

**QUESTION 1 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



What are the potential drawbacks of a company using conventional

materials management separately and in isolation?

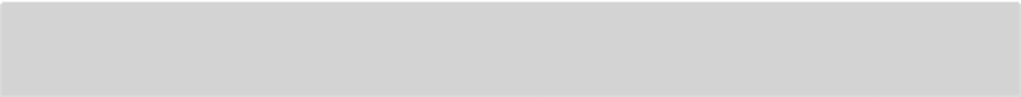
**Select one:**

*A car manufacturer supplier may face frequent penalties if delivery bottlenecks bring production to a standstill.*

A pharmaceutical company supplier must devote more effort to constantly searching for new suppliers and partners.

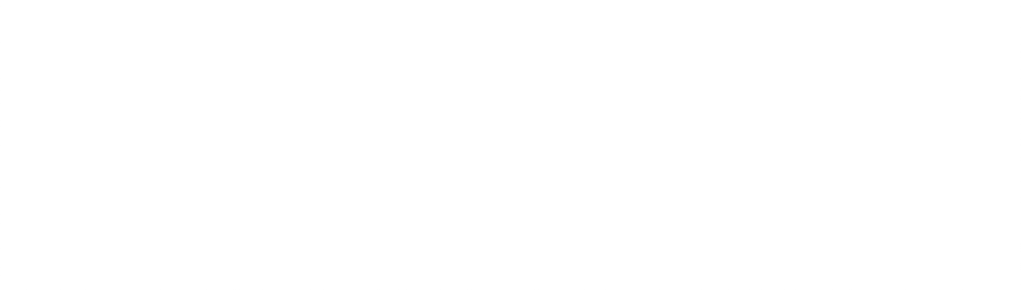
A supermarket supplier is required to fill supermarket shelves and optimize their products themselves.

A jewelry manufacturer supplier must work harder to find new, ethical ways of mining resources.



**QUESTION 2 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Integrated materials management leads to ...

**Select one:**

Concentration on production output. Incorporation of customer interactions. Specialization of individual logistical services. *Incorporation of supplier interactions*.



**QUESTION 3 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which of the following is **not** a fundamental task of

materials management?

**Select one:**

Supplies scheduling Procurement planning Transport monitoring *Production implementation*



**QUESTION 4 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



One of the first tasks of materials management is to to to ...

**Select one:**

*Calculate requirements, the requirements explosion and order quantities*. Select suppliers

Plan production volumes.

Plan warehousing and transport stocks.



**QUESTION 5 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



How does a company operating in multiple regional sales markets use its materials management system to secure competitive advantages?

**Select one:**

With frequent sales pitches to customers. With frequent shipments.

*With high production figures*

With a large number of suppliers



**QUESTION 6 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



A gozinto chart ...

**Select one:**

Shows which suppliers are available for selection. Illustrates order quantities.

Indicates required ordering periods.

*Illustrates the structure of a product.*



**QUESTION 7 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



In conventional mass production, what is the aim of materials management as product life cycles become shorter?

**Select one:**

To become more flexible and have many suppliers

To become more flexible and maximize location advantages To become more flexible and offer more premises

*To become more flexible and react faster*



**QUESTION 8 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



A decision about the optimum batch size ...

**Select one:**

*Determines various different costs for the company*

Minimizes the company’s set-up costs

Excludes various suppliers

Reserves selected inventories



**QUESTION 9 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



How can a company modify its materials management to

accommodate environmental changes?

**Select one:**

It should update it once a year.

*It should update it continuously*.

It should update it to accommodate innovations.

It should implement situational updates.



**QUESTION 10 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Capacity scheduling is based on ...

**Select one:**

The production department’s organizational guidelines. *Priority rules*.

Order dates.

Standardization measures.



**QUESTION 11 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



How can a company secure lasting competitive advantages in an increasingly competitive materials management sector?

**Select one:**

By improving its logistics strategies and reorganizing its inventory stocks

By improving its logistics strategies and management and upgrading its transshipment operations

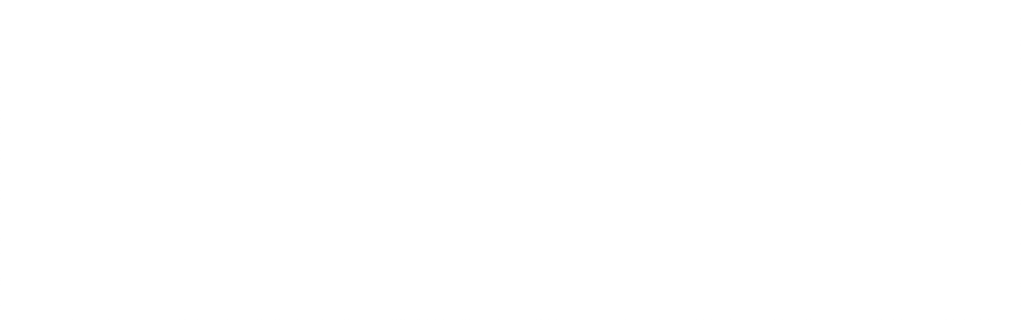
*By improving its manufacturing strategies and reorganizing its production strategies*

By improving its production strategies and improving its production management



**QUESTION 12 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Job shop production is characterized by ...

**Select one:**

*The spatial combining of similar functions*

The late formation of variants

The segmentation of production.

A focus on departmentalization.



**QUESTION 13 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the following causes can be ascribed to the reorganization of production?

**Select one:**

Continuous use of technology

*Market changes*

The appointment of additional mangers

The promotion of managers



**QUESTION 14 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following characterizes production segmentation?

**Select one:**

Similar production facilities are spatially amalgamated Production is geared around similar work stages

Fully automated production

*Unbundling of capacities and breakdown of production processes into*

*multiple, autonomous functional groupings*



**QUESTION 15 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



When calculating demand, what is the first type of calculation a company should use?

**Select one:**

A dog food manufacturer calculates net demand from their lists of variants.

A roller skate manufacturer calculates tertiary demand by comparing bills of materials with warehouse stock.

A chair manufacturer calculates gross demand by looking at their warehouse stock.

*A lamp manufacturer calculates primary demand by looking at their customer orders.*



**QUESTION 16 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



What are the key requirements of simultaneous engineering (SE)?

**Select one:**

*Early identification of design-related production problems and extensive standardization of the product design*

Late involvement in product development and design

Serial processing of design and production

Increasing the diversity of parts and modules



**QUESTION 17 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What is the underlying logic of the workload-based order release system?

**Select one:**

*It is based on the production funnel model* It is based on the pull principle

It is based on the postponement concept

It is based on the push principle



**QUESTION 18 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which information is generally found in a bill of materials?

**Select one:**

*Information about throughput times* Information about personnel deployment Information about modes of payment Information about preferred suppliers



**QUESTION 19 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What is the aim of the SMED concept?

**Select one:**

To prevent problems in production directly at the point of origination.

To prevent production errors via the use of devices

To arrange machines in a U-shape

*To achieve production lot sizes of close to one*.



**QUESTION 20 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What is the difference between a product tree and a Gozinto chart?

**Select one:**

*A Gozinto chart eliminates surplus structural relationships*.

A product tree represents structures and elements in simplified form.

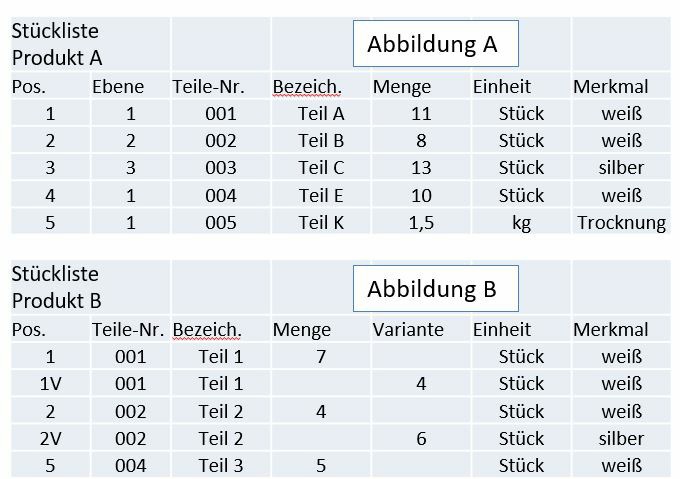
A Gozinto chart can depict multiple layers.

A product tree can depict multiple layers.



**QUESTION 21 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the bills of materials illustrated here is a multi-level bill of materials?

**Select one:**

*Figure A only*

Figure A and Figure B

Neither Figure A nor Figure B

Figure B only



**QUESTION 22 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



What is the effect of the jidoka concept?

**Select one:**

*Machines are automatically halted in the event of process deviations*.

Central production control cuts in immediately in the event of deviations. The causes of the malfunction are immediately identified and rectified.

Disturbances are identified and minimized.



**QUESTION 23 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



What is the distinguishing feature of batch production?

**Select one:**

Workpieces are processed entirely on one machine where possible.

The materials flow is chronologically and physically interlinked.

*Resources are organized according to operations.*

Workstations are linked together by conveyors



**QUESTION 24 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



What do production coefficients represent?

**Select one:**

The ratio of undefined parts to defined parts within the company

The number of individual types of gross demand in relation to net demand

The ratio of unstructured parts to structured parts within the company

*The number of subordinate parts that may be assigned to a superordinate part*



**QUESTION 25 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



What information does a cumulative call-off quantity contain?

**Select one:**

The cumulative number of outputs in the forwarding unit.

The cumulative number of actual customer deliveries. The cumulative number of quantities consumed.

*The cumulative number of product quantities called off*.



**QUESTION 26 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



In which of the following cases would you use a summarized bill of materials?

**Select one:**

*Frequent design changes*

Simple calculation of assemblies

Fast preparation of work operations

Targeted production planning



**QUESTION 27 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following is **not** an example of variable warehousing costs?

**Select one:**

Insurance premiums

Return on invested capital Costs of spoilage and wastage

*Cost of imputed depreciation of inventories*



**QUESTION 28 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



For a chair manufacturer, which types of inventories are included in the

reconciliation calculation?

**Select one:**

Free stocks of wood waste

Buffer stocks of glue and bonding compounds

*Incoming deliveries of seat cushions*

Workshop stocks of cushion filling material



**QUESTION 29 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Production logistics is a subsystem of what?

**Select one:**

A subsystem of materials management.

A subsystem of distribution management. *A subsystem of company logistics*. A subsystem of inventory management.



**QUESTION 30 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



What does material requirements planning calculate?

**Select one:**

Material requirements on the basis of cost, quality, capacity limits and spatial distribution.

Material requirements on the basis of inventory policy, processes, capacity limits and chronological distribution

Material requirements on the basis of buffer stocks, costs, quantities and spatial distribution.

*Material requirements on the basis of type, quality, quantity and chronological distribution.*



**QUESTION 31 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What is the aim of demand coverage planning?

**Select one:**

To optimize materials management and allow for the unplanned consequences of warehousing in materials scheduling

To optimize materials management and allow for the value- and cost-related consequences of warehousing in materials scheduling.

To optimize materials management and allow for the value-related consequences of warehousing in materials scheduling

*To optimize materials management and allow for the quantity- and cost-related consequences of warehousing in materials scheduling*



**QUESTION 32 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



What are the distinguishing features of mixed production?

**Select one:**

Similar functions are spatially combined.

A highly automated materials flow.

*The machines needed for manufacturing are spatially combined.*

Workstations are linked together by materials handling technology.



**QUESTION 33 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following is **not** a feature of manufacturing postponement?

**Select one:**

Production does not begin until the order has been received. Delivery is standardized.

*Production and distribution are customer-specific*.

Production operations are delayed.



**QUESTION 34 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



For a manufacturer of surgical dressings, order and warehouse planning entails ...

**Select one:**

Planning in-house orders with the kanban system

*Planning the level of reserve stocks for self-manufactured products and bought-in parts* Planning personnel allocation for procurement and order acceptance

Planning the number of vehicles needed to collect orders



**QUESTION 35 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



How would you characterize a control loop in kanban control systems?

**Select one:**

A control loop links two sources

A control loop is intended to prevent production disruptions

*A control loop links the source and the sink*

A control loop links two sinks



**QUESTION 36 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What is meant by fixed cost degression?

**Select one:**

*The larger the order quantity, the lower the cost per unit*.

The larger the order quantity, the higher the cost per unit.

The smaller the order quantity, the higher the cost per unit.

The smaller the order quantity, the lower the cost per unit.



**QUESTION 37 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What is the lean production concept?

**Select one:**

Lean production aims to synchronize production processes.

Lean production increases the number of hierarchy levels in production. Lean production favors a push strategy in production.

*Lean production is a Japanese production philosophy aimed at avoiding certain types of wastage.*



**QUESTION 38 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



How would you classify the planning of buffer stocks within the context of order volume planning?

