FINAL EXAMINATION

June 2014

F–P15(EPM)
Syllabus 2008

Management Accounting—Performance Management

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

Attempt **Question No. 1** *(carrying 25 marks), which is compulsory and* **any five** *more questions (each carrying 15 marks) from the rest.*

Please: (i) Answer all part of a question at one place only.
(ii) Open a new page for answer to a new question.

1. (a) State whether the following statements given below are 'True' or 'False'. If True, simply rewrite the given statement (= 1 mark). If False, state it as False (= ½ mark) and rewrite the correct statement (= ½ mark):

(i) Life Cycle Costing is a technique to establish the total cost of ownership.

(ii) The cost of quality report indicates the total cost to the organization of producing products or services conforming to quality of requirements.

(iii) A Balanced Score Card solely studies the performance of management by comparing a financial achievement with the amount spent thereon.

(iv) 'Symbiotic relationship' is one in which the cooperative action of semi-independent sub-systems taken together produces a total output greater than the sum of their outputs taken independently.

(v) JIT manufacturing, based as it is on 'Push through' philosophy, helps to provide parts at the right time and in right quantity. 1×5=5

(b) Out of the different options given against each of the following statements, only one is the most appropriate option. You are required to write it down.

(i) ZETA Ltd. has developed a new product and just completed the manufacture of the first four units of the product. The first unit took 3 hours to manufacture and the first four units together took 8.3667 hours to produce.

The learning curve rate is:

A. 69.5% B. 75% C. 83.5% D. None of these

(ii) A company produces 2 Joint Products P and V. In a year, further processing costs beyond split-off point spent were ₹ 8,000 and ₹ 12,000 for 800 units of P and 400 units of V respectively. P sells at ₹ 25 and V sells at ₹ 50 per unit. A sum of ₹ 9000 of Joint costs was allocated to Product P based on the net realization method. What were the total Joint costs in the year?

A. ₹ 15,000 B. ₹ 22,500 C. ₹ 27,000 D. ₹ 36,000

(iii) A Ltd., which manufactures small electric circuits, has a capacity to produce 4 lakh units. The market demand is sensitive to the sale price and it has been estimated that the company could sell 1 lakh units when the price is ₹ 50 per circuit. Thereafter the demand would double for each ₹ 5 fall in the selling price. The company expects a minimum margin of 25%. Accordingly the target cost of the company, to sell at full capacity should be:

A. ₹ 20 B. ₹ 25 C. ₹ 30 D. ₹ 32

(iv) A company, using a detailed system of standard costing, finds that the cost of investigation of variances is ₹ 30,000 and if after investigation, it is found that the situation is out of control, the cost of correction is ₹ 50,000. If no investigation is made, the present value extra cost involved is ₹ 2,00,000 . The probability of process, being out of control is 20%. The cost of investigation would be:

A. ₹ 6,000 B. ₹ 10,000 C. ₹ 40,000 D. None of these

(v) A company makes components and sell internally to its subsidiary and also to external market. The external market price is ₹ 24 per component, which gives a contribution of 40% of sales. For external sale, variable cost include ₹ 150/unit for distribution costs. This is, however, not incurred on internal sales. There are no capacity constraints. To maximize company profit, the transfer price to subsidiary should be:

A. ₹ 9.60 B. ₹ 12.90 C. ₹ 14.40 D. None of these 2×5=10

(c) Define the following terms in one/two sentences:
(i) Self- regulatory Control System;
(ii) Capacity Planning using overall factors;
(iii) Enterprise Risk Management;
(iv) Failure Mode and Effects Analysis;
(v) Supply Chain Management. 1×5=5

(d) Expand the following abbreviations:
(i) EFQM
(ii) PDCA
(iii) QFD
(iv) ERP
(v) TOC 1×5=5

2. (a) State what do you mean by the term 'Life Cycle Costing' (LCC)? Write a few lines regarding LCC. 7

(b) MEXTECH Ltd., specializes in the manufacture of Computers. It has now developed a New Computer-AD with advanced technology. Development of the New Computer is to begin shortly and MEXTECH Ltd, is in the process of preparing a Product Life-Cycle Budget. It expects the new product to have a life-cycle of 3 years and estimates the following costs:

Particulars	Year-1	Year-2	Year-3
Units manufactured and sold	30,000	1,20,000	90,000
Computers per batch	50	60	60
Price per Computer (₹)	18,000	16,000	14,000
R&D and Design Cost (₹ in lakhs)	1,800	200	–
Production Cost:			
Variable Cost per unit (₹)	6,400	6,000	6,000
Variable Cost per batch (₹)	28,000	24,000	24,000
Fixed Cost (₹ in lakh)	1,200	1,200	1,200
Marketing Cost:			
Variable Cost per unit (₹)	1,080	960	840
Fixed Cost (₹ in lakh)	800	600	600
Distribution Cost:			
Units Produced per batch	25	20	15
Variable Cost per unit (₹)	300	300	300
Variable Cost per batch (₹)	3,600	3,600	3,000
Fixed Cost (₹ in lakh)	480	480	480
Customer Service Cost per Unit (₹)	600	450	450

