1. **Question 1. Define The Term Operations Management?**
   
   **Answer:**
   Operations management manages the resources needed to produce the company’s products and services. It involves managing people, machines and information.

2. **Question 2. Explain The Decisions Operations Managers Make?**
   
   **Answer:**
   Operations managers must plan the production schedule. This entails deciding how much to produce and in what order. This information would be used to make purchasing and staffing decisions.

   Operations managers must manage inventory. They must arrange the inventory in the warehouse. They also facilitate the movement of inventory from the warehouse to the retail facilities or the customer. Operations managers also must manage quality levels. This may include inspection of materials, and the use of quality tools such as control charts.

   
   **Answer:**
   The transformation process involves taking the various inputs and transforming them into outputs. An advertising agency would transform the time of its staff into an advertising campaign. A bank may use the time of a teller, an input computer, and a bank branch to accept a deposit. A TV station could use the time of its production crew, the video equipment, and the studio to produce a news story.

4. **Question 4. What Are The Three Major Business Functions, And How Are They Related To One Another? Give Specific Examples?**
   
   **Answer:**
   The three major business functions are finance, marketing and operations. Operations entail the production of a product or service and must manage the inputs to production such as workers’ time, aluminum, and machine time to create airplane parts. Finance manages the assets, such as the building used for production, investments and cash flows related to production, such as providing the needed machines. Marketing generates sales of the product or service, such as finding customers for the proposed airplanes.

5. **Question 5. Identify The Two Major Differences Between Service And Manufacturing Organizations. Find An Example Of A Service And Manufacturing Company And Compare Them?**
   
   **Answer:**
   Manufacturing organizations produce a physical product that can be stored in inventory. Service organizations cannot create an inventory of the service since it is intangible. For example, Ford Motors is a manufacturer. It makes automobiles, customers have little contact with the operation, and they can create an inventory of vehicles. McDonalds is an example of a service organization. Customers go directly to the restaurant where they are served quickly by the staff.

6. **Question 6. What Are The Three Historical Milestones In Operations Management? How Have They Influenced Management?**
Three historical milestones are the industrial revolution, total quality management (TQM) and global competition. The industrial revolution changed production processes from a labor focus to a machine focus. TQM caused managers to be more focused on quality and preventing defects. Finally, global competition caused managers to further increase their focus on quality, realizing that to not improve was to “lose the race.”

7. Question 7. Identify Three Current Trends In Operations Management And Describe Them. How Do You Think They Will Change The Future Of Om?
Answer:
The lean systems concept is a current trend in operations management. This involves taking a total system approach to creating an efficient operation. This includes concepts such as just-in-time (JIT), total quality management (TQM), continuous improvement, resource planning, and supply chain management (SCM).
Companies are using the Internet to reach out to customers, and suppliers directly. Amazon.com has been able to sell books and many other items directly from its warehouse to people like you and me. The Internet is changing how the supply chains work since we can now eliminate the “middle man” or distributor by selling directly from the factory to the final or end customer. Companies can also ease transactions between businesses, known as B2B commerce, by using electronic trading networks.
Large information systems, called Enterprise Resource Planning (ERP) systems, are allowing companies to increase efficiency. These large, sophisticated software programs coordinate, across the entire enterprise, the activities involved in producing and delivering products to customers.
Each of these concepts makes intensive use of information and cooperation between partners. OM will most likely continue to be more information intensive and require greater cooperation among all the players in the value chain.

8. Question 8. Define The Terms Total Quality Management, Just-in-time, And Reengineering. What Do These Terms Have In Common?
Answer:
Total quality management (TQM) is a philosophy that focuses on meeting the needs of the customer. TQM is not inspection, but actually the prevention of defects. It involves everyone in the organization. Just-in-time is a philosophy that focuses on reducing inventory and other wastes and on the production of the right number of items at the right time. Reengineering focuses on improving business processes in order to improve efficiency. Each of these techniques strives to allow more responsive and more efficient production leading to higher quality and higher customer satisfaction.

Answer:
Today’s OM environment is more global, more service oriented, and uses more information technology than that of even a few years ago. Companies can outsource steps of their operation easier. Now even service operations are outsourced off-shore. Information technology allows companies to cooperate more closely, creating tighter supply chains,
quicker response and less waste. Specific features include greater outsourcing, greater use of information technology, and deeper cooperation in the supply chain.