**Select one:**

*It is a task for order and warehousing planning*

It is a prerequisite of order and warehousing planning

It is an optional method of order and warehousing planning It is a goal of order and warehousing planning



**QUESTION 39 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following is an example of storage costs when calculating a watch manufacturer’s optimum order size?

**Select one:**

Cost of manufacturing the components to be stored Cost of procurement until the incoming goods inspection

*Cost of special cleaning of components prior to installation*

Cost of carrying out administrative checks on the stored components



**QUESTION 40 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



What are horizontal production networks?

**Select one:**

*Links between companies on the same level of the supply chain* Virtual links between different companies

Links between companies on different levels of the supply chain

Links between companies in different sectors



**QUESTION 41 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the following variables occurs in Andler’s Economic Order Quantity (EOQ) formula?

**Select one:**

Production turnover *Price per unit*

Initial stock level Minimum warehouse stock level



**QUESTION 42 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



What is the aim of the Shainin System?

**Select one:**

To halt production immediately in the event of a malfunction.

*To identify the key factors which influence quality problems.*

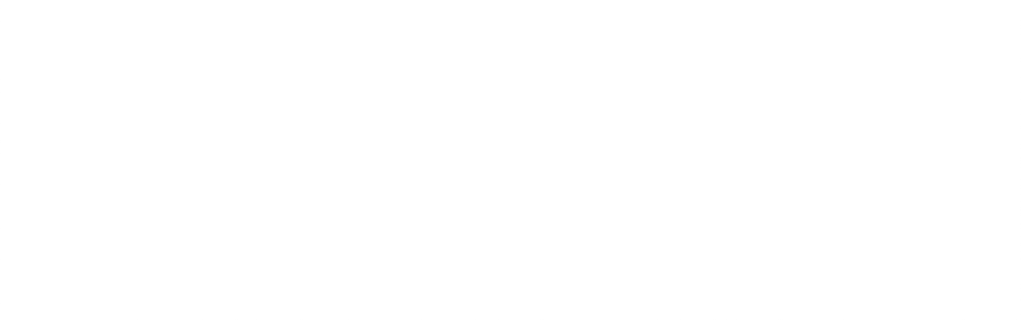
To automatically notify personnel in the event of malfunctions.

To identify the optimum combination of control variables via simultaneous variation.



**QUESTION 43 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following is **not** an operational production control system tool?

**Select one:**

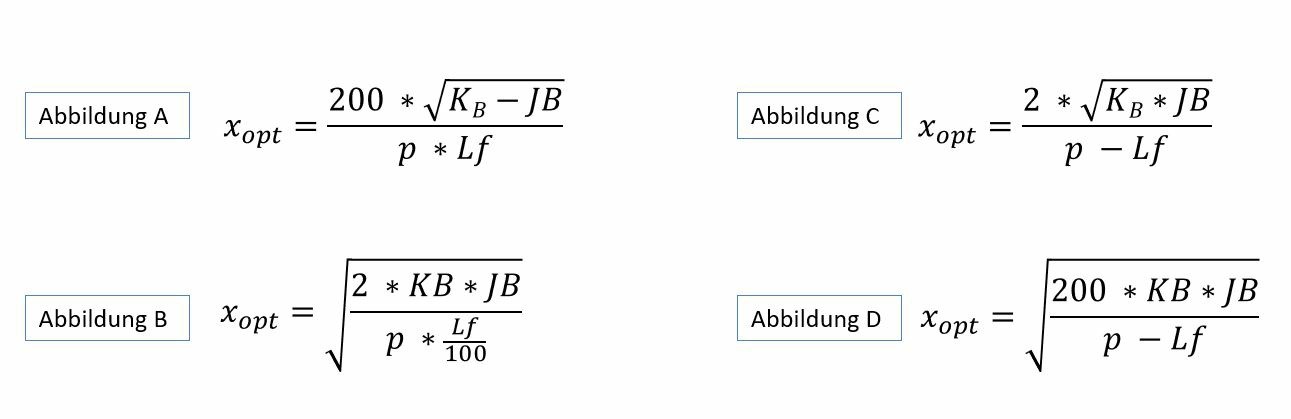
Throughput time analyses Productivity calculations *Layout plans in production*

Cost center-specific analyses of target/actual deviations



**QUESTION 44 OF 387**

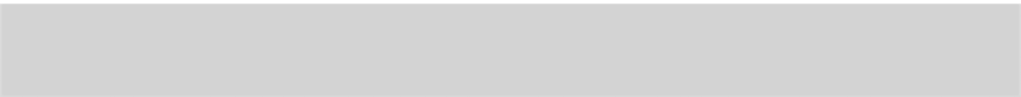
**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following illustrates Andler’s economic order quantity (EOQ) formula?

**Select one:**

Figure C Figure A Figure D *Figure B*



**QUESTION 45 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which of the following is a sub-goal of batch size planning?

**Select one:**

To achieve production and stock buffering at optimum cost *To achieve production with the quantities used at optimum cost* To plan the production quantity at optimum cost

To plan inventory stocks at optimum cost



**QUESTION 46 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What information does a quantified bill of materials contain?

**Select one:**

All the components and raw materials that make up an assembly. All the materials required for a product in structured form. All the content required for order quantity planning.

*All the materials that make up a product*.



**QUESTION 47 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Where is the penetration point in engineer-to-order?

**Select one:**

*Prior to development* Prior to production Prior to procurement Prior to assembly



**QUESTION 48 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Within batch size planning, what is an order comprised of?

**Select one:**

Parts procured externally from changing suppliers and partners

Parts manufactured in-house at different sites

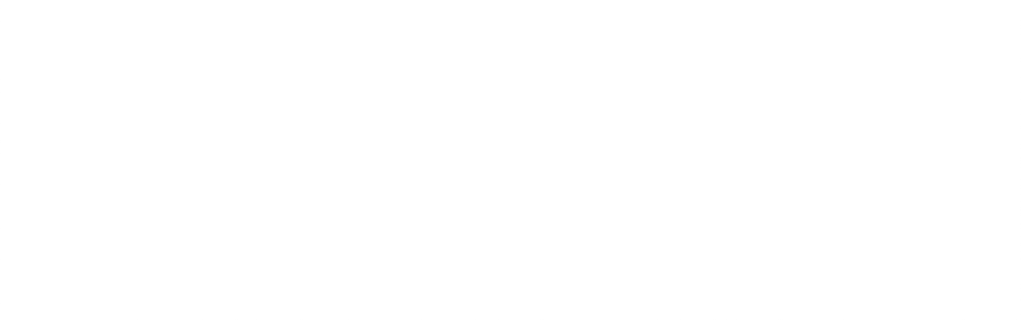
Parts procured externally from the same suppliers and partners

*Parts manufactured in-house and those procured externally*



**QUESTION 49 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following best describes the materials flow in a production transfer line?

**Select one:**

Automated and flexible

*Chronologically and physically linked by automated materials handling systems* Physically linked but not chronologically linked

Chronologically linked but not physically linked



**QUESTION 50 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



What makes up the batch size within an order?

**Select one:**

Ordered parts

Externally procured parts *Parts manufactured in-house* Delivered parts



**QUESTION 51 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



What happens if the actual cumulative quantity exceeds the target cumulative quantity?

**Select one:**

There is a shortfall.

*An inventory is created*. The entire production process is delayed.

The throughput time is extended.



**QUESTION 52 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following situations describes a potential consequence of large

batch sizes in batch size planning?

**Select one:**

A gearbox manufacturer is struggling with setup costs due to frequent machine changes with large batch sizes.

*A vacuum cleaner manufacturer has large numbers of production parts and finished products in their warehouse due to large batch sizes*.

A shoe manufacturer is experiencing serious problems with their simultaneous engineering concept due to large batch sizes.

A can manufacturer is experiencing repeated production standstills due to problems with suppliers caused by large batch sizes.



**QUESTION 53 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



In batch size variation, what happens with a low-volume batch size?

**Select one:**

The low volume means larger batches and less retooling, which in turn reduces set-up costs; at the same time, inventory costs are reduced because inventories are small.

The low volume means smaller batches and more frequent retooling, which in turn reduces the set-up costs; at the same time, inventory costs are increased due to larger inventories.

The low volume means larger batches and less retooling, which in turn reduces set-up costs; at the same time, inventory costs are increased due to larger inventories.

*The low volume means smaller batches and more frequent retooling, which in turn increases set-up costs; at the same time, inventory costs are reduced because inventories are small.*



**QUESTION 54 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



In a workload-based order release system, the only orders sent to production are those which:

**Select one:**

Do not lead to longer throughput times

*Have top priority and do not exceed the load limit* Do not increase warehouse stocks unnecessarily

Make full use of capacity.



**QUESTION 55 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following costs are **not** relevant to operational batch size planning?

**Select one:**

The costs associated with setting up the machines The costs associated with the size of the batch

*The costs associated with making capacity available in production.*

The costs associated with the time frame of batch production.



**QUESTION 56 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the following criteria is used to classify

batch size planning models?

**Select one:**

Constant demand in the ordering process Constant demand in the production process *Constant demand in the demand process* Constant demand in the transport process



**QUESTION 57 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



In which of the following contexts is it appropriate to log the timeline when planning batch sizes?

**Select one:**

For more accurate planning of warehouse staffing For more accurate planning of transport times

For more accurate determination of the actual batch size

*For more accurate classification of a batch size model*



**QUESTION 58 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



When is a reorientation (reorganization) of production **not**

necessarily required?

**Select one:**

Following changes to the product architecture Following changes to production technologies Following market upheaval

*Following a reorientation of the transport sector*



**QUESTION 59 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



What is the deterministic approach to MRP based on?

**Select one:**

*Existing customer orders and the sales & production program*

The shipping department’s volume plans The capacity utilization plans for containers

Waste projections



**QUESTION 60 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



In an industrial company, the warehouse is ...

**Select one:**

A place for the temporary storage and transportation of goods after ordering A place for the temporary storage of finished goods until after distribution.

*A place for the planned storage of merchandise for the period between procurement and consumption.*

A place for the planned collection of semi-finished goods until after distribution of the finished products.



**QUESTION 61 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



What is the advantage of a single-level bill of materials?

**Select one:**

All production levels are directly visible.

Each low-level component is only listed once.

The total requirement is visible at a glance for all parts.

*It allows redundancy-free evaluation of the bill of materials, because identical modules are only stored once*.



**QUESTION 62 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the following is an example of fixed inventory costs?

**Select one:**

The cost of merchandise wastage in the warehouse

The cost of converting production machines *The cost of maintaining the warehouse shelving*

The cost of insuring warehouse premises



**QUESTION 63 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



What is make-to-stock?

**Select one:**

Manufacturing after the customer’s order has been received A brand new design by the customer

*Manufacturing purely for inventory*

Customer-specific production of assemblies and modules



**QUESTION 64 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following requirements must be met in order to offset

prorated variable inventory costs?

**Select one:**

Warehouse capacities are kept to a minimum by actual warehouse stock levels or careful planning.

Warehousing costs are always calculated as dependent on the length of storage and inventory stocks.

Warehouse stocks are continuously and regularly increased within one day of a withdrawal.

*Warehouse stocks are continuously withdrawn and are therefore decreased uniformly over the planned timeline.*



**QUESTION 65 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What is meant by harmonization of the production flow?

**Select one:**

Harmonization means always manufacturing the same production quantities.

Harmonization means always manufacturing modules in the same production segments.

*Harmonization of the production flow aspires to achieve uniform production volumes and zero waiting times.*

Harmonization means organizing production according to the pull principle



**QUESTION 66 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which types of products have a significantly higher warehousing percentage?

**Select one:**

Expensive products that are difficult to store Expensive products that are easy to store *Cheap products that are difficult to store* Cheap products that are easy to store



**QUESTION 67 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which of the following situations represents a batch process?

**Select one:**

A carton soup manufacturer combines their entire batch of a single soup variety, labels it and stores it in a particular location

A newspaper publisher prints the entire print run of a newspaper then checks a few copies for defects

A clothing manufacturer ships their finished clothing items to wholesalers and retailers in segregated lorry-loads

A juice bottling company must make various modifications before starting to bottle an apple juice variety.



**QUESTION 68 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What is the aim of just-in-time production?

**Select one:**

*To accelerate production flow rates* To build up stocks in case of bottlenecks

To segment the production flow

To use more machines in production



**QUESTION 69 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which of the following represents part of the fixed print run costs for a newspaper publisher?

**Select one:**

The quantity of paper used for the print run The rent for the warehouse premises

The quantity of ink used for the print run

*A printing plate produced for this print run*



**QUESTION 70 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Explain how control works in kanban production

**Select one:**

It is controlled automatically by IT systems

*It is controlled by self-regulating control loops* It is controlled by a central production center

It is controlled locally by the relevant employees.



