

## 5. Detailed study guide

### A Management information systems and data analytics

#### 1. Management information systems

- a) Explain the role of information systems in organisations.<sup>[2]</sup>
- b) Discuss the costs and benefits of information systems.<sup>[2]</sup>
- c) Explain the uses of the internet, intranet, wireless technology and networks.<sup>[2]</sup>
- d) Identify the accounting information requirements and describe the different types of information systems used for strategic planning, management control and operational control and decision-making.<sup>[2]</sup>
- e) Define and discuss the main characteristics of transaction processing systems; management information systems; executive information systems; enterprise resource planning systems and customer relationship management systems.<sup>[2]</sup>

#### 2. Uses and control of information

- a) Demonstrate how principal sources of management information might be used for control purposes.<sup>[2]</sup>
- b) Discuss the principal controls required in generating and distributing internal information.<sup>[2]</sup>
- c) Discuss the controls and procedures which may be necessary to ensure the security of highly confidential information that is not for external consumption.<sup>[2]</sup>
- d) Discuss the importance of data visualisation in the presentation of management information.<sup>[2]</sup>

#### 3. Big data and data analytics

- a) Describe the characteristics (volume, velocity, variety, veracity and value) of big data.<sup>[2]</sup>
- b) Explain the purpose of the big data pyramid (data, information, knowledge, wisdom).<sup>[2]</sup>
- c) Explain the uses and benefits of big data, data mining and data analytics, e.g., predictive analytics for planning, costing, decision-making and performance management.<sup>[2]</sup>
- d) Discuss the challenges and risks of implementing and using big data and data analytics in an organisation.<sup>[2]</sup>

### B Specialist cost and management accounting techniques

#### 1. Activity-based costing (ABC)

- a) Identify appropriate cost drivers under ABC.<sup>[1]</sup>
- b) Calculate costs per driver and per unit using ABC.<sup>[2]</sup>
- c) Compare ABC and traditional methods of overhead absorption based on production units, labour hours or machine hours.<sup>[2]</sup>

#### 2. Target costing

- a) Derive a target cost in manufacturing and service industries.<sup>[2]</sup>
- b) Explain the difficulties of using target costing in service industries.<sup>[2]</sup>
- c) Suggest how a target cost gap might be closed.<sup>[2]</sup>

**3. Life-cycle costing**

- a) Identify the costs involved at different stages of the life-cycle.<sup>[2]</sup>
- b) Derive a life-cycle cost or profit in manufacturing and service industries.<sup>[2]</sup>
- c) Identify the benefits of life-cycle costing.<sup>[2]</sup>

**4. Throughput accounting**

- a) Discuss and apply the theory of constraints.<sup>[2]</sup>
- b) Calculate and interpret a throughput accounting ratio (TPAR).<sup>[2]</sup>
- c) Suggest how a TPAR could be improved.<sup>[2]</sup>
- d) Apply throughput accounting to a multi-product decision-making problem.<sup>[2]</sup>

**5. Accounting for environmental and sustainability factors**

- a) Discuss the issues organisations face in the management of environmental costs.<sup>[1]</sup>
- b) Describe the different methods an organisation may use to account for its environmental costs.<sup>[1]</sup>
- c) Discuss the issues organisations face in accounting for environmental and sustainability factors.<sup>[1]</sup>
- d) Discuss the role of the management accountant in supporting the business to develop sustainable practices.<sup>[1]</sup>

**C Decision-making techniques****1. Relevant cost analysis**

- a) Explain the concept of relevant costing.<sup>[2]</sup>
- b) Identify and calculate relevant costs for specific decision situations from given data.<sup>[2]</sup>

- c) Explain and apply the concept of opportunity costs.<sup>[2]</sup>

**2. Cost volume profit analysis (CVP)**

- a) Explain the nature of CVP analysis.<sup>[2]</sup>
- b) Calculate and interpret the break-even point and margin of safety.<sup>[2]</sup>
- c) Calculate the contribution to sales ratio, in single and multi-product situations, and demonstrate an understanding of its use.<sup>[2]</sup>
- d) Calculate target profit or revenue in single and multi-product situations and demonstrate an understanding of its use.<sup>[2]</sup>
- e) Interpret break-even charts and profit-volume charts and interpret the information contained within each, including multi-product situations.<sup>[2]</sup>
- f) Discuss the limitations of CVP analysis for planning and decision-making.<sup>[2]</sup>