10. Question 10. Is Operations Management Important In All Types Of Organization?  
Answer:  
In some types of organization it is relatively easy to visualize the operations function and what it does, even if we have never seen it. For example, most people have seen images of automobile assembly. But what about an advertising agency? We know vaguely what they do – they produce the advertisements that we see in magazines and on television – but what is their operations function? The clue lies in the word ‘produce’. Any business that produces something, whether tangible or not, must use resources to do so, and so must have an operations activity. Also the automobile plant and the advertising agency do have one important element in common: both have a higher objective – to make a profit from producing their products or services. Yet not-for-profit organizations also use their resources to produce services, not to make a profit, but to serve society in some way.

Answer:  
Operations management is just as important in small organizations as it is in large ones. Irrespective of their size, all companies need to produce and deliver their products and services efficiently and effectively. However, in practice, managing operations in a small or medium-size organization has its own set of problems. Large companies may have the resources to dedicate individuals to specialized tasks but smaller companies often cannot, so people may have to do different jobs as the need arises. Such an informal structure can allow the company to respond quickly as opportunities or problems present themselves. But decision making can also become confused as individuals’ roles overlap. Small companies may have exactly the same operations management issues as large ones but they can be more difficult to separate from the mass of other issues in the organization.

Answer:  
Terms such as competitive advantage, markets and business, which are used in this book, are usually associated with companies in the for-profit sector. Yet operations management is also relevant to organizations whose purpose is not primarily to earn profits. Managing the operations in an animal welfare charity, hospital, research organization or government department is essentially the same as in commercial organizations. Operations have to take the same decisions – how to produce products and services, invest in technology, contract out some of their activities, devise performance measures, and improve their operations performance and so on.  
However, the strategic objectives of not-for-profit organizations may be more complex and involve a mixture of political, economic, social and environmental objectives. Because of this there may be a greater chance of operations decisions being made under conditions of conflicting objectives. So, for example, it is the operations staff in a children’s welfare department who have to face the conflict between the cost of providing extra social workers and the risk of a child not receiving adequate protection.  
Nevertheless the vast majority of the topics covered in this book have relevance to all types of organization, including non-profit, even if the context is different and some terms may have to be adapted.

**Answer:**

All operations produce products and services by changing inputs into outputs using an ‘input-transformation-output’ process. Put simply, operations are processes that take in a set of input resources which are used to transform something, or are transformed themselves, into outputs of products and services. And although all operations conform to this general input–transformation–output model, they differ in the nature of their specific inputs and outputs. For example, if you stand far enough away from a hospital or a car plant, they might look very similar, but move closer and clear differences do start to emerge. One is a manufacturing operation producing ‘products’, and the other is a service operation producing ‘services’ that change the physiological or psychological condition of patients.


**Answer:**

So far we have discussed operations management, and the input–transformation–output model, at the level of ‘the operation’. For example, we have described ‘the whistle factory’, ‘the sandwich shop’, ‘the disaster relief operation’, and so on. But look inside any of these operations. One will see that all operations consist of a collection of processes (though these processes may be called ‘units’ or ‘departments’) interconnecting with each other to form a network. Each process acts as a smaller version of the whole operation of which it forms a part, and transformed resources flow between them. In fact within any operation, the mechanisms that actually transform inputs into outputs are these processes. A process is ‘an arrangement of resources that produce some mixture of products and services’. They are the ‘building blocks’ of all operations, and they form an ‘internal network’ within an operation.

Each process is, at the same time, an internal supplier and an internal customer for other processes. This ‘internal customer’ concept provides a model to analyse the internal activities of an operation. It is also a useful reminder that, by treating internal customers with the same degree of care as external customers, the effectiveness of the whole operation can be improved.

15. Question 15. Operations Management Is Relevant To All Parts Of The Business?

**Answer:**

It is not just the operations function that manages processes; all functions manage processes. For example, the marketing function will have processes that produce demand forecasts, processes that produce advertising campaigns and processes that produce marketing plans. These processes in the other functions also need managing using similar principles to those within the operations function. Each function will have its ‘technical’ knowledge. In marketing, this is the expertise in designing and shaping marketing plans; in finance, it is the technical knowledge of financial reporting.

Yet each will also have a ‘process management’ role of producing plans, policies, reports and services. The implications of this are very important. Because all managers have some responsibility for managing processes, they are, to some extent, operations managers. They all should want to give good service to their (often internal) customers, and they all will want to do this efficiently. So, operations management is relevant for all functions, and all managers should have something to learn from the principles, concepts, approaches and techniques of
operations management. It also means that we must distinguish between two meanings of ‘operations’:

a. ‘Operations’ as a function, meaning the part of the organization which produces the products and services for the organization’s external customers;
b. ‘Operations’ as an activity, meaning the management of the processes within any of the organization’s functions.