**QUESTION 71 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What is the principal aim of workload-based order release?

**Select one:**

To increase employee motivation in production.

To avoid circuitous routes in production.

To implement a pull strategy in production

*To avoid queues at workstations, reduce throughput times and increase the production flow.*



**QUESTION 72 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which of the following are **not** out-of-stock costs?

**Select one:**

A supermarket must restock a product due to spoilage caused by incorrect warehousing, entailing extra costs for express delivery.

*At its customer’s request, a company must produce multiple product variants, necessitating frequent machine changes and absences*

A faulty warehousing program means that a supermarket arranges re-delivery later than planned.

A mis-designed product leads to high levels of wastage and incurs re-manufacturing costs.



**QUESTION 73 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the following is a capacity scheduling task?

**Select one:**

Planning the organizational structure of production *Defining the sequence of work operations* Setting just-in-time deadlines Determining the maximum storage capacity



**QUESTION 74 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



What does the jidoka concept aim to achieve?

**Select one:**

To make employees responsible for controlling quality assurance.

To enable production to form batch sizes at any time. To enable production to manufacture more flexibly.

*To enable machines to halt automatically in the event of*

*quality deviations*.



**QUESTION 75 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following is **not** a design principle for production networks?

**Select one:**

Simplifying structures and operations.

Synchronizing the flows of information and materials. Modularizing logistical systems.

*Continuously improving functions.*



**QUESTION 76 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



What happens with free capacity within the context of capacity scheduling?

**Select one:**

The system checks whether other order times can be shortened. *The system checks whether orders can be released earlier*. The system checks whether other order times can be extended. The free capacity cannot be used for any other purpose.



**QUESTION 77 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



What is the dilemma of operations scheduling?

**Select one:**

*To minimize throughput times while at the same time reducing final warehousing times and delays.*

To ensure low stock levels while at the same time achieving high capacity utilization levels.

To ensure low stock levels while at the same time minimizing capacities.

To minimize downtime while at the same time improving quality.



**QUESTION 78 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



What happens if a work operation **cannot** be scheduled by the latest

start date?

**Select one:**

If there is no alternative e.g. to switch to another workstation, the priority rules will be changed.

*If there is no alternative, e.g. to switch to another workstation, it will be rescheduled.*

If there is no alternative, e.g. to switch to another workstation, it will move to the back of the queue with deviations.

If there is no alternative, e.g. to switch to another workstation, it will be given priority over all other orders.



**QUESTION 79 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



What is meant by the penetration point?

**Select one:**

The transition from forwarding to the distribution depot.

*The transition from anonymous to customer-specific production*. The transition from assembly to forwarding.

The transition from customer-specific design to distribution.



**QUESTION 80 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



In which of the following situations are priority rules applied?

**Select one:**

When employees work with kanban or self-regulating control loops and must make decisions on a localized basis

When suppliers can only deliver on a just-in-time or just-in-sequence basis and a sequence must be defined

When customers wish to change the sequence of processing to receive certain products earlier

*When there is a backlog of products at the operator stations and a decision must be made on site*



**QUESTION 81 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following does **not** characterize a flexible production system?

**Select one:**

*Consistent timing of the material flow*

Complete processing

Automatic transportation of products

Parallel machining of different workpieces



**QUESTION 82 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



Which type of planning uses capacity utilization-based targets?

**Select one:**

*They are part of capacity scheduling*. They are part of production scheduling. They are part of order planning.

They are part of volume planning.



**QUESTION 83 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What are priority rules within the context of capacity scheduling?

**Select one:**

Rules for selecting the sequence of machines. *Rules for selecting the sequence of orders*.

Rules for prioritizing projects.

Rules for prioritizing inventories.



**QUESTION 84 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following do **not** characterize process chain organization?

**Select one:**

Production modules in which tasks are performed on the object.

An input/output description.

A cross-functional collaboration.

*A logistics chain which is guided by function with an emphasis on quality*



**QUESTION 85 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



In essence, what is the pull principle?

**Select one:**

Forecast-initiated Object-oriented Schedule-oriented *Order-initiated*



**QUESTION 86 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 01**



In which of the following situations would you find the earliest

penetration point?

**Select one:**

A tire manufacturer who purchases pre-manufactured tires for individual labelling to order, then sends the finished tires to the customer.

A doll manufacturer who produces and stores different types of doll which customers can then finish with garments using a configurator.

*A manufacturer of exclusive watches who begins production upon receiving a customer order; depending on the customer’s requirements, the watch is then stored prior to shipping.*

A suitcase manufacturer who manufactures suitcases in a range of colours and designs based on market research, then stores them and ships them following a customer call-off.



**QUESTION 87 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which of the following situations represents assemble-to-order production?

**Select one:**

A company starts production on the basis of received customer configurations and then ships them directly.

*A company manufactures components on the basis of forecasts and then assembles them according to customer configurations*

A company manufactures uniform products during resource supply bottlenecks and then stores them pending shipping on the basis of customer orders

A company manufactures merchandise on the basis of past orders and awaits customer orders before shipping

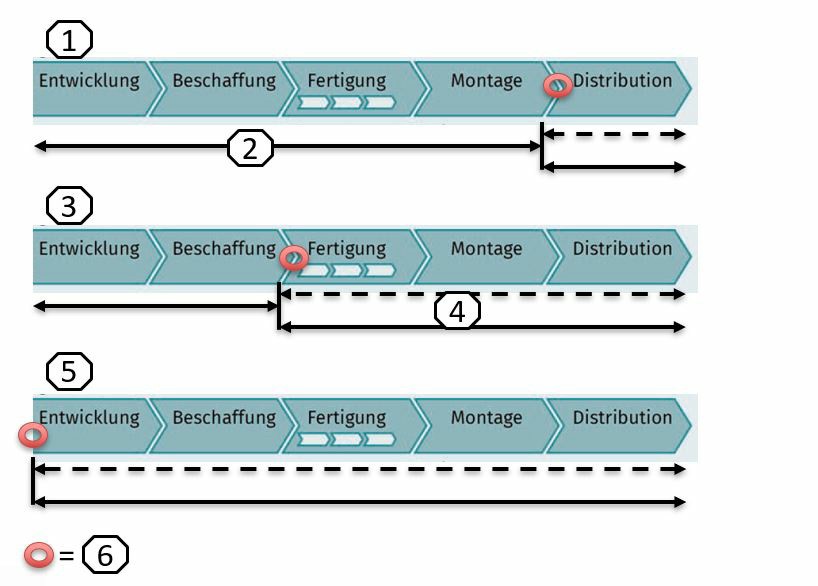


**QUESTION 88 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which label is correct?



# Select one:

3. *Make-to-order*

*4. Order throughput time*

*6. Penetration point*

2. Order-specific “pull”

3. Make-to-stock

6. Penetration point

2. Forecast-based “push”

4. Order-specific “pull”

5. Assemble-to-order

2. Forecast-based “push”

4. Order-specific “pull”

5. Make-to-stock



**QUESTION 89 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which of the following situations describes a push principle?

**Select one:**

*A company manufactures according to its own market forecasts and then ships the products to a supermarket*

A company manufactures based on supermarket forecasts and then ships the products to the supermarket

A company manufactures based on collaborative forecasts with the supermarket and then ships the products to the supermarket

A company manufactures on the basis of its own customer enquiries and then ships these products to the supermarket



**QUESTION 90 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Which of the following is a materials inventory-based concept?

**Select one:**

Mass customization

Workload-based order release Postponement

*Make-to-stock*



**QUESTION 91 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 01**



Within the context of determining batch sizes, which of the following is an example of order costs?

**Select one:**

Warehousing of finished products Checking final assembly Transporting to the end client

*Incoming goods inspections*



**QUESTION 92 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following situations describes a narrow interpretation of production in an automotive supply chain?

**Select one:**

A jobbing packer who compiles small “finished part kits” to supply to an auto manufacturer’s engine assembly plant

A company which carries out final and interim product quality checks on behalf of an auto manufacturer

An automotive MRP which packages finished cars and delivers them to dealers on behalf of the auto manufacturer

*A logistics company which checks, combines and assembles the car cockpit parts and then ships them to the auto manufacturer for final assembly*



**QUESTION 93 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following situations describes production logistics?

**Select one:**

A washing machine manufacturer primarily concerned with coordinating their partners and associated resources.

A furniture manufacturer primarily concerned with their own structural organization and optimizing their logistical systems.

A ceramics manufacturer primarily concerned with in-house coordination of research personnel and optimizing their cost structures.

*A razor manufacturer primarily concerned with their own structural organization and associated improvements*.



**QUESTION 94 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following is the correct definition of production management?

**Select one:**

The study of the methods and approaches of product manufacturing and packaging from an engineering perspective

The study of the methods and approaches of product manufacturing and packaging from a physics/technical perspective

*The study of the methods and approaches of producing products and services from a business management and technical perspective*

The study of the methods and approaches of producing products and variants from a business management and design perspective



**QUESTION 95 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



What is the principal focus of production logistics?

**Select one:**

Layout design.

*Processes*.

Production.

Transport.



**QUESTION 96 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



How would you define production logistics?

**Select one:**

A parallel system of company logistics *A sub-system of company logistics* A sub-system of quality management A parallel system of production



**QUESTION 97 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following situations illustrates the correct application of production logistics?

**Select one:**

An auto manufacturer analyzes their machine park so that the machine layout and positioning can be organized in a task-centric manner.

*A tool manufacturer analyzes routes within production to optimize the design of transport processes*

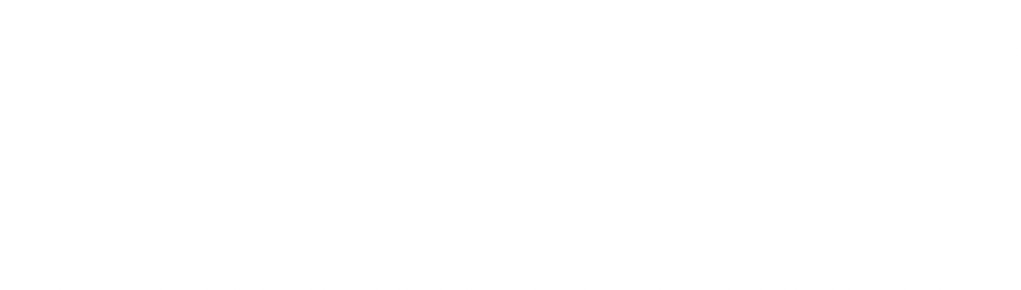
An electronics manufacturer calculates batch sizes in order to limit the availability of production factors to a single partner.

A garden gnome manufacturer plans to use simultaneous engineering to reduce production and warehouse inventories.



**QUESTION 98 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following is a task of production logistics?

**Select one:**

*To reduce the quantity of models, varieties and series* To reduce batch sizes to 1 in customer-related areas

To sever the link between machine layout and material flow

To maximize capacity utilization



**QUESTION 99 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following statements is true?

**Select one:**

*One task of production logistics is to identify and organize a suitable combination of in-house production and external procurement*.

Different types of production organization are distinguished by the chronological arrangement of resources (operating equipment).

The organizational tasks of production logistics are divided into short-term structural planning and longer-term planning of the flow of goods.

Production management is concerned with manufacturing goods with technical issues.



**QUESTION 100 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



What are the distinguishing features of the different types of production organization?

**Select one:**

The orientation and object *The orientation and location dependency*

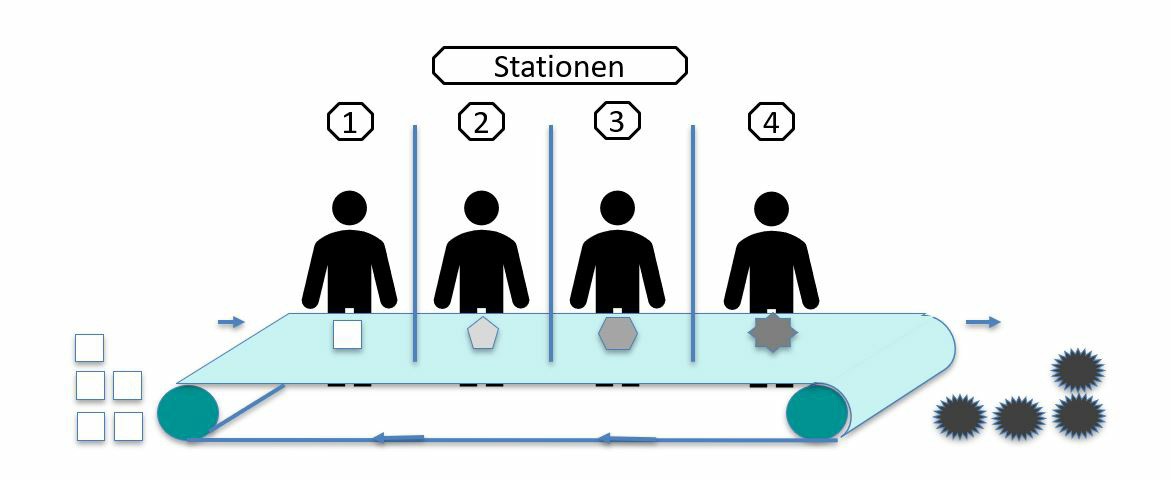
The task and object principle

The site fabrication and workbench principle



**QUESTION 101 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which type of production organization is illustrated by the following diagram?