**3. Limiting factors**

- a) Identify limiting factors in a scarce resource situation and select an appropriate technique.<sup>[2]</sup>
- b) Determine the optimal production plan where an organisation is restricted by a single limiting factor, including within the context of make-or-buy decisions.<sup>[2]</sup>
- c) Formulate and solve multiple scarce resource problems using both linear programming graphs and using simultaneous equations as appropriate.<sup>[2]</sup>
- d) Explain and calculate shadow prices (dual prices) and discuss their implications for decision-making and performance management.<sup>[2]</sup>
- e) Calculate slack and explain the implications of the existence of slack for decision-making and performance management.<sup>[2]</sup>  
(Excluding simplex and sensitivity to changes in objective functions)

**4. Pricing decisions**

- a) Explain the factors that influence the pricing of a product or service.<sup>[2]</sup>
- b) Calculate and explain the price elasticity of demand.<sup>[1]</sup>
- c) Derive and manipulate a straight line demand equation. Derive an equation for the total cost function (including volume-based discounts).<sup>[2]</sup>
- d) Calculate the optimum selling price and quantity for a product, equating marginal cost and marginal revenue.<sup>[2]</sup>
- e) Evaluate a decision to increase production and sales levels, considering incremental costs, incremental revenues and other factors.<sup>[2]</sup>
- f) Determine prices and output levels for profit maximisation using the demand-based approach to pricing (both tabular and algebraic methods).<sup>[2]</sup>
- g) Explain different price strategies, including:<sup>[2]</sup>
  - i) All forms of cost-plus
  - ii) Skimming
  - iii) Penetration
  - iv) Complementary product
  - v) Product-line
  - vi) Volume discounting
  - vii) Discrimination
  - viii) Relevant cost
- h) Calculate a price from a given strategy using cost-plus and relevant cost.<sup>[2]</sup>

**5. Make-or-buy and other short-term decisions**

- a) Explain the issues surrounding make-or-buy and outsourcing decisions.<sup>[2]</sup>
- b) Calculate and compare “make” costs with “buy-in” costs.<sup>[2]</sup>
- c) Compare in-house costs and outsource costs of completing tasks and consider other issues surrounding this decision.<sup>[2]</sup>

- d) Apply relevant costing principles in situations involving shut down, one-off contracts and the further processing of joint products.<sup>[2]</sup>

**6. Dealing with risk and uncertainty in decision-making**

- a) Suggest research techniques to reduce uncertainty e.g., focus groups, market research.<sup>[2]</sup>
- b) Explain the use of simulation, expected values and sensitivity.<sup>[1]</sup>
- c) Apply expected values and sensitivity to decision-making problems.<sup>[2]</sup>
- d) Apply the techniques of maximax, maximin, and minimax regret to decision-making problems including the production of profit tables.<sup>[2]</sup>
- e) Interpret a decision tree and use it to solve a multi-stage decision problem.<sup>[2]</sup>
- f) Calculate the value of perfect and imperfect information.<sup>[1]</sup>

**D Budgeting and control****1. Budgetary systems and types of budget**

- a) Explain how budgetary systems fit within the performance hierarchy.<sup>[2]</sup>
- b) Select and explain appropriate budgetary systems for an organisation, including top-down, bottom-up, rolling, zero-based, activity-based, incremental and feed-forward control.<sup>[2]</sup>
- c) Describe the information used in budget systems and the sources of the information needed.<sup>[2]</sup>
- d) Indicate the usefulness and problems with different budget types (including fixed, flexible, zero-based, activity-based, incremental, rolling, top-down, bottom-up, master, functional).<sup>[2]</sup>

- e) Prepare flexed budgets, rolling budgets and activity-based budgets.<sup>[2]</sup>
- f) Explain the beyond budgeting model, including the benefits and problems that may be faced if it is adopted in an organisation.<sup>[2]</sup>
- g) Discuss the issues surrounding setting the difficulty level for a budget.<sup>[2]</sup>
- h) Explain the benefits and difficulties of the participation of employees in the negotiation of targets.<sup>[2]</sup>
- i) Explain the difficulties of changing a budgetary system or type of budget used.<sup>[2]</sup>
- j) Explain how budget systems can deal with uncertainty in the environment.<sup>[2]</sup>
- k) Discuss ethical and sustainability considerations when setting budgets.<sup>[2]</sup>

## **2. Analytical techniques in budgeting and forecasting**

- a) Analyse fixed and variable cost elements from total cost data using high/low method.<sup>[1]</sup>
- b) Explain and apply analysis techniques including correlation, regression and time series.<sup>[2]</sup>
- c) Estimate the learning rate and learning effect.<sup>[2]</sup>
- d) Apply the learning curve model to a budgetary problem, including calculations on steady states <sup>[2]</sup>
- e) Discuss the benefits and limitations of correlation, regression and time series techniques, and, also the reservations with the learning curve model.<sup>[2]</sup>