Answer:
Some operations have both high- and low-visibility processes within the same operation. In an airport, for example: some activities are totally ‘visible’ to its customers such as information desks answering people’s queries. These staff operate in what is termed a front-office environment. Other parts of the airport have little, if any, customer ‘visibility’, such as the baggage handlers. These rarely-seen staff perform the vital but low-contact tasks, in the back-office part of the operation.

17. Question 17. What Are Implications Of The Four Vs Of Operations Processes?

Answer:
All four dimensions have implications for the cost of creating the products or services. Put simply, high volume, low variety, low variation and low customer contact all help to keep processing costs down. Conversely, low volume, high variety, high variation and high customer contact generally carry some kind of cost penalty for the operation. This is why the volume dimension is drawn with its ‘low’ end at the left, unlike the other dimensions, to keep all the ‘low cost’ implications on the right. To some extent the position of an operation in the four dimensions is determined by the demand of the market it is serving. However, most operations have some discretion in moving themselves on the dimensions.

Quality Management Questions

18. Question 18. What Are The Activities Of Operations Management?

Answer:
Operations managers have some responsibility for all the activities in the organization which contribute to the effective production of products and services. And while the exact nature of the operations function’s responsibilities will, to some extent, depend on the way the organization has chosen to define the boundaries of the function, there are some general classes of activities that apply to all types of operation.

a. Understanding the operation’s strategic performance objectives. The first responsibility of any operations management team is to understand what it is trying to achieve. This means understanding how to judge the performance of the operation at different levels, from broad and strategic to more operational performance objectives. This is discussed.
b. Developing an operations strategy for the organization. Operations management involves hundreds of minute-by-minute decisions, so it is vital that there is a set of general principles which can guide decision-making towards the organization’s longer-term goals. This is an operations strategy.
c. Designing the operation’s products, services and processes. Design is the activity of determining the physical form, shape and composition of products, services and processes. It is a crucial part of operations managers’ activities.
d. Planning and controlling the operation. Planning and control is the activity of
deciding what the operations resources should be doing, then making sure that they
really are doing it. Various planning and control activities.
e. Improving the performance of the operation. The continuing responsibility of all
operations managers is to improve the performance of their operation.
f. The social responsibilities of operations management. It is increasingly recognized
by many businesses that operations managers have a set of broad societal
responsibilities and concerns beyond their direct activities. The general term for
these aspects of business responsibility is ‘corporate social responsibility’ or CSR.
It should be of particular interest to operations managers, because their activities
can have a direct and significant effect on society.

Business Process Reengineering  Questions

Answer :
The first is the input–transformation–output model and the second is the categorization of
operations management’s activity areas. The model now shows two interconnected loops of
activities.

The bottom one more or less corresponds to what is usually seen as operations management,
and the top one to what is seen as operations strategy.

Quality Management Tutorial

20. Question 20. What Is The Visibility Dimension?
Answer :
Visibility is a slightly more difficult dimension of operations to envisage. It refers to how
much of the operation’s activities its customers experience, or how much the operation is
exposed to its customers. Generally, customer-processing operations are more exposed to
their customers than material- or information-processing operations. But even
customer-processing operations have some choice as to how visible they wish their operations
to be. For example, a retailer could operate as a high-visibility ‘bricks and mortar’, or a lower-
visibility web-based operation. In the ‘bricks and mortar’, high-visibility operation, customers
will directly experience most of its ‘value-adding’ activities. Customers will have a relatively
short waiting tolerance, and may walk out if not served in a reasonable time.

Customers’ perceptions, rather than objective criteria, will also be important. If they perceive
that a member of the operation’s staff is discourteous to them, they are likely to be dissatisfied
(even if the staff member meant no discourtesy), so high-visibility operations require staff
with good customer contact skills. Customers could also request goods which clearly would
not be sold in such a shop, but because the customers are actually in the operation they can
ask what they like! This is called high received variety. This makes it difficult for high-
visibility operations to achieve high productivity of resources, so they tend to be relatively
high-cost operations.

Conversely, a web-based retailer, while not a pure low-contact operation, has far lower
visibility. Behind its web site it can be more ‘factory-like’. The time lag between the order
being placed and the items ordered by the customer being retrieved and dispatched does not
have to be minutes as in the shop, but can be hours or even days. This allows the tasks of
finding the items, packing and dispatching them to be standardized by staff who need few customer contact skills. Also, there can be relatively high staff utilization. The web-based organization can also centralize its operation.