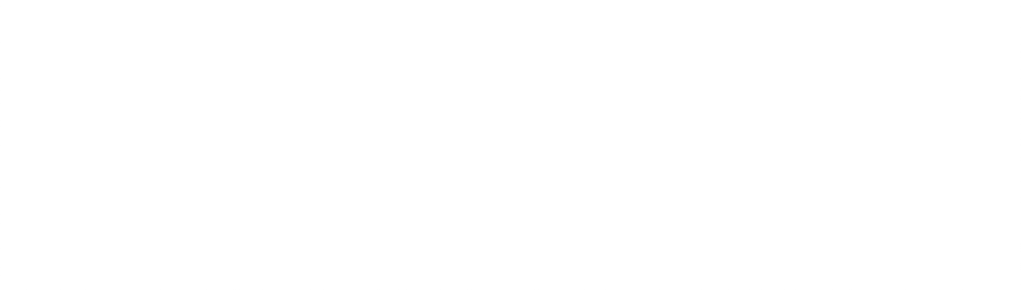
**Select one:**

Job shop production *Transfer line* Functional principle Batch production



**QUESTION 102 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



How would you classify automated center production?

**Select one:**

*As a flexible production system* As a production island As batch production As job shop production



**QUESTION 103 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following describes typical job shop production?

**Select one:**

A watchmaker produces a limited number of watches and arranges the necessary materials and tools nearby.

A logistics service-provider assembles small shelving units and arranges them individually in the hall so that they are accessible. The shelves are filled with goods and dispatched.

*A ceramics manufacturer has arranged all activities requiring large quantities of water in one corner and those requiring light in another.*

A handbag manufacturer organizes machines according to tasks so that they can be automatically activated in sequence in the materials flow.



**QUESTION 104 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following situations describes batch production?

**Select one:**

A mattress manufacturer uses a flow principle and has arranged the machines in task groups

A minced meat manufacturer uses an autonomous, automated plant with controlled atmosphere based on the complete flow principle, with final inspection carried out by humans.

A hot water bottle manufacturer uses a materials principle and has arranged their machines linked together by conveyor belts.

*A clothing accessories manufacturer uses an object principle and has arranged their machines along process handling lines.*



**QUESTION 105 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



You have a time-bound, directed material flow which is **not** physically

linked. Which type of production organization does this suggest?

**Select one:**

Job shop production *Flow production*

Batch production

Transfer lines



**QUESTION 106 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following situations describes a group organization?

**Select one:**

A company whose machines are automatically arranged in the material flow, with machines grouped together according to the object principle.

A company whose machines are automatically arranged in the material flow, with machines grouped together according to the process principle.

*A company whose machines are automatically arranged in the material flow, with machines grouped together according to tasks*.

A company whose machines are automatically arranged in the material flow, with machines grouped together according to the site principle.



**QUESTION 107 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following is a typical flexible production system?

**Select one:**

A company which groups machines and personnel together according to the task principle and can move individual machines or groups of employees around.

A company whose modular production islands are assembled according to the flow principle with flexible, built-in buffers and a two-tier kanban system.

A company whose machine layout is based on the job shop principle, in which personnel and buffers are controlled by a flexible kanban system.

*A company whose machines are automatically activated via software, whereby the sequence can be modified and adjusted depending on the workpiece*



**QUESTION 108 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



How would you define production principles within production management?

**Select one:**

*The type of production determines the output rate and hence the extent of repetitions.*

The type of production determines the throughput time and hence the performance quality.

The process type determines the throughput time and hence the inventories of finished products.

The process type determines the range of production and hence the throughput time.



**QUESTION 109 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following illustrates mass production?

**Select one:**

*A rubber mat manufacturer which produces large quantities of the same type*

A pillow manufacturer which produces large quantities for later customization A juice bottling company which bottles large quantities of different varieties

An electronics manufacturer which produces large quantities of different variations



**QUESTION 110 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



A decorations manufacturer produces their products in large quantities. When one series is complete, they switch to the next series. Which type of production is described here?

**Select one:**

Mass production Continuous batch production Jobbing production *Batch production*



**QUESTION 111 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



A manufacturer of decorative items produces their collectible plates in limited quantities and for a limited period. Once a certain quantity of one variation has been manufactured, production switches to the next quantity.

Which type of production type is being described here?

**Select one:**

Mass production *Continuous batch production* Batch production Jobbing production



**QUESTION 112 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following principles lend themselves to jobbing production?

**Select one:**

Mixed production and flow production

Mixed production and job shop production ***Workbench production and site fabrication*** Job shop production and site fabrication



**QUESTION 113 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following production principles lend themselves to mass production?

**Select one:**

Workbench production and flow production *Mixed production and flow production*

Production segmentation and workbench production

Site fabrication and job shop production



**QUESTION 114 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following production types are suitable for site fabrication?

**Select one:**

Batch production in quantities of 50 to around 200 pieces only *Jobbing production in quantities of 1 to around 3 pieces only*

Small-series production in quantities of 3 to around 50 pieces only

All production types (from jobbing production to mass production), in all quantities



**QUESTION 115 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following production types are suitable for job shop production?

**Select one:**

*Small-series to batch production in quantities of 3 to 200 pieces*

All production types (from jobbing production to mass production), and all quantities Jobbing production in quantities from 1 to around 3 pieces only

Jobbing production and mass production in quantities of up to 3 and 200+ pieces



**QUESTION 116 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



In which of the following situations is production segmentation used?

**Select one:**

In order to operate without a control and information system In order to implement repeated product modifications

In order to hire large numbers of employees with minimal qualifications

*In order to combine cost and productivity benefits*



**QUESTION 117 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following characterizes the formation of production segments?

**Select one:**

Production segments without any specific competitive strategy orientation are formed and can be organized individually

*Employees are required to take responsibility for the entire process and should therefore be given both direct and indirect tasks*

A stable system and a consistent structure creates a high level of identification with the company.

Cost responsibility is designed to give employees a reduced, more specialized workload.



**QUESTION 118 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



What are the benefits of consistent production segmentation?

**Select one:**

At a spice packaging company, production segmentation leads to improved material flows by reducing inventories throughout the production lines.

At a cigarette manufacturing company, production segmentation leads to shorter material flow times by reducing preparation work in production.

*At a lamp manufacturing company, production segmentation leads to a reduction in throughput times by improving material flows.*

At a battery manufacturing company, production segmentation leads to an improved material flow by using mass production techniques.



**QUESTION 119 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



What effects is a transition from job shop production to production segmentation likely to create?

**Select one:**

Fewer variants are possible, but mass production is supported. Employee satisfaction rises and qualification requirements are reduced. *Inventories and logistical coordination work are reduced*.

The layout is improved and throughput times are increased.



**QUESTION 120 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following statements about a modular factory is true?

**Select one:**

A modular factory cannot use production segmentation with fluctuating demand.

*A modular factory can increase the company’s performance potential with production segmentation.*

Production segmentation allows a modular factory to be used for jobbing or mass production.

In a modular factory, inventories (particularly in production) can increase sharply with production segmentation.



**QUESTION 121 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following aspects should be taken into account

when forming production segments?

**Select one:**

From a controlling perspective, production segmentation should be designed as a profit center. All products with different competitive strategies should pass through the same production.

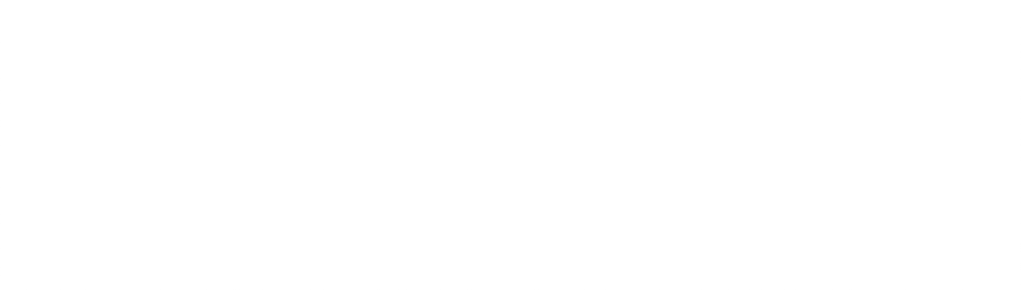
*A focus on specific products results in minimal production breadth and a high production depth.*

For employees, there is a separation between planning / executing and direct / indirect activities.



**QUESTION 122 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following is a benefit of production segmentation?

**Select one:**

Employees must take on many tasks to facilitate mass production. *Set-up times are significantly reduced, leading to shorter throughput times*.

Existing structures are retained or remain virtually unchanged.

Planning and pre-production work is minimal.



**QUESTION 123 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following is a disadvantage of production segmentation?

**Select one:**

Only a small number of variants may be produced. Low level of identification with the product & the company. The production system can quickly become confusing.

*Employees must take on numerous indirect tasks*.



**QUESTION 124 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which approach facilitates faster development operations?

**Select one:**

*Simultaneous engineering* Industrial engineering Business reorganization Mass customization



**QUESTION 125 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following examples represents simultaneous engineering?

**Select one:**

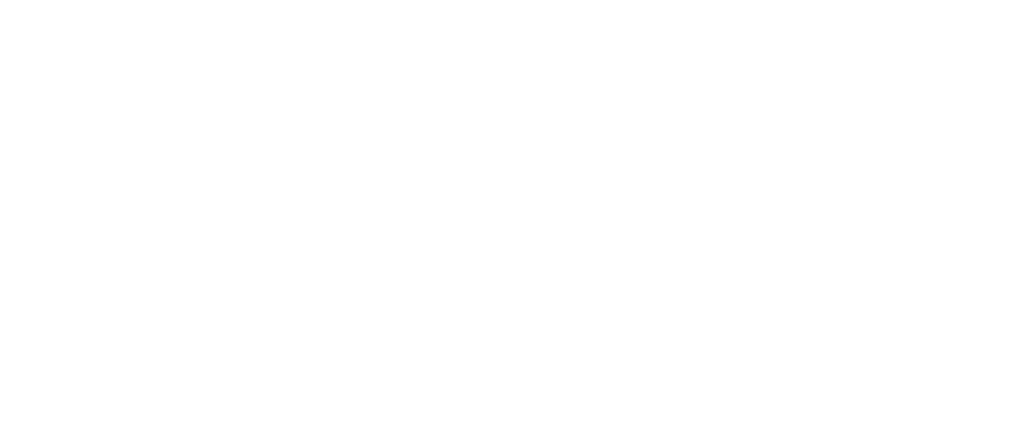
*A company running predecessor and successor processes simultaneously* A company running predecessor and successor processes successively A company trialing different development projects successively

A company running multiple development projects simultaneously



**QUESTION 126 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following is a disadvantage of simultaneous engineering versus “regular”

production?

**Select one:**

*Changes are labor-intensive, primarily due to the numerous feedback loops required in order to reach agreements with the departments.*

Timings are adversely affected, primarily due to the poor information flow and the numerous feedback loops with the departments.

This approach can only be used for variant production to simplify the planning of procedures and processes.

This approach can only be used with process and project management methods to a very limited extent, and control is therefore far more complex and requires a completely different technique.



**QUESTION 127 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



How should the simultaneous engineering approach deal with cross-departmental functions?

**Select one:**

*They should be incorporated into the planning process early on to address the potential consequences.*

They should not be incorporated into the planning process at all to avoid unnecessary duplication of work and confusion.

They should be the first ones incorporated into the planning process to allow fast planning of the most complex departments.

They should be incorporated into the planning process at a late stage to save costs and other resources.



**QUESTION 128 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which factors must be taken into account with the simultaneous engineering approach?

**Select one:**

*Employees and other stakeholders should have a high degree of self-control*. Employees should be extensively trained in technical areas.

Individual teams should launch the processes in different sequences.

Employees should work through the processes very quickly.



**QUESTION 129 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which factors should be taken into account with parallelization?

**Select one:**

Management should be standardized. *Dependencies within processes should be known*. Technical aspects should be disregarded.

Repetitions should be used with employees.



**QUESTION 130 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following defines the simultaneous engineering approach?

**Select one:**

Precise planning of the design phase and construction processes Precise description of technical/organizational requirements *Simultaneous operation of development and performance processes* Simultaneous projects by the design and engineering departments



**QUESTION 131 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following is an organizational aspect of standardization?

**Select one:**

A company wishes to standardize a product’s production phases. A company wishes to standardize a product’s material components. *A company wishes to standardize the interfaces between projects*.

A company wishes to standardize manufactured modules and elements.



**QUESTION 132 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following two strategies are types of postponement?

**Select one:**

*Assembly postponement and geographic postponement* Construction postponement and distribution postponement Variety postponement and distribution postponement

Full construction postponement and regional postponement



**QUESTION 133 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which of the following refers to postponing the design of products and service bundles?

**Select one:**

Full-time postponement Manufacturing postponement Logistics postponement *Form postponement*



**QUESTION 134 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



What does the mass customization concept refer to?

**Select one:**

Linking the competitive strategies of “market leadership” and “differentiation” plus low staff levels through a high degree of individualization

Linking the competitive strategies of “market leadership” and “differentiation” plus low staff levels through large inventories

Linking the competitive strategies of “cost leadership” and “differentiation” plus high customer benefits through large inventories

*Linking the competitive strategies of “cost leadership” and “differentiation” plus high customer benefits through variety*



**QUESTION 135 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



How is the risk pooling effect used?

**Select one:**

To reduce risks and minimize production flexibility

To increase the level of service while simultaneously reducing inventories

To increase risks while improving the inventory situation within production

*To balance out fluctuations in demand with different product variants*



**QUESTION 136 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Full speculation postponement is classed as which type of postponement?

**Select one:**

Logistics postponement *Time postponement* Full-time postponement Form postponement



**QUESTION 137 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which of the following is a feature of manufacturing postponement?

**Select one:**

Economies of scale are exploited

Distribution procedures are slowed down.

*Distribution is standardized*.

Performance differentiation is postponed to the end.



**QUESTION 138 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 02**



Which type of postponement makes it difficult to achieve economies of scale?

**Select one:**

Logistics postponement Full speculation

*Full-time postponement*

Form postponement



**QUESTION 139 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 02**



Which of the following situations describes a feature of logistics postponement?

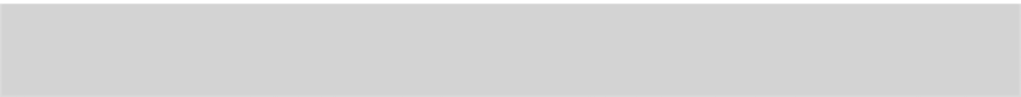
**Select one:**

*A golf glove manufacturer has large standard quantities produced in Asia in a range of sizes, features and colors. They are warehoused in Bremen and order-picked and dispatched in minimum order quantities of 3*

A handbag manufacturer produces handbag variants in different modules. Upon receipt of a specific order, the modules are assembled in different sizes, features and colors, order-picked and dispatched.

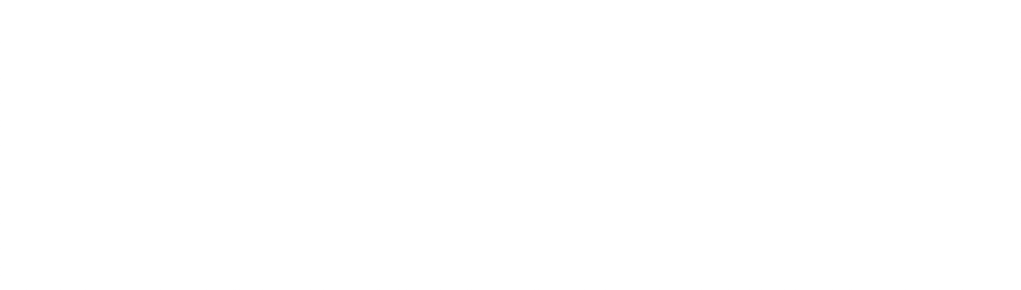
A clothing manufacturer keeps production facilities on standby but does not begin manufacturing until orders are received for particular sizes, features and colors. These are then uniformly dispatched in a standardized system.

On receipt of customer orders, a ceramics manufacturer produces special collectible plates and stores them until production is complete, then dispatches the personalized orders.



**QUESTION 140 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



What is one of the benefits of postponement?

**Select one:**

It increases production figures

It identifies deviations between target and actual *It reduces variant diversity*

It increases the number of transport service-providers



**QUESTION 141 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following is an operational objective of production logistics?

**Select one:**

Long-term capacity utilization of the information system Long-term protection of resources

Improved operational and organizational structure

*High short-term deadline compliance*



**QUESTION 142 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which of the following situations describes a strategic objective within production logistics?

**Select one:**

A car manufacturer coordinates the production sequence internally with the workforce and determines the best sequence for maximizing technical capacity utilization.

*A window manufacturer signs long-term agreements with their glass suppliers and several other suppliers and agrees multiple delivery concepts compatible with the flow of materials*

A baked goods manufacturer adjusts production capacity to reflect anticipated sales volumes and also attempts to optimize potential batch sizes

A radio manufacturer uses their information system to analyze wastage and their production system’s set-up times



**QUESTION 143 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following influences operational production logistics?

**Select one:**

Adherence to deadlines

*Organizational processing sequence*

Capacity units

Manufacturing process



**QUESTION 144 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which framework conditions should companies consider for their

operational production logistics?

**Select one:**

Production batch size *Production structure*

Production range

Transport costs



**QUESTION 145 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which of the following correctly describes a positive effect of reducing inventories?

**Select one:**

Excessively high inventories are often accumulated in holding areas in production to balance out fluctuations. Low inventories means less flexible production.

Interim storage facilities often use insufficient transport means, particularly with high inventory levels. Higher inventories reduce overall throughput times.

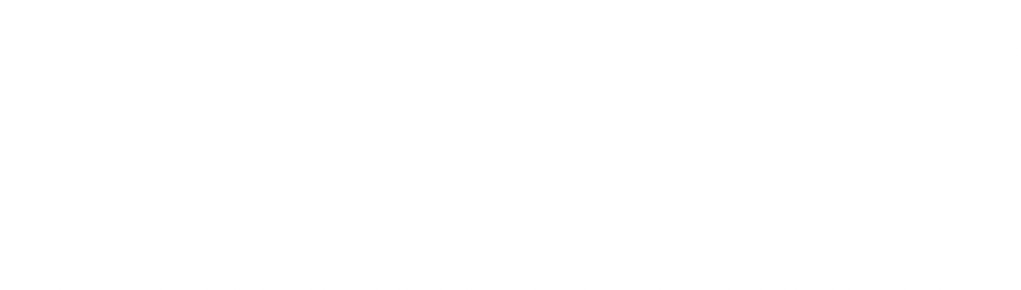
Interim storage facilities often use insufficient transport means, particularly with high inventory levels. Increasing means of transport has a positive effect.

*Excessively high inventories are often accumulated in holding areas in production to balance out fluctuations. Scheduling errors become apparent with low inventories.*



**QUESTION 146 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



The term time to market means ...

**Select one:**

*A company’s competitive capability*

The length of a product life cycle

How long a product remains on the market

The time frame until a market or industry is saturated



**QUESTION 147 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following has a major influence on throughput times?

**Select one:**

Product quality, supply and inventories *Planning quality, costs and risks*

Supply, disposal and inventories

Flexibility, strategies and product quality



**QUESTION 148 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What is a core hours analysis?

**Select one:**

Comparing human processing times with machine processing times.

*Analyzing material flow times in an attempt to reduce throughput times.*

Recording the results of core working hours and comparing against the overall result.

Analyzing the costs and processing times of the core business.



**QUESTION 149 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



What can a porcelain manufacturer do to reduce the high costs

associated with long throughput times?

**Select one:**

Try to reduce the number defective products by conducting pre-sale quality checks

Try to reduce the number of defective products by increasing capacity and reducing capacity utilization

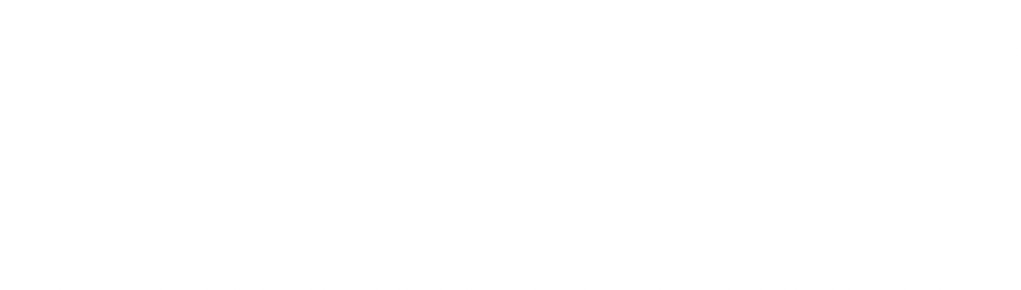
Try to reduce storage times and inventories with longer machine set-up times

*Try to reduce workstation queues by optimizing processes*



**QUESTION 150 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following is particularly interesting from a logistics perspective for the optimization of material flows?

**Select one:**

*Reduce transition times between individual capacity units*

Central control of production for easier procurement of information

Cut costs with volume discounts for increased inventories

Employee group concepts help to reduce capacity use



**QUESTION 151 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following is an organizational element of materials flow optimization?

**Select one:**

Introducing the push principle for segments Increasing transport routes and containers *Coordinating batch sizes and capacities* Reducing the pull principle for customers



**QUESTION 152 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which basic principle of production logistics states that it is **not** expedient for logistics to focus unilaterally on the production process?

**Select one:**

The basic principle of control loops

The basic principle of complete processing *The basic principle of integrity*

The basic principle of flow optimization



**QUESTION 153 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



In which format should the machines within a flexible factory layout be arranged?

**Select one:**

In accordance with the construction site principle for problem-free use of operating equipment In accordance with the job shop principle for problem-free layout changes

In accordance with a segmented principle for problem-free group working

*In accordance with the flow principle for a problem-free flow*



**QUESTION 154 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following statements about the flexible factory layout is true?

**Select one:**

Machines should be arranged according to the job shop principle for fast changes with layout segments.

*Carefully planned spatial organization enables better employee contact.*

When moving to a different zone, employees should be able to take the required equipment with them.

A good spatial organization allows a uniform capacity to be maintained

.



**QUESTION 155 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What is the principle behind self-organizing and self-regulating control loops?

**Select one:**

The push principle The job shop principle *The pull principle*

The flow principle



**QUESTION 156 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which aspects must be considered in the complete processing approach?

**Select one:**

*Employees have a high level of self-control and are responsible for ensuring that only perfect parts are forwarded to the next station.*

The materials and tools supplied to workers are controlled for them to help them work quickly.

One group is responsible for all production quality checks to relieve the pressure on other manufacturing groups.

One employee manufactures the entire product in order to achieve fast throughput times.



**QUESTION 157 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which of the following situations describes harmonization of the production flow?

**Select one:**

*A hiking boot manufacturer uses a flow principle and complete processing to protect themselves from fluctuating customer orders.*

A medical devices manufacturer uses a process improvement system with significant division of labor to protect themselves from fluctuating customer orders.

An animal feed manufacturer uses conventional job shop production and early planning to create maximum capacity utilization.

A smart phone manufacturer uses a significant division of labor within their process improvement system to create maximum capacity utilization.



**QUESTION 158 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Just-in-time production is linked to which important condition?

**Select one:**

The recipient’s IT system must be particularly secure and only used internally to facilitate quality monitoring.

The supplier should produce large quantities wherever possible and notify the recipient in advance via the IT system.

The supplier and the recipient should build up their minimum capacities to allow the production of large quantities.

*The supplier and the recipient of parts should coordinate with one another and ensure geographical proximity.*



**QUESTION 159 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following is an objective of the just-in-time principle?

**Select one:**

To develop back-up and buffer stocks

To increase capital tie-up, especially in the warehouse To develop hierarchies within the organization

*To increase the responsibility of individual employees*



**QUESTION 160 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Why is the just-in-time strategy particularly complex?

**Select one:**

It involves planning various logistical parameters such as inventory management as well as integration into TQM and other tools to improve the process.

*It involves planning various logistical parameters such as materials flow technology, the definition of material flows and production control.*

It involves planning various logistical parameters such as quality assurance as well as the integration of suppliers into the incremental improvement process.

It involves planning various logistical parameters such as the infrastructure as well as the integration of suppliers into the process chain with lean management components.



**QUESTION 161 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following applies to just-in-time production?

**Select one:**

Just-in-time production may be applied without inventory risks.

Just-in-time production should be considered independently of the material flow.

Just-in-time production may be applied with numerous variants and large quantities. *Just-in-time production should be considered on a cross-functional basis*.