You are required to prepare Budgeted Life-Cycle Operating Profit for the Computer-AD. 8

3. (a) What do you meant by the term 'Benchmarking'? State the different types of Benchmarking, explaining each type by one/two lines. 1+6

(b) State the merits and demerits of Benchmarking. 4+4

4. (a) What are the criteria for measuring successful implementation of Supply Chain Management? 5

(b) Indo-British Co. has a capacity to produce 5,000 articles but actually produces only 2,000 articles for home market at the following costs:

	₹
Materials	40,000
Wages	36,000
Factory Overhead:	
Fixed	12,000
Variable	20,000
Administrative Overhead (Fixed)	18,000
Selling and Distribution Overhead:	
Fixed	10,000
Variable	16,000
	1,52,000

The Home Market can consume 2,000 articles at a Selling Price of ₹ 80 per article. An additional order for the supply of 3,000 articles is received from a foreign customer at ₹ 65 per article.

Should this order be accepted or not? 10

5. (a) Sakshi Healthcare is a multi-speciality hospital. In this hospital, there is 40% chance that a patient admitted to the hospital, is suffering from a heart problem. A Doctor has to decide whether a serious operation should be performed or not. If the patient is suffering from heart problem and the serious operation is performed, the chance that he will recover is 70%, otherwise it is 35%. On the other hand, if the patient is not suffering from heart problem and the serious operation is performed the chance that he will recover is 20%, otherwise it is 100%.

As a professional Management Accountant, you have to assume that recovery and death are the only possible results. Construct an appropriate decision tree and suggest what decision the doctor should take. 7

(b) A single counter ticket booking centre employs one booking Clerk. A passenger, on arrival, immediately goes to the booking counter for being served, if the counter is free. If on the other hand, the counter is engaged, the passenger will have to wait. The passengers are served on 'First Come-First Served' basis. The time of arrival and the time of service varies from 1 minute to 6 minutes. The distribution of arrival and service time is as under:

Arrival/Service	Arrival (Probability)	Service (Probability)
1	0.05	0.10
2	0.20	0.20
3	0.35	0.40
4	0.25	0.20
5	0.10	0.10
6	0.05	

Required:

(i) Simulate the arrival and service of 10 passengers, starting from 9.00 A.M. by using the following Random Numbers in pairs respectively for arrival and service for half-an-hour trial.

Random Number 60 09 16 12 08 18 36 65 38 25 07 11 08 79 59 61 53 77 03 10 4

(ii) Determine the total duration of:

(A) Idle time of the booking clerk

(B) Waiting time of passengers 2+2

6. (a) What are the key roles required for successful implementation of Six Sigma? 6
(b) Quality Cost but poor Quality cost more. Discuss. 4
(c) List out the ten steps of Quality Improvement, as has been conceptualized by Philip Crosby. 5

7. ABC Ltd., adopts a standard costing system. This standard output for a period is 20,000 units and the standard cost and profit per unit is as under:

	₹
Direct Material (3 units @ ₹ 1.50)	4.50
Direct Labour (3 Hrs. @ ₹ 1.00)	3.00
Direct Expenses	0.50
Factory Overheads: Variable	0.25
Fixed	0.30
Administration Overheads	0.30
TOTAL COST	8.85
PROFIT	1.15
SELLING PRICE (FIXED BY GOVT.)	10.00

The actual production and sales for a period was 14,400 units. There has been no price revision by the Government during the period.

The following are the variances worked out at the end of the period.

Direct Material		Favourable (₹)	Adverse (₹)
	Price		4,250
	Usage	1,050	
Direct Labour			
	Rate		4,000
	Efficiency	3,200	
Factory Overheads			
	Variable-Expenditure	400	
	Fixed-Expenditure	400	
	Fixed-Volume		1,600
Administration Overheads			
	Expenditure		400
	Volume		1,000

You are required to:

(i) Ascertain the details of actual costs and prepare a Profit and Loss Statement for the period showing the actual Profit/Loss. Show clearly the workings. 7

(ii) Reconcile the actual profit with standard profit. 8

8. Write Short Notes on *any three* out of the following: 3×5

(i) Theory X

(ii) Different types of Risk

(iii) Advantages of intranets

(iv) Succession Planning

(v) McKinsey's 7-S Framework