depreciation on Motor van to be made at 10%

(v) Closing stock on 31 December 2014 was valued Rs.5,040,000.00

Q5 (a) Explain the importance of activity network analysis of large projects. **(4 marks)**

(b) The Table below shows the activities of a certain project with durations and preceding activities.

Activity	Duration (Days)	Preceding Activity
A	4	-
B	4	-
C	6	A
D	8	A
E	4	B
F	5	B
G	6	C, D
H	12	F
I	8	E
J	8	I
K	9	G
L	5	H, J, K

(i) Construct the activity network diagram and find out earliest and latest event times associated with each and every activity. **(6 marks)**

(ii) What are the critical activities and the project duration based on critical path? **(3 marks)**

(iii) The activity F is to be delayed by 7 weeks due to an unavoidable reason. Can the project be completed in planned time? If not, how long will it take to complete the project? **(3 marks)**

Q6 (a) Explain why it is necessary to maintain inventories of goods. **(4 marks)**

(b) What are costs involved in keeping inventories? **(3 marks)**

(c) Explain with graphical illustration, how different cost components vary in the simple order quantity inventory model and derive an expression for the order quantity for minimum total cost. **(4 marks)**

(d) A large hardware store procures and sells a certain hardware item for which the following information are available.

Annual demand forecast = 8,000 units
Ordering cost = Rs. 180 per order
Holding cost = Rs. 2 per item per year

Supplier of the item offers a price schedule as given below.

Lot size	Unit price (Rs)
1 – 999	22
1000 – 1499	20
1500 – 1999	19
2000 and above	18.50

Determine the order quantity for minimum total cost. **(5 marks)**

Q7 (a) Briefly describe the key roles to be played by Human Resource Manager in an organisation. **(5 marks)**

(b) Explain what is meant by job analysis. **(5 marks)**

(c) Discuss briefly the recruitment of human resources with different options available for the management for it indicating merits and demerits of these options. **(6 marks)**

Q8 (a) Differentiate between formal groups and informal groups in a business organization. **(6 marks)**

(b) Explain the reasons for formation of informal groups. **(5 marks)**

(c) What are the merits and demerits of informal groups? **(5 marks)**

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