**QUESTION 162 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following is a disadvantage of just-in-time?

**Select one:**

The more suppliers a company uses, the longer the overall throughput time becomes.

Low transport costs allow time buffers to be utilized more rapidly.

There are too many buffers and warehouses within the overall system.

*The higher the number of product variants, the less punctual the system becomes.*



**QUESTION 163 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What does the flow rate in production logistics indicate?

**Select one:**

Overall throughput time versus the slowest process *Ratio of processing time to throughput time*

Ratio of bottleneck processes to machining processes

Quotient of arrival time and processing time



**QUESTION 164 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following is a requirement of just-in-time production logistics to reduce long delay lines and avoid excessive capital tie-up?

**Select one:**

*Limit the variety of parts with standardization and modularization.*

Significantly limit the number of variants at the end of the value appreciation curve.

Design parts and products in even greater detail with more interfaces. Common parts should have more interfaces to make them more assembly-friendly.



**QUESTION 165 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which concept is comparable to KANBAN?

**Select one:**

*Just-in-time*

Lean management Industrial engineering

Workload-based order release



**QUESTION 166 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which the following situations is practicing kanban control?

**Select one:**

At a mattress manufacturer, the worker in the final process orders parts from the worker at the first process to begin production.

*At a suitcase manufacturer, the worker in the final process orders parts from the preceding process to continue the process*

At an office furniture manufacturer, workers simultaneously send their requirements and orders to the preceding or other upstream processes.

At a clothing manufacturer, the first worker begins production and passes it on to the next worker. Anything which is not required is warehoused.



**QUESTION 167 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which of the following statements about kanban is true?

**Select one:**

*Kanban includes decentralized production control to enable synchronization via the pull principle*.

Kanban synchronizes the company’s control loops with a pull principle and an information system focusing on throughput times.

Kanban aims to empty the containers as quickly as possible and supply downstream stages without being prompted.

Kanban includes regulating control loops with a card system based on the push principle.



**QUESTION 168 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following is **not** necessarily required for kanban control?

**Select one:**

*Information system for data logging* Defined control loops Container management with kanban cards

Kanban cards tailored to the company



**QUESTION 169 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which rules are available for improving quality within kanban-controlled production?

**Select one:**

Reject parts should be filtered out in the final inspection *Reject parts should be removed immediately upon detection*.

Quality workshops are held at regular intervals to train the management.

Machines are used for quality monitoring to ease the pressure on workers.



**QUESTION 170 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



How many kanbans should be provided for each container?

**Select one:**

Kanbans are not usually secured directly to the container because they get lost. Precisely one card which is linked to the container and shows what is being produced.

Precisely two cards, so that one of the cards can be given to the upstream station and one to the downstream station.

*At least two cards, so that one remains on the container and at least one is used for communication*



**QUESTION 171 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Kanban is ...

**Select one:**

*A concept for implementing synchronized production control*

An automation system to halt the material flow early. A tool for achieving synchronized warehousing and transportation.

A mechanism for avoiding internal quality control.



**QUESTION 172 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Cumulative quantity concepts are mainly used ...

**Select one:**

To coordinate the production quantities of finished end products with suppliers and the associated warehousing and transportation.

For the internal and external analysis and control of production parts and their process operations, together with the related warehousing and transportation.

*To coordinate production parts in different degrees of readiness and the related warehousing and transportation.*

To plan the sequence of semi-finished parts within the company and the related warehousing and transportation.



**QUESTION 173 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What is a target cumulative quantity?

**Select one:**

A target cumulative quantity describes fluctuations in volume after optimization. *A target cumulative quantity describes planned fluctuations in volume*.

A target cumulative quantity describes actual fluctuations in volume.

A target cumulative quantity describes fluctuations in volume minus a defined factor.



**QUESTION 174 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



Which of the following is **not** a cumulative quantity?

**Select one:**

Cumulative demand quantity *Cumulative investment quantity* Cumulative material flow quantity Cumulative planned input quantity



**QUESTION 175 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



A cumulative quantity system is easily combined with which concept?

**Select one:**

*Just-in-time* Kaizen Kanban

Sequence planning



**QUESTION 176 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following is a prerequisite for cumulative quantities?

**Select one:**

They are ideally used with processes which are susceptible to errors, as this allows the use of various optimization tools.

*A large number of shipments, so that the interim buffering of shipments can be avoided.*

A variable production size ranging between jobbing production and mass production.

Supplier management is not required. New suppliers may be signed up at any time.



**QUESTION 177 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following is a benefit of the cumulative quantity system?

**Select one:**

Any obstacles are detected by procedural analyses and can be reduced by means of escalations.

Ahead-of-schedule work is detected by benefit/value analyses and optimizations implemented.

*Backlogs are detected by target/actual comparisons and counteractive measures initiated.*

Deviations are detected by material flow analyses and new processes initiated.



**QUESTION 178 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which of the following statements on cumulative quantities is correct?

**Select one:**

If the actual cumulative quantity exceeds the target cumulative quantity, there is a shortfall and counteractive measures should be initiated.

Target cumulative quantities document planned quantities, while actual cumulative quantities document cumulative quantities which are still achievable.

Cumulative quantities are the cumulative logging and emulation of material movements within the spatial layout, linked to its processes.

*Cumulative quantities are ideal for use in situations with minimal random downtime in the production process blocks.*



**QUESTION 179 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



Which of the following companies performs a priority check following a workload-based order release?

**Select one:**

*An auto manufacturer begins by backward scheduling the planned throughput times then orders them by start date*

A motorcycle manufacturer begins by forward scheduling the planned throughput times then orders them by end date.

A lamp manufacturer begins by forward scheduling the actual throughput times then orders them by end date

A furniture manufacturer begins by backward scheduling the actual throughput times then orders them by start date



**QUESTION 180 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What is a work-ahead window?

**Select one:**

Orders classed as important are brought forward with a workload-based order release.

The time calculated as the earliest possible start date with backward scheduling of orders.

The long-term corporate vision for the strategic area of production segmentation.

*The period between the deadline and the scheduled date with a workload-based order release.*



**QUESTION 181 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



What does the load limit indicate?

**Select one:**

*It checks whether the maximum load is reached by a test operation in the planned throughput time.*

It tests whether the maximum capacity is adequate if the planned output operates with an increased throughput time.

It checks whether the maximum output can be attained if the planned capacity is increased.

It checks whether the maximum inventory is sufficient if the planned capacity operates with an increased throughput time.



**QUESTION 182 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What does a workload-based order release help to avoid?

**Select one:**

High inventories in the warehouse An increase in updated data volumes

*Material queues before the workstations*

Increased capacity at a workstation



**QUESTION 183 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



With a workload-based order release, what is the range?

**Select one:**

How long restructuring measures within production will take *How long a station remains active if there is no further input*

How long warehouse stocks will last if there is no further input

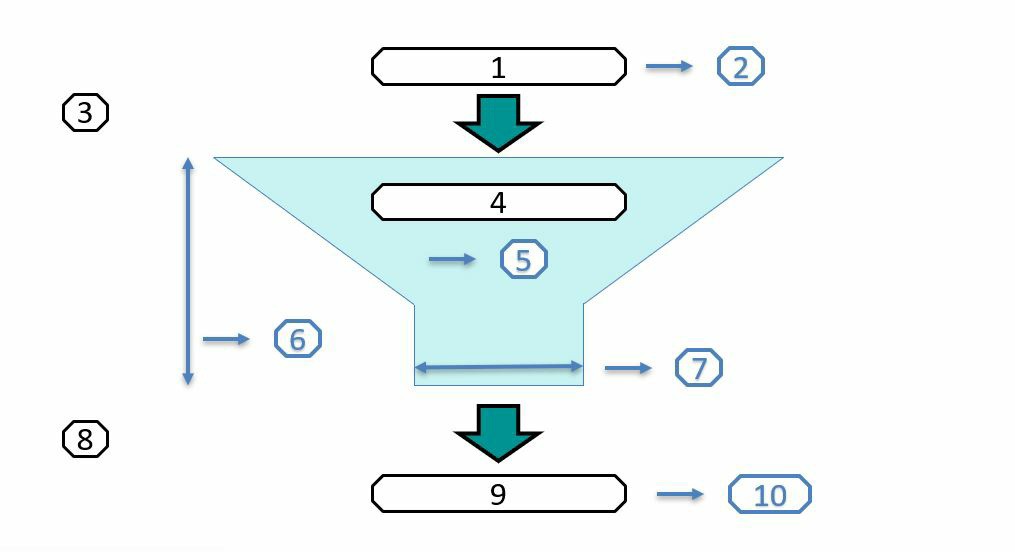
How long finished production will take until the final order is complete



**QUESTION 184 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**

Complete the terms belonging to each number on the chart.



# Select one:

1. Input (hrs)

4. Inventory

7. Capacity

9. Output (hrs)

3. *Incoming orders*

*5. Inventory*

*6. Throughput time*

*9. Output (hrs)*

1. Incoming orders

6. Capacity

7. Throughput time

10. Input (hrs)

1. Input (hrs)

4. Inventory

6. Performance

10. Capacity



**QUESTION 185 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What happens when an order is urgent and does **not**

exceed the load limit?

**Select one:**

*It enters production as part of the workload-based order release*

It is developed as a new type of process within the workload-based order release

It is rejected by the workload-based order release because it exceeds capacity

Its throughput time will be rescheduled within the workload-based order release



**QUESTION 186 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which of the following wastage types **cannot** be avoided by the lean production approach?

**Select one:**

*A manufacturer of decorative items leaves several pallets aside for months after production at the customer’s request*

A trainer manufacturer is having problems with machine capacity utilization and often experiences excessively high capacity

A computer manufacturer accumulates very large buffer stores to safeguard the supply to their production line.

A motorbike manufacturer must wait a long time for deliveries from suppliers for their special edition.



**QUESTION 187 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What does the kaizen approach entail?

**Select one:**

Precise production planning *Continuous process improvement*

Regular discussions with competitors

A sudden improvement in suppliers



**QUESTION 188 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What is the 3M approach?

**Select one:**

Avoid certain types of pointless wastage such as muro, muda and mure.

Consider the competitive situation with respect to competitors, the environment and the market situation.

*Minimize the problem areas of imbalance, overloading and wastage*.

Analyze the most common sources of errors: man, materials and machine.



**QUESTION 189 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



What is the explicit purpose of the heijunka approach?

**Select one:**

To reduce shipments

To describe the material flow *To level out the material flow* To improve inventory stocks



**QUESTION 190 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 03**



How would you explain shop floor management in a lean management context?

**Select one:**

All required production goods are supplied to a certain point Concepts for supermarkets and trading companies to improve turnover Required activities are taken over by a supplier *Visualization of operations and calculation of indices*



**QUESTION 191 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 03**



Which processes hinder the flow principle? How can they be rectified?

**Select one:**

*A company with defective processes attempts to rectify them by integrating a system of controls.* A company with limited flexibility attempts to rectify this with jidoka.

A company with non-value-adding processes attempts to rectify this with jidoka.

A company already uses a good pull principle and wants to improve it with line stop concepts.



**QUESTION 192 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 03**



What does the poka yoke concept entail?

**Select one:**

Machines are built in such a way that a batch size of 1 can be achieved even with changeovers. Machines are built in such a way that they halt automatically in the event of deviations.

*Machines are built in such a way that they can only be operated correctly*.

Machines are built to allow them to be positioned within the layout of the production flow.



**QUESTION 193 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following is an objective of layout planning?

**Select one:**

To introduce interruptions to the materials flow. To create a layout organized solely by functions. The layout should focus solely on production.

*To include options for future expansion*.



**QUESTION 194 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following aims to optimize the internal infrastructure?

**Select one:**

Reverse engineering The six sigma approach

The kanban system

*Layout planning*



**QUESTION 195 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Within the context of factory design, how would you define segmentation?

**Select one:**

The segmentation approach breaks the company’s production and production logistics down into smaller, functional groups

The segmentation approach breaks the company’s disparate customer groups down into smaller, homogeneous customer groups.

*The segmentation approach allows formal, hierarchical companies to create small, reactive, customer-related groups*.

The segmentation approach breaks the company’s process organization down into smaller, functional groups



**QUESTION 196 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



What is the opposite of a modular factory?

**Select one:**

A team-centric factory

A process-organized factory A product-centric factory

*A functionally organized factory*



**QUESTION 197 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following concepts is considered superior in terms of performance potential and the extra work needed to meet production targets?

**Select one:**

Productivity orientation Technology orientation Learning curve theory *Segmentation*



**QUESTION 198 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Philosophically and procedurally, reverse engineering is the opposite of which

approach?

**Select one:**

Simultaneous engineering System re-engineering Design engineering *Industrial engineering*



**QUESTION 199 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



What are the objectives of reverse engineering?