## **3. Standard costing**

- a) Explain the use of standard costs.<sup>[2]</sup>
- b) Outline the methods used to derive standard costs and discuss the different types of cost possible.<sup>[2]</sup>

- c) Explain and illustrate the importance of flexing budgets in performance management.<sup>[2]</sup>
- d) Explain and apply the principle of controllability in the performance management system.<sup>[2]</sup>

## **4. Material mix and yield variances**

- a) Calculate, identify the cause of, and explain material mix and yield variances.<sup>[2]</sup>
- b) Explain the wider issues involved in changing material mix e.g., cost, quality and performance measurement issues.<sup>[2]</sup>
- c) Identify and explain the relationship of the material usage variance with the material mix and yield variances.<sup>[2]</sup>
- d) Suggest and justify alternative methods of controlling production processes.<sup>[2]</sup>

## **5. Sales mix and quantity variances**

- a) Calculate, identify the cause of, and explain sales mix and quantity variances.<sup>[2]</sup>
- b) Identify and explain the relationship of the sales volume variances with the sales mix and quantity variances.<sup>[2]</sup>

## **6. Planning and operational variances**

- a) Calculate a revised budget.<sup>[2]</sup>
- b) Identify and explain those factors that could and could not be allowed to revise an original budget.<sup>[2]</sup>
- c) Calculate, identify the cause of and explain planning and operational variances for: <sup>[2]</sup>
  - i) sales, including market size and market share;
  - ii) materials;
  - iii) labour, including the effect of the learning curve.
- d) Explain and discuss the manipulation issues involved in revising budgets.<sup>[2]</sup>

## 7. Performance analysis

- a) Analyse and evaluate past performance using the results of variance analysis.<sup>[2]</sup>
- b) Use variance analysis to assess how future performance of an organisation can be improved.<sup>[2]</sup>
- c) Identify the factors which influence behaviour.<sup>[2]</sup>
- d) Discuss the effect that variances have on staff motivation and action.<sup>[2]</sup>
- e) Describe the dysfunctional nature of some variances in the modern environment of JIT and TQM.<sup>[2]</sup>
- f) Discuss the behavioural problems resulting from using standard costs in rapidly changing environments.<sup>[2]</sup>
- f) Explain and interpret the Balanced Scorecard, and the Building Block model proposed by Fitzgerald and Moon.<sup>[2]</sup>
- g) Discuss the difficulties of target setting in qualitative areas.<sup>[2]</sup>
- h) Explain the need to allow for external considerations in performance management, including stakeholders, market conditions and allowance for competitors.<sup>[2]</sup>
- i) Interpret performance in the light of external considerations and the need to consider sustainability.<sup>[2]</sup>

## E Performance measurement and control

### 1. Performance analysis in private sector, public sector and not-for-profit organisations

- a) Describe, calculate and interpret suitable financial performance indicators (FPIs) for example profitability, liquidity, efficiency and gearing.<sup>[2]</sup>
- b) Describe, calculate and interpret suitable non-financial performance indicators (NFPIs).<sup>[2]</sup>
- c) Analyse past performance and suggest ways for improving financial and non-financial performance.<sup>[2]</sup>
- d) Explain the causes and problems created by short-termism and financial manipulation of results.<sup>[2]</sup>
- e) Discuss the issues organisations face by favouring short-term financial gain over long-term sustainability.<sup>[2]</sup>

### 2. Divisional performance and transfer pricing

- a) Explain and illustrate the basis for setting a transfer price using variable cost, full cost and the principles behind allowing for intermediate markets.<sup>[2]</sup>
- b) Explain how transfer prices can distort the performance assessment of divisions and decisions made.<sup>[2]</sup>
- c) Explain the meaning of, and calculate, Return on Investment (ROI) and Residual Income (RI), and discuss their shortcomings.<sup>[2]</sup>
- d) Compare divisional performance and recognise the problems of doing so.<sup>[2]</sup>

### 3. Specific performance analysis issues in not-for-profit organisations and the public sector

- a) Comment on the problems of having non-quantifiable objectives in performance management.<sup>[2]</sup>
- b) Comment on the problems of having multiple objectives in not-for-profit organisations and the public sector.<sup>[2]</sup>
- c) Explain how performance could be measured in not-for-profit organisations and the public sector.<sup>[2]</sup>

- d) Explain Value for Money (VFM) as a public sector objective and how the 3Es can be used to achieve VFM.<sup>[1]</sup>

## **F Employability and technology skills**

- 1. Use computer technology to efficiently access and manipulate relevant information.**
- 2. Work on relevant response options, using available functions and technology, as would be required in the workplace.**
- 3. Navigate windows and computer screens to create and amend responses to exam requirements, using the appropriate tools.**
- 4. Present data and information effectively, using the appropriate tools.**