FINAL EXAMINATION

GROUP IV

(SYLLABUS 2008)

SUGGESTED ANSWERS TO QUESTIONS **JUNE 2014**

Paper- 15 : MANAGEMENT ACCOUNTING – ENTERPRISE 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.

Working Notes should form part of the answer.

Whenever necessary, suitable assumptions should be made and indicated in answer by the candidates.

- 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 (= $\frac{1}{2}$ mark) and rewrite the correct statement (= $\frac{1}{2}$ 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 x5=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 ₹ 9,000 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

- (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.
- (d) Expand the following abbreviations:
 - (i) EFQM
 - (ii) PDCA
 - (iii) QFD
 - (iv) ERP
 - (v) TOC

Answer:

- 1. (a) (i) True : Life Cycle Costing is a technique to establish the total cost of ownership. The process of identifying and documenting all the costs involved over the life of an asset is known as LCC.
 - (ii) False: The quality cost report contains the % of prevention, appraisal, internal and external failures to total quality cost. The report format and frequency will depend upon the nature of the business and the level of management to which the information is presented.
 - (iii) False: Balanced Score Card does not focus solely on achieving financial objectives. It is an approach, which provides information to the management to assist in strategic policy formulation and achievement.
 - (iv) False: It is 'Synergistic' and not 'Symbiotic relationship', where the cooperative action of semi-independent sub-systems taken together produces a total output greater than the sum of their outputs taken independently.
 - (v) False: JIT manufacturing operates as a demand-pull system, producing on demand i.e., making to order.

1x5=5

1x5=5

(b) (i) C - 83.5%

Let the learning rate be x. Since the first unit took 3 hours, the average time for the first 2 units = $3 \times x$ and the average time for the first 4 units = $3 \times x \times x$ So, $3x^2 = 8.3667 / 4 = 2.0917$ Or, $x^2 = (2.0917 / 3)$ Therefore $x = \sqrt{(2.0917/3)} = 0.835$ or 83.5%

(ii) A - ₹ 15,000

| Products | Р | V | Total |
|---------------------------|--------|--------|--------|
| Units | 800 | 400 | |
| Selling Price (₹) | 25 | 50 | |
| Sales (₹) | 20,000 | 20,000 | |
| Further Costs (₹) | 8,000 | 12,000 | |
| Net Realization Value (₹) | 12,000 | 8,000 | 20,000 |

Joint cost allocated to product P = ₹ 9,000

Total joint cost = (₹ 9,000/ ₹ 12,000) × ₹ 20,000 = ₹ 15,000

(iii) C- ₹ 30

| Price (₹) | Demand (units) | | | | |
|-----------|----------------|--|--|--|--|
| 50 | 1,00,000 | | | | |
| 45 | 2,00,000 | | | | |
| 40 | 4,00,000 | | | | |
| | | | | | |

Target costs = selling price at capacity – 25% of price = 75% of selling price = 75% of ₹ 40 = ₹ 30

(iv) C- ₹ 40,000

Cost of investigation = ₹ 30,000 + (0.20 x ₹ 50,000) = ₹ 40,000

(v) B – ₹12.90

Transfer price = Marginal costs – Opportunity costs = (₹ 24 × 60%) – ₹ 1.50 = ₹ 12.90

- (c) (i) Self-regulatory Control System: In a Self-regulatory Control System, the system regulates by itself automatically, e.g., a pressure cooker. When the pressure in the cooker rises above the set limit, the 'weight' lifts up by itself to let out of the vents on top of the lid till the pressure stabilizes at the set limit. Thus in the pressure cooker, the control is 'self-regulatory'.
 - (ii) Capacity Planning using overall factors (CPOF): It is the Capacity, using overall factors. It is a simple, manual approach to capacity planning that is based on the master production schedule and production standards that convert required units of finished goods into historical loads on each work centre.
 - (iii) Enterprise Risk Management: It deals with risks and opportunities affecting value creation or preservation.
 - (iv) Failure Mode and Effects Analysis: It is used to identify and prioritize how items fail and the effects of failure.
 - (v) Supply Chain Management: It encompasses the planning and management of all activities involved in sourcing, procurement, conversion and logistics management activities.
- (d) (i) **EFQM-**European Foundation for Quality Management
 - (ii) PDCA- Plan-Do-Check-Act
 - (iii) QFD Quality Function Deployment
 - (iv) ERP- Enterprise Resource Planning
 - (v) TOC-Theory of Constraints

- (a) State what do you mean by the term 'Life Cycle Costing' (LCC)? Write a few lines regarding LCC.
 - (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 O | perating Pro | ofit for the |
| Computer-AD. | | _ | 8 |

Answer:

2. (a) Life Cycle Costing (LCC): Life Cycle Costing also called 'Whole Life Costing', is a technique to establish the total cost of ownership. It is a structured approach that addresses all the elements of this cost and can be used to produce a spend profile of the product or service over its anticipated life-span. The results of an LCC analysis can be used to assist management in the decision-making process, where there is a choice of options.

There are 4 major benefits of LCC analysis:

- Evaluation of competing options in purchasing
- Improved awareness of total costs
- More accurate forecasting of cost profiles and
- Performance trade-off against cost.

The principles of LCC can be applied to both complex and simple projects, though a more developed approach would be taken for say a large project than a straightforward equipment purchase.

LCC involves identifying the individual costs relating to the procurement of the product or service. These can be either "one-off or "recurring" costs.

LCC is based on the premise that to arrive at some meaningful purchasing decisions, full account must be taken of each available option. All significant expenditure of resources which is likely to arise as a result of any decision must be addressed. Explicit consideration must be given to all relevant costs for each of the options from initial consideration through to disposal.

The degree of sophistication of LCC will vary according to the complexity of the goods or services to be procured. The cost of collecting necessary data can be considerable and where the same items are procured frequently, a cost database can be developed. The following fundamental concepts are common to all

applications of LCC:

- Cost -break down structure ٠
- Cost-estimating
- Discounting and •
- Inflation

(b)

MEXTECH Ltd.,

| Preparation of Budgeted Life Cycle Operating Profit for Computer-AD. | | | | | | |
|--|-----------|----------|-----------|----------|--|--|
| Particulars | | Amount i | n ₹ Lakhs | | | |
| | Year - 1 | Year - 2 | Year - 3 | Total | | |
| Sales Revenue (A) | 5,400 | 19,200 | 12,600 | 37,200 | | |
| R&D and Design Cost | 1,800 | 200 | | 2,00 | | |
| Production Cost: | | | | | | |
| Variable Cost | 1,920 | 7,200 | 5,400 | 14,520 | | |
| Variable cost for batch= | | | | | | |
| Unit manufactured x variable cost per batch | | | | | | |
| Computer per batch | 168 | 480 | 360 | 1,008 | | |
| 30,000×28,000 | 100 | 400 | 360 | 1,000 | | |
| $=\frac{1}{50}$ | | | | | | |
| Fixed cost | 1,200 | 1,200 | 1,200 | 3,600 | | |
| Marketing Cost: | | | | | | |
| Variable cost | 324 | 1,152 | 756 | 2,232 | | |
| Fixed cost | 800 | 600 | 600 | 2,000 | | |
| Distribution Cost: | | | | | | |
| Variable Cost | 90 | 360 | 270 | 720 | | |
| Variable cost for batch = | | | | | | |
| Unit manufactured x variable cost per batch | | | | | | |
| Computer per batch | | | | | | |
| _ 30,000 × 3,600 | 43.20 | 216 | 180 | 439.20 | | |
| 25 | 40.20 | 210 | 100 | -07.20 | | |
| Fixed Cost | 480 | 480 | 480 | 1440 | | |
| Customer service cost 600 x 30,000 | 180 | 540 | 405 | 1125 | | |
| Total Cost (B) | 7,005.2 | 12,428 | 9,651 | 29,084.2 | | |
| Operating Profit (A-B) | (1,605.2) | 6,772 | 2,949 | 8,115.8 | | |

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

Answer:

3. (a) Benchmarking:

Traditionally control involves comparison of the actual results with an established standard or target. The practice of setting targets, using external information is known as "Benchmarking". Benchmarking is the establishment - through data gathering of targets and comparatives, with which performance is sought to be assessed. After examining the firm's present position, Benchmarking may provide a basis for

establishing better standards of performance. It implies that there is one best way of doing business and orients the firm accordingly. It is the continuous process of enlisting the best practices in the world for the process, goals and objectives leading to world-class levels of achievement.

Types of Benchmarking:

The different types of Benchmarking are:

- (i) **Product Benchmarking** (Reverse Engineering): It is an age-old practice of product-oriented reverse engineering. Every organization buys its rival's products and tears down to find out how the features and performances etc., compare with its products. This could be the starting point for improvement.
- (ii) **Competitive Benchmarking**: This has moved beyond product-oriented comparisons to include comparisons of process with those of competitors. In this, the process studied may include marketing, finance, HR, R&D etc.
- (iii) **Process Benchmarking**: This is the activity of measuring discrete performance and functionality against organization through performance in excellent analogous business process e.g., for supply chain management- the best practice would be that of Mumbai Dubbawallas.
- (iv) **Internal Benchmarking:** It is an application of Process Benchmarking, within an organization by comparing the performance of similar business units or business process.
- (v) **Strategic Benchmarking:** Strategic Benchmarking differs from operational Benchmarking in its scope. It helps to develop a vision of the changed organizations. It will develop core competencies that will help sustained competitive advantage.
- (vi) **Global Benchmarking:** This is an extension of Strategic Benchmarking to include Benchmarking partners on a global scale.

(b) Merits of Benchmarking:

- (i) Increases customer satisfaction
- (ii) Leads to significant cost savings and improvements in Products and Services.
- (iii) Helps in improving strategic planning by providing assessment of strengths and weaknesses of current process.
- (iv) It reduces wastes and the cost of poor quality.
- (v) It helps in increased organizational performance by initiating continuous improvements in process and quality.
- (vi) It reduces overheads
- (vii) It helps in creating a sound organizational culture.
- (viii)It is a transmission of best practice between divisions.

De-merits of Benchmarking:

- (i) It may reduce managerial motivation if they are compared with a better resourced rival.
- (ii) There is danger that confidentiality of data will be compromised.
- (iii) It increases the diversity of information, which must be monitored by management.
- (iv) It encourages management to focus on increasing the efficiency of their existing business instead of developing new lines of business.
- 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:

| Particulars | ₹ |
|------------------------------------|--------|
| 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 $\overline{\mathbf{x}}$ 80 per article. An additional order for the supply of 3,000 articles is received from a foreign customer at $\overline{\mathbf{x}}$ 65 per article.

Should this order be accepted or not?

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Answer:

- 4. (a) The following are the different criteria for measuring the successful implementation of Supply Chain Management:
 - (i) Perfect Order Fulfillment
 - (ii) Order Fulfillment Cycle time
 - (iii) Upside Supply Chain Flexibility
 - (iv) Upside Supply Chain Adaptability
 - (v) Downside Supply Chain Adaptability
 - (vi) Supply Chain Management Cost
 - (vii) Cost of Goods Sold
 - (viii)Cash-to-Cash Cycle Time
 - (ix) Return on Supply Chain Fixed Assets
 - (x) Return on Working Capital

(b)

Calculation of Present Profitability

| Parti | ₹ | |
|---------------------------|----------------|----------|
| Sales: 2,000 articles @ ₹ | 80 per article | 1,60,000 |
| Less: Marginal Cost: | | |
| Materials | 40,000 | |
| Wages | 36,000 | |
| Variable Overhead: | | |
| Factory | 20,000 | |
| Sales & Distribution | <u>16,000</u> | 1,12,000 |
| Contribution | | 48,000 |
| Less: Fixed Overheads: | | |
| Factory | 12,000 | |
| Office | 18,000 | |
| Sales & Distribution | <u>10,000</u> | 40,000 |
| Pi | ofit | 8,000 |

Since there is a profit of ₹ 8,000 at the existing level of 2,000 articles sold in the home market, the fixed costs are fully recovered.

Calculation of Contribution from additional order of 3,000 articles:

| Particulars | Per articles (₹) | 3,000 articles (₹) | | | |
|----------------------|------------------|--------------------|--|--|--|
| Material | 20 | 60,000 | | | |
| Wages | 18 | 54,000 | | | |
| Variable Overhead: | | | | | |
| Factory | 10 | 30,000 | | | |
| Sales & Distribution | 8 | 24,000 | | | |
| Marginal Cost | 56 | 1,68,000 | | | |
| Sales | 65 | 1,95,000 | | | |
| Contribution | 9 | 27,000 | | | |

Conclusion:

The acceptance of this additional order from a foreign customer will provide an additional contribution of $\overline{\mathbf{x}}$ 27,000 towards profits (Since fixed costs are already covered).

As such, it is advisable to accept the order.

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:
 4

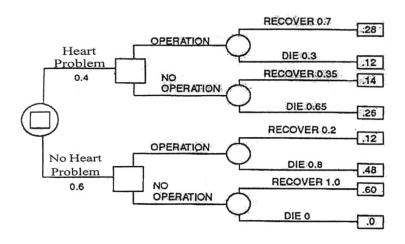
(A) Idle time of the booking clerk(B) Waiting time of passengers

2+2

Answer:

5. (a) Appropriate decision tree is as under:

Probability that the patient shall recover after the operation = 0.28 + 0.12 = 0.40 and the probability that the patient will recover without any operation = 0.14 + 0.60 = 0.74. As 0.74 > 0.40 so it is advisable that the doctor should "not take any decision for operation to the patient.



(b)

Allocation of Random numbers for arrival

| Time in mins. | Probability | Cumulative probability | Random number allocated | | |
|---------------|-------------|------------------------|-------------------------|--|--|
| 1 | 0.05 | 0.05 | 00-04 | | |
| 2 | 0.20 | 0.25 | 05-24 | | |
| 3 | 0.35 | 0.60 | 25-59 | | |
| 4 | 0.25 | 0.85 | 60-84 | | |
| 5 | 0.10 | 0.95 | 85-94 | | |
| 6 | 0.05 | 1.00 | 95-99 | | |

Allocation of Random numbers for Service

| Time in mins. | Probability | Cumulative probability | Random number allocated |
|---------------|-------------|------------------------|-------------------------|
| 1 | 0.10 | 0.10 | 00-09 |
| 2 | 0.20 | 0.30 | 10-29 |
| 3 | 0.40 | 0.70 | 30-69 |
| 4 | 0.20 | 0.90 | 70-89 |
| 5 | 0.10 | 1.00 | 90-99 |

Simulation of Idle time of booking clerk and waiting time of passengers.

| simulation of fale time of booking clerk and walling time of passengers. | | | | | | | | ge13. |
|--|---------|---------|-------|--------|---------|-------------|-------|-----------|
| Random | Time in | Arrival | Start | Random | Time in | Finish lime | Wai | ting time |
| No. | mins. | Time | | No. | mins. | | Clerk | passenger |
| 60 | 4 | 9.04 | 9.04 | 09 | 1 | 9.05 | 4 | - |
| 16 | 2 | 9.06 | 9.06 | 12 | 2 | 9,08 | 1 | - |
| 08 | 2 | 9.08 | 9.08 | 18 | 2 | 9.10 | - | - |
| 36 | 3 | 9.11 | 9.11 | 65 | 3 | 9.14 | 1 | - |
| 38 | 3 | 9.14 | 9.14 | 25 | 2 | 9.16 | - | - |
| 07 | 2 | 9.16 | 9.16 | 11 | 2 | 9.18 | - | - |
| 08 | 2 | 9.18 | 9.18 | 79 | 4 | 9.22 | - | - |
| 59 | 3 | 9.21 | 9.22 | 61 | 3 | 9.25 | - | 1 |
| 53 | 3 | 9.24 | 9.25 | 77 | 4 | 9.29 | - | 1 |
| 03 | 1 | 9.25 | 9.29 | 10 | 2 | 9.31 | _ | 4 |
| | | | | | | Total | 6 | 6 |

Analysis:

In the half an hour trial, the clerk was idle for 6 minutes and the passenger had to wait for 6 minutes.

6

4

6. (a) What are the key roles required for successful implementation of Six Sigma?

- (b) Quality Cost but poor Quality cost more. Discuss.
- (c) List out the ten steps of Quality Improvement, as has been conceptualized by Philip Crosby. 5

Answer:

6. (a) Key roles required for the successful implementation of Six Sigma:

- The following are the Key roles required for the successful implementation of Six Sigma:
 (i) Executive Leadership: This includes CEO and other key top management team members. They are responsible for setting up a vision for the Six Sigma Implementation.
- (ii) **Champions:** They are responsible for the Six Sigma implementation across the organization in an integrated manner. The Executive Leadership draws them from the upper management. Champions also act as mentors to Black Belts.
- (iii) Master Black Belts: Master Black Belts, identified by champions, act as in-house expert coaches for the organization on Six Sigma. They devote 100% of their time to Six Sigma. They assist champions and guide Black Belts and Green Belts.
- (iv) **Experts:** Experts work across company boundaries, improving services, processes and products for their suppliers and for their customers.

- (v) **Black Belts**: They operate under Master Black Belts to apply Six Sigma methodology to specific projects. They devote 100% of their time to Six Sigma.
- (vi) **Green Belts:** They are the employees, who take up Six Sigma implementation, along with their other job responsibilities. They operate under the guidance of Black Belts and support them in achieving the overall results.
- (vii) Yellow Belts: They are employees, who have been trained in Six Sigma techniques, as part of a corporate-wide initiative but have not completed a Six Sigma project and are not expected to actively engage in quality improvement activities.
- (b) "Quality Cost but poor quality costs more"-This statement is given by the famous Japanese guru, Joseph M. Juran. Quality costs matter because they are normally large but they are not normally measured by traditional methods and the result is that they are not known and therefore uncontrolled with a proper and complete evaluation of the quality cost from the stage of design and development to production and services. The Cost and Management Accountant would help in creating a better awareness throughout the organization of the profound impact of poor quality and its repercussion on profitability.

Quality Cost can be analyzed under two major categories:

- (i) Cost of Quality Assurance, incurred by the manufacturer (internal quality cost): Internal quality cost consists of
 - Preventive Cost: Quality Engineering, Quality Planning.
 - Appraisal Cost: Cost of appraising product for conformance to requirements.
 - Failure Cost: Cost incurred by failure-Scrap, excess material, testing and assembling.
- (ii) Cost of Quality Assurance, at the user's end, which are called as "User Quality Cost".

User Quality Cost: consists of:

Cost of repair, Cost of maintaining extra capacity, Cost of effective loss, Cost of damage caused by a failed item.

(c) The following are the ten steps of Quality Improvement, as per Philip Crosby:

- (i) Management is committed to quality and this is clear to all.
- (ii) Create Quality Improvement teams with representatives from all departments.
- (iii) Measure processes to determine current and potential quality issues.
- (iv) Calculate cost of poor quality.
- (v) Raise quality awareness amongst all employees.
- (vi) Take action to correct quality issues.
- (vii) Monitor progress of Quality Improvement- Establish a Zero-defect committee.
- (viii) Train supervisors in quality improvement
- (ix) Encourage employees to create their own quality improvement goals.
- (x) Recognize participant's efforts.
- 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:

| Particulars | ₹ |
|------------------------------------|-------|
| 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 8

(ii) Reconcile the actual profit with standard profit.

Answer:

7. i.

Statement Showing the actual Profit and Loss Statement:

| Particulars | Amount | Amount |
|--|---------|----------|
| | ₹ | ₹ |
| Standard Material Cost (14,400 x ₹ 4.50) | 64,800 | |
| Add: Price Variance | 4,250 | |
| Less: Usage Variance | (1,050) | 68,000 |
| Standard Labour Cost (14,400 x ₹ 3) | 43,200 | |
| Add: Rate Variance | 4,000 | |
| Less: Efficiency Variance | (3,200) | 44,000 |
| Direct Expenses (14,400 x ₹ 0.50) | | 7,200 |
| Factory Overhead: | | |
| Variable (14,400 x ₹ 0.25) | 3,600 | |
| Less: Expenditure Variance | (400) | 3,200 |
| Fixed (14,400 x ₹ 0.30) | 4,320 | |
| Add: Volume Variance | 1,600 | |
| Less: Expenditure Variance | (400) | 5,520 |
| Administrative Overhead (14,400 x ₹ 0.3) | 4,320 | |
| Add: Volume Variance | 1,000 | |
| Add: Expenditure Variance | 400 | 5,720 |
| Total Cost | | 1,33,640 |
| Profit (B/F) | | 10,360 |
| Sales | | 1,44,000 |

ii. Statement Showing Reconciliation of Standard Profit with actual Profit:

| Particulars | Amount ₹ | Amount ₹ |
|--|-----------------------|-------------|
| Standard Profit (14,400 x 1.15) Add: Material Usage Variance Labour Efficiency Variance Variable Overhead Expenditure Variance | 1,050 3,200 400 | 16,560 |
| Fixed Overhead Expenditure Variance | 400 | 5,050 |
| | | 21,610 |

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| 1.000 | Material Dries Marianes | 4.250 | |
|-------|-------------------------------------|-------|--------|
| Less: | Material Price Variance | 4,250 | |
| | Labour Rate Variance | 4,000 | |
| | Fixed Overhead Volume Variance | 1,600 | |
| | Administration Expenditure Variance | 400 | |
| | Administration Volume Variance | 1,000 | 11,250 |
| | Actual Profit | | 10,360 |

3x5

- 8. Write Short Notes on any three out of the following:
 - (i) Theory X
 - (ii) Different types of Risk
 - (iii) Advantages of intranets
 - (iv) Succession Planning
 - (v) McKinsey's 7-S Framework

Answer:

8. (i) Theory X of McGregor:

In this theory, management assumes employees are inherently lazy and will avoid work if they can and that they inherently dislike work. As a result of this, management believes that workers need to be closely supervised and comprehensive systems of controls developed. A hierarchical structure is needed with narrow span of control at each and every level. According to this theory, employees will show little ambition without an enticing incentive program and will avoid responsibility whenever they can. If the organizational goals are to be met, Theory X managers rely heavily on threat and coercion to gain their employees' compliance. Beliefs of this theory lead to mistrust, highly restrictive supervision, and a punitive atmosphere. The Theory X manager tends to believe that everything must end in blaming someone. He or she thinks all prospective employees are only out for themselves. Usually these managers feel the sole purpose of the employee's interest in the job is money. They will blame the person first in most situations, without questioning whether it may be the system, policy, or lack of training that deserves the blame. A Theory X manager believes that his or her employees do not really want to work, that they would rather avoid responsibility and that it is the manager's job to structure the work and energize the employee. One major flaw of this management style is it is much more likely to cause diseconomies of scale in large picture.

Theory-X has been used in Human Resource Management, Organizational behaviour, Organizational Communication and in Organizational Development.

(ii) Different Types of Risks:

The following are the different types of risks, companies generally face:

- (a) Business risks: Those associated with an organization's particular market or industry;
- (b) **Market risks:**Those associated with changes in market conditions, such as fluctuations in prices, interest rates and exchange rates;
- (c) **Credit risks**: Those associated with the potential for not receiving payments owned by debtors;
- (d) **Operational risks**: Those associated with the internal system failures due to mechanical problems or human errors and
- (e) Legal risks: Those associated with the possibility of other parties not meeting their contractual obligations.

(iii) Advantages of Intranets:

Intranet is a network based on TCP/IP protocols belonging to an organization, accessible only by the organization's members, employees, or others with authorization.

Intranet = Network + Information Resources + Information Services

| Auvuniuges of initialiers. | |
|----------------------------|--|
| Implementation benefits | Fast, easy, low-cost to implement Based on open standards Connectivity with other systems Many tools available Scalable |
| Usability benefits | Easy to learn and use Multimedia Hypertext links Single interface to information resources and services |
| Organizational benefits | Access to internal and external information Improves communication Increases collaboration and coordination Supports links with customers and partners Can capture and share knowledge |

Advantages of Intranets:

Other Advantages:

- Commercial or confidential data can be kept secured within the organization. The system is reliable.
- E-mails remain private and may also be encrypted.
- High band width. No connection limits unlike the Internet.
- Intranet communication enables companies to be more productive and effective.

(iv) Succession Planning:

It is a process for identifying and developing internal people with the potential to fill key business leadership positions in the company. Succession planning increases the availability of experienced and capable employees that are prepared to assume these roles as they become available. Taken narrowly, "replacement planning" for key roles is the heart of succession planning. Effective succession or talent-pool management concerns itself with building a series of feeder groups up and down the entire leadership pipeline or progression. In contrast, replacement planning is focused narrowly on identifying specific back-up candidates for given senior management positions. For the most part position-driven replacement planning (often referred to as the "truck scenario") is a forecast, which research indicates does not have substantial impact on outcomes.

Fundamental to the succession-management process is an underlying philosophy that argues that top talent in the corporation must be managed for the greater good of the enterprise. Merck and other companies argue that a "talent mindset" must be part of the leadership culture for these practices to be effective.

Succession planning is not a new phenomenon. Companies have been wrestling with ways to identify, develop, and retain their talent for decades. So, why is succession planning suddenly popping up on every company's radar screen? Today's organizations are facing higher demands in a global market with the retirement of the Baby Boomers and the widening talent gap. The home-grown and paper-based succession planning that companies relied on in the past are no longer meeting the needs of today's workforce. In order to achieve results, companies need to start with the basics, create a strong process and then invest in the tools and technology to instill a talent development mindset in their organization. This report highlights research findings on succession planning efforts in Best in Class organizations across multiple industries.

Succession planning is a process whereby an organization ensures that employees are recruited and developed to fill each key role within the company. Through your succession planning process, you recruit superior employees, develop their knowledge, skills, and abilities, and prepare them for advancement or promotion into ever more challenging roles. Actively pursuing succession planning ensures that employees are constantly developed to fill each needed role. As your organization expands, loses key employees, provides promotional opportunities, and increases sales, your succession planning guarantees that you have employees on hand ready and waiting to fill new roles.

(v) Mckinsey's 7-S Framework:

The McKinsey 7S Framework is a management model developed by well-known business consultants Robert H. Waterman, Jr. and Tom Peters. This was a strategic vision for groups, to include businesses, and teams. The 7S are structure, strategy, systems, skills, style, staff and shared values.

The model is most often used as a tool to assess and monitor changes in the internal situation of an organization.

The model is based on the theory that, for an organization to perform well, these seven elements need to be aligned and mutually reinforcing. So, the model can be used to help identify what needs to be realigned to improve performance, or to maintain alignment (and performance) during other types of change.

Whatever the type of change - restructuring, new processes, organizational merger, new systems, change of leadership, and so on - the model can be used to understand how the organizational elements are interrelated, and so ensure that the wider impact of changes made in one area is taken into consideration.

Objective:

- Improve the performance of a company
- Examine the likely effects of future changes within a company
- Align departments and processes during a merger or acquisition
- Determine how best to implement a proposed strategy

The Seven Interdependent Elements: The basic premise of the model is that there are seven internal aspects of an organization that need to be aligned if it is to be successful.

Hard Elements

- Strategy
- Structure
- Systems

Soft Elements

- Shared Values
- Skills
- Style
- Staff