**Select one:**

To redesign products according to the customers’ design requirements *To reorganize the supply chain based on the outcome and the market* To redesign products according to the outcome of simultaneous engineering To reorganize the process chain according to supplier requirements



**QUESTION 200 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following companies practices reverse engineering? correctly?

**Select one:**

An animal feed manufacturer tries to add value by working backwards with a consistent focus on suppliers and supplier management

An office supplies manufacturer tries to improve efficiency by emphasizing their products and different methods of industrial engineering

A toy manufacturer tries to improve efficiency by transferring tasks and skills to functional departments.

*A lamp manufacturer tries to reduce wastage, improve efficiency and add value to their processes by deconstructing their products.*



**QUESTION 201 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



What is meant by “production segmentation” in a factory organization context?

**Select one:**

Product-centric organizational units with a low degree of direct cost responsibility.

Function-centric organizational units with a low degree of cost responsibility and competition.

*Product-centric organizational units with the potential to pursue a specific competitive strategy.*

Product-centric organizational units with the transfer of direct functions and minimal cost responsibility.



**QUESTION 202 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



How would you characterize the concept of process chain organization in a factory design context?

**Select one:**

*It considers inputs, outputs, expenditure and cross-functional collaboration*

It considers input/output descriptions organized in parallel by functional departments

It considers “production modules” as operators which create hierarchical cooperation.

It considers “production modules” as operators which carry out tasks by phase.



**QUESTION 203 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which sales market-related functions should exist in a network?

**Select one:**

Production and procurement *Sales offices and customer service* Production and sales offices Procurement and customer service



**QUESTION 204 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which network activities do **not** require geographical proximity to

the sales market?

**Select one:**

*Procurement activities, because they need only be cost-effective and ensure good availability*.

Transformation activities, because they need only be well-distributed and equipped with information systems.

Distribution activities, because they need only meet the requirements for good customer accessibility.

Transshipment activities, because they need only have a good input factor ratio.



**QUESTION 205 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



What effects do economies of scale have?

**Select one:**

Sales decrease as productivity increases *The higher the quantity, the lower the company’s unit costs* A company’s size creates limitations As productivity rises, a company moves closer to its limits



**QUESTION 206 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which transformation process-related decisions are made in

production networks?

**Select one:**

Decide which transformation processes should be given preference over the flow of goods and information so that they can be accelerated.

Through transformation processes, decide which services or productions should be distributed within the network and which should be provided by external partners.

Using a customer survey, decide which transformation processes should be inexpensive and which should be high quality.

*Decide which transformation processes should be centralized in inexpensive locations and which should be located in local proximity to customers.*



**QUESTION 207 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following is a feature of production networks?

**Select one:**

*The layout structure may either be pyramid-shaped or democratically cooperative*. All leadership is centralized and headed up by one leading body.

Production is determined by the contractual involvement of customers.

Information flows should be differentiated and tailored to individual partners.



**QUESTION 208 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following is one of the four principles when designing logistical networks?

**Select one:**

Subordination of information and material flows Parallelization of structures and operations Continuous improvement of logistical areas *Automated exchange of information*



**QUESTION 209 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



The synchronization of information and material flows is a design principle for which area?

**Select one:**

A design principle for mass customization. *A design principle for logistical networks*.

A design principle for simultaneous engineering.

A design principle for the quality management system.



**QUESTION 210 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following situations describes a conglomerate network?

**Select one:**

A smartphone manufacturer collaborates with a telecoms provider to ensure that their products are marketed at good rates.

*A bicycle manufacturer collaborates with an auto manufacturer to improve and manufacture the drives for their e-bike*

A book printer collaborates with another book printer to allow volume scaling.

A salad producer and an oil manufacturer have their products displayed side-by-side in the supermarket and offer mutual purchase recommendations.



**QUESTION 211 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which type of network do companies on the same level of the supply chain create?

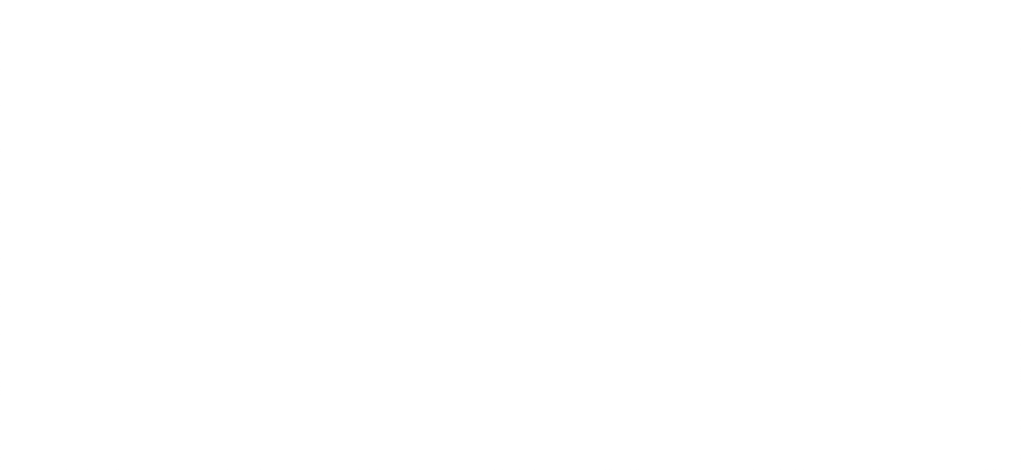
**Select one:**

*A horizontal network* A vertical network A complex network A lateral network



**QUESTION 212 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following situations is the **opposite** of the kaizen concept?

**Select one:**

*A soft drinks bottling company is planning to restructure all units and purchase new bottling machines to massively improve quality.*

An animal feed manufacturer will undertake a full analysis and simulation of production in order to incorporate new arrangement systems and efficiently improve productivity.

A supplier is setting up IT links between all units their partner company to facilitate monitoring and achieve a controlled improvement in productivity.

A bicycle manufacturer is involving and training all units in fault-finding in order to create a learning system for continuous quality improvement.



**QUESTION 213 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which is the main perspective in TQM?

**Select one:**

*The perspective of the management regarding different aspects of the company*

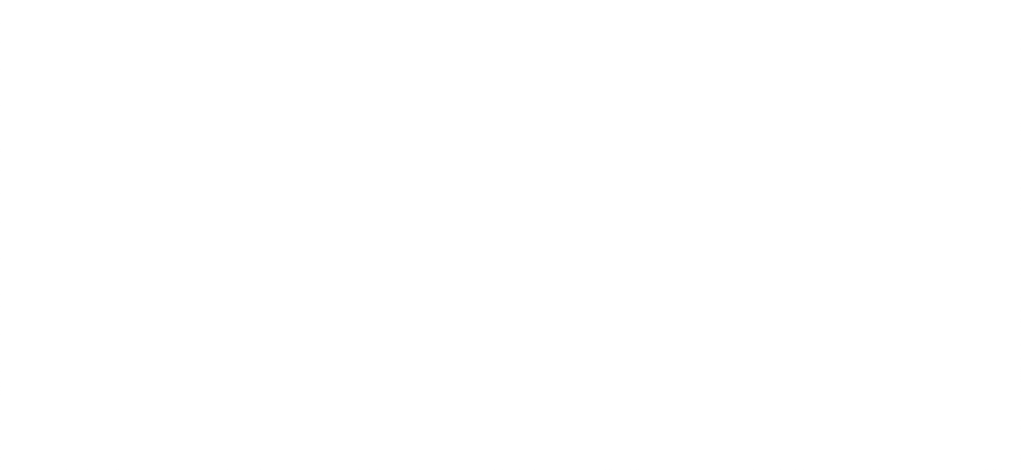
The perspective of the production workers regarding the products and their quality The perspective of all stakeholders regarding product quality within a company

The perspective of suppliers for improving supply quality



**QUESTION 214 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following situations correctly uses the quality aspect of TQM when introducing a TQM system?

**Select one:**

*A company focuses on its customers to deliver the required products and organize internal structures to ensure continuously high standards of quality*

A company analyzes the quality of its products to improve all processes connected with incoming goods inspections and final inspections, with continuous data logging.

A company focuses solely on its customers to deliver the required products and uses a quantitative quality analysis software system to monitor its structures.

A company analyzes the quality of its products with a view to improving all internal processes via business process reengineering.



**QUESTION 215 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following is one of the objectives of a quality management system?

**Select one:**

To design efficient operations

To implement processes as quickly as possible To achieve price cuts for customers *To boost flexibility and profitability*



**QUESTION 216 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Defect prevention as a preventive measure is a sub-goal of ...

**Select one:**

*The quality management system* Mass customization

The make or buy analysis

Lean management



**QUESTION 217 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Which of the following is an element of TQM?

**Select one:**

*Customer centricity of the entire company* Improving machine productivity Focus on resource bottlenecks

Focus on technical production operations only



**QUESTION 218 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following companies is using one of the seven QA tools?

**Select one:**

A company which analyzes the depth and breadth of its delivery range

*A company which uses a cause/effect diagram to visualize a problem’s dependencies*

A company which uses organizational feedback loops for subsequent application of a kanban design

A company which uses parameter design to depict interactions between control variables



**QUESTION 219 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following represents the shainin method?

**Select one:**

*A company analyzes key influencing factors to address its quality problems*

A company eliminates disruptions from its production processes to address its process problems

A company introduces automated line stops to address its quality problems

A company analyzes and modifies control variables to minimize inspection and error costs



**QUESTION 220 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following statements about six sigma is true?

**Select one:**

*The main task is to describe, measure, analyze, improve and monitor processes using statistics*.

It serves to improve processes in supplier relationship management with the aim of obtaining supplier statistics.

It serves to perform quantitative checks on manufactured parts and transform them directly to the employees involved in the manufacturing process.

It serves to improve processes and ensure quality management, with a target of 3.4 defective statistics per 1 million statistics.



**QUESTION 221 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



In the context of TQM, which of the following describes the integration of monitoring?

**Select one:**

Manufactured parts are directly and regularly checked by the manufacturing machines.

Delivered parts should be checked as soon as they are unloaded following delivery and then checked again at the end of production.

*The workers on the production lines themselves are responsible for checking manufactured parts.*

The warehouse management system directly checks the condition of incoming goods.



**QUESTION 222 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



In what way does production controlling support production management?

**Select one:**

Coordination of planning and decision-making and the supply of information

Coordination of personnel by means of planning, controls and the supply of information.

*Coordination of controls & checks and the supply of information*.

Coordination of production and logistics by various means, including decision-making, monitoring and the supply of information



**QUESTION 223 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



What is the task of production controlling?

**Select one:**

To coordinate in-house production and logistics To carry out process-related system design in the production zone

*To coordinate internally and with partners*

The system is used for various inventory types in the production zone



**QUESTION 224 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following situations represents system use and

system design in the production zone?

**Select one:**

A skiwear manufacturer using lean management and kanban

*A trading company wishing to define production controlling and related tasks*

A sportswear manufacturer wishing to define the processes within operational planning

A wine producer wishing to coordinate their partners in a supplier management context



**QUESTION 225 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Within strategic controlling, what does the production range structure incorporate?

**Select one:**

*Specification of the breadth and depth of the production range*

Specification of the production process structure and auxiliary processes Specification of the product areas and bill of materials

Specification of the principal product and its variants



**QUESTION 226 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following situations includes strategic production controlling?

**Select one:**

A ceramics manufacturer is considering how to effectively control capacity and bottlenecks in their production facilities

A headphones manufacturer is considering how to calculate the cost of a failure in their production plant

An electronics manufacturer is considering how to improve the idle costs of their production facilities while still maintaining flexibility

*A drinks manufacturer is considering how many different types and varieties of drinks they can produce on the same machine*



**QUESTION 227 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following uses partial billing for a short-term production range plan?

**Select one:**

A company planning a short-term order release within production process planning

A company defining its product areas and the structure of its production range

A company planning its short-term production division accounting for operating equipment scheduling

*A company implementing short-term cost target planning for selected production centers*



**QUESTION 228 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



In which of the following situations is production cost planning preceded by another stage?

**Select one:**

An automotive supplier prepares a cost calculation to supply planning data for operational budgeting

*A supermarket chain collates and analyzes production overheads in order to reduce unnecessary services*

A trading company prepares a production factor plan as part of its production program planning

A chain of petrol stations analyzes deviations from budgeted costs to facilitate cost monitoring within its production control system



**QUESTION 229 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Where are benefit and idle cost analyses predominantly used?

**Select one:**

*In operational production controlling* In sequence planning

In production segmentation

In strategic production controlling



**QUESTION 230 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following statements is true?

**Select one:**

Simultaneous engineering is used to produce low-value variants, and discipline is therefore required when setting up production

*Production program planning occurs simultaneously with the planning of personnel and operating equipment capacity*

Inventory-variable costs rise as the warehousing quantity and duration increases, usually at a disproportionately high rate in comparison to warehouse levels.

The throughput time is permanently influenced by planning quality, costs and risks. Minimization of the throughput time requires a core time analysis.



**QUESTION 231 OF 387**

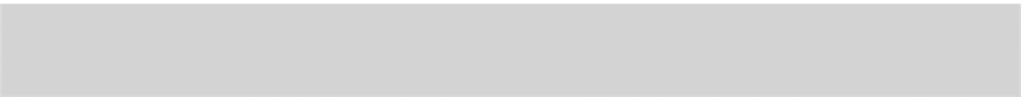
**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which information is obtained from a cockpit system?

**Select one:**

*Demand, capacity, inventories & bottlenecks in production, where applicable in real time* Cost, capacity, inventories and labor time in production, where applicable in real time Demand, capacity, inventories and labor time in logistics, where applicable in real time Demand, cost, inventories and labor time in production, where applicable in real time



**QUESTION 232 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



In which format is the data from a cockpit system delivered?

**Select one:**

*In a condensed and bespoke format* In the form of long-range forecasts

In a qualitative rather than quantitative format

In the form of readily digitizable data



**QUESTION 233 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



Which of the following statements is true?

**Select one:**

The Andler’s model depicts inventory development over time very effectively.

Batch production creates a chronological link between work operations.

Low levels of capacity utilization must be guaranteed so as to optimize the materials flow in the flow principle.

*The time elements of cockpit systems may be supplemented with scheduled idle periods*



**QUESTION 234 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following is a function of a cockpit system?

**Select one:**

*To develop statistics about malfunctions and line stops* To review continuous improvement measures To record regular working hours statistics

To check entered facts for plausibility



**QUESTION 235 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



What can be deduced from the functions of a cockpit system?

**Select one:**

The sub-goals of operations scheduling *The control potential and interruptions to the material flow* The work operations for an order

The planned sequence and order potential



**QUESTION 236 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following are derived from the data captured by a

cockpit system?

**Select one:**

Analyses of production capacity utilization

*Investments in additional machine and transport capacity* Escalation management for the rapid identification of problems Production progress monitoring across multiple orders



**QUESTION 237 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



Prior changes to the materials flow speed are a part of which concept?

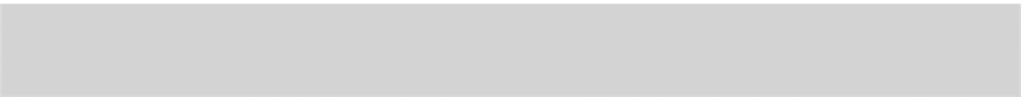
**Select one:**

Monitoring production progress in mass customization

*Data captured from a cockpit system*

Boosting capacity utilization in the kanban system

Escalation management in simultaneous engineering



**QUESTION 238 OF 387**

**DLBLOISCM101\_MC\_schwer/Lektion 04**



The manager of a textiles factory wants to roll out an MRP-I system. What is the correct purpose of such a system?

**Select one:**

To coordinate just-in-time textiles deliveries with the pool of suppliers.

*Primarily to prepare centralized records of fabric orders and deliveries*.

To implement plans and simulations in conjunction with real-time applications.

Primarily to improve and electronically emulate the kanban system within fabric manufacturing and cutting.



**QUESTION 239 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



An APS (advanced planning and scheduling system) is …

**Select one:**

A particular type of lean production to reduce wastage.

*Suitable for use across the entire supply chain.*

A master system for planning factory design.

A system for digitalizing information.



**QUESTION 240 OF 387**

**DLBLOISCM101\_MC\_leicht/Lektion 04**



What name is given to the automation of complex operations in

production logistics using software?

**Select one:**

Business process optimization Production segmentation

*The fourth industrial revolution*

Cockpit system



**QUESTION 241 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 04**



Which of the following statements about cockpit systems is true?

**Select one:**

The function of a monitored cockpit system is to evaluate machine downtimes.

A cockpit system should ensure the segmented, individual generation of logistics data.

Time elements should be supplemented with target and planed idle periods derived from the throughput time.

Vital information about production bottlenecks should be made available after a suitable lead time.



**QUESTION 242 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What does conventional materials management entail? Which problems can arise with an isolated approach?

3 points

Conventional materials management focuses on procurement, material supply and transportation.

1 point

Essentially it’s about supplying materials to ensure they are available at the various production points where they are needed.

2 points

An isolated, separate approach can cause surpluses and shortfalls, waiting times, standstills and absence periods.



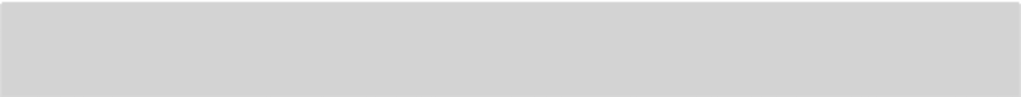
**QUESTION 243 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



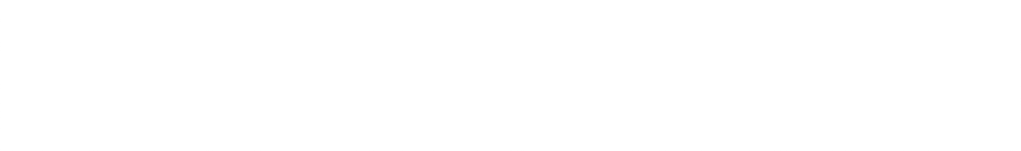
Explain what is meant by the make-to-order concept in production logistics.

With make-to-order, products are not manufactured until a specific customer order has been received. (2 p.). Only the input materials and selected standard components are produced or procured prior to the customer order (2 p.). The inventory risk is minimized, but throughput times are longer. (2 p.)



**QUESTION 244 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Explain in detail the tasks of integrated materials management and briefly describe what led to its development.

3 points

Integrated materials management covers all tasks which determine inventory levels and materials flow. Alongside procurement, warehousing and transportation, this also includes production planning and control functions as well as order fulfilment.

2 points

The task of integrated materials management is to ensure the materials flow from supplier to company including all stages of production through to delivery and order fulfilment.

3 points

Conventional materials management was a limited approach leading to sub-optimum problem-solving. This led to the inclusion of supplier interactions and an improved market supply.



**QUESTION 245 OF 387**

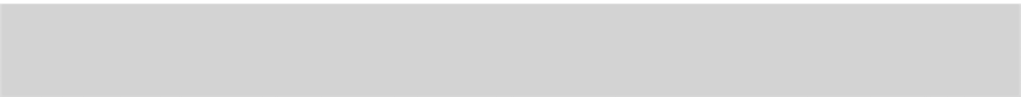
**DLBLOISCM101\_MC\_mittel/Lektion 01**



Explain the tasks of order and warehousing planning.

(2 points per criterion). Order and warehousing planning tasks may be classified into three categories:

1. Planning the optimum order quantity.
2. Planning the order release.
3. Planning the buffer stocks.



**QUESTION 246 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Name 2 features of flexible manufacturing cells and 2 features of production islands.

2 points per feature: In flexible manufacturing cells, complete workpieces are processed on one machine, broken down into separate operations. (2 p.). These cells are capable of operating without human intervention for a limited period, and workpieces are changed over automatically (2 p.). In flexible production islands, workpieces are manufactured entirely in an autonomous spatial zone (2 p.) and workpieces with similar processing features are combined into parts families. (2 p.)



**QUESTION 247 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



From a consumer and sales-related perspective, which problems can arise in connection with materials management?

4 points

As consumer demands become increasingly differentiated, companies face a growing demand for customer-specific problem solutions (2 points), forcing production plants in particular to produce ever more complex products at constant prices if they are to remain competitive. (2 points)

4 points

At the same time, demand is distributed across a larger number of markets, and only global or supra-regional companies are capable of securing competitive advantages with correspondingly high production figures. (2 points). Consequently, companies are often required to develop and manufacture products for an extensive or even global group of consumers while at the same tim exploiting opportunities for differentiation. (2 points)



**QUESTION 248 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Explain the disadvantages of production segmentation.

It requires highly qualified personnel, extensive modifications to existing structures, development of a control system, development of an information system, extensive preparation work, and product modifications. The opportunities for jobbing and mass production are limited, and there is a heavy workload for employees (1 point per criterion)



**QUESTION 249 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



“Würstelmax GmbH” is a large producer of pre-packed sausages for supermarkets. The management is keen to improve the company’s speed and adaptability. Which four environmental conditions should the company consider with respect to the competitive landscape? Explain each environmental condition with a suitable example.

1 point

The company must constantly adapt to changing environmental conditions to safeguard its long-term viability.

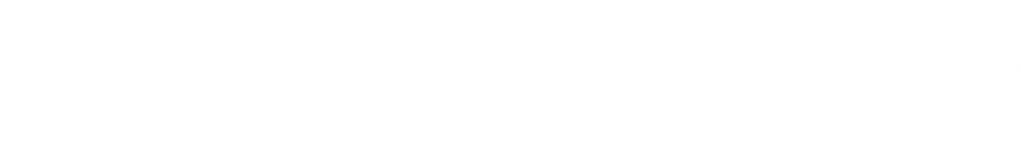
1 point per key term, 1.5 points for an example

* Technical innovation (e.g. better machines, automation, new recipes, preservation)
* Globalization of markets (e.g. competition from competitor products)
* Changing values in society (e.g. vegetarianism, BBQ trends, fewer charcuterie-type products, more marinated meat, organic trends and labeling)
* New, more powerful providers (e.g. fiercer competition, niche products)



**QUESTION 250 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



Name five functions a cockpit system must fulfil when monitoring a materials flow.

* 1. Cross-order view of production progress and extrapolations.
  2. Real-time overviews of orders and escalation management
  3. Planning tools to modify the machining sequence
  4. Evaluations of machine standstills
  5. Availability information about machines, materials and personnel
  6. Evaluation of disruptions and remedies
  7. Generation of disruption and standstill calculations
  8. Evaluations of capacity utilization levels
  9. Ratio evaluations of delivery dates and missed deadlines
  10. Monitoring the development of continuous improvement measures

(2 points per criterion)



**QUESTION 251 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Using an example you have chosen yourself, describe the different types of demand included in the calculation of gross requirements.

1 point per key word, 1 point for the description (secondary demand and tertiary demand, 0.5 points extra each), 1 point for the example

(e.g. furniture sector)

* Primary demand - demand for finished products and spares (e.g. individual pieces of furniture such as sofas for sale).
* Secondary demand - demand for raw materials, individual parts and assemblies needed in order to produce the primary demand (e.g. raw materials such as wood, leather, assemblies = chassis, individual parts = upholstery)
* Tertiary demand - secondary demand plus required materials and supplies (e.g. screws, nails, glue and electricity)



**QUESTION 252 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



Explain when and how an order is released under the workload-based order release system.

(10 points, 1 point per step)

Before an order is released under the workload-based order release system, the system will first check whether it will exceed the load limit or whether there is still sufficient space available within the defined load limit. (1 point). In the case of the latter, the order is released. (1 point). The bottom funnel symbolizes all released orders. (1 p.) The completed orders are represented by the outflow (1 p.). This form of control helps to reduce throughput times (1 p.) and avoid long queues in front of the workstations (1 p.). To ensure that deadlines are met, order dates are calculated with the aid of throughput scheduling before the order is released (1 p.). Based on these dates, individual orders are prioritized (1 p.). Only orders with the highest priority and which do not exceed the load limit are dispatched (1 p.). However, as the orders must pass through various workstations in sequence until they are complete, a dispatch analysis is also required (1 p.).



**QUESTION 253 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Name four pros and cons of a plus/minus bill of materials and its application areas.

2 points

Production stages are visible, and the structure is transparent.

2 points

Extensive bills of materials can be confusing. Repeat parts are not immediately identifiable.

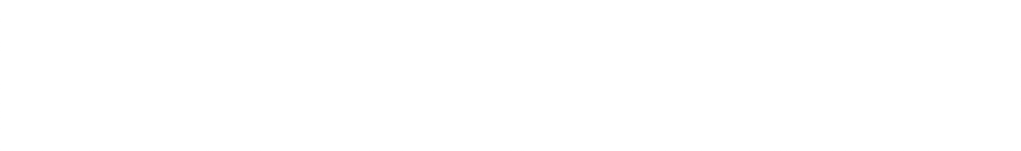
2 points

Production planning and calculating replacement requirements



**QUESTION 254 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Explain your interpretation of this Gozinto chart. Why is this preferable to a product tree?

2 points

The Gozinto chart shows how individual parts become sub-groups, which in turn are combined with other individual parts or groups to become a next-level group.

2 points

The quantitative layout is determined by the production coefficient. It indicates how many quantity units of a subordinate part are incorporated into a quantity unit of the superordinate part. Gozinto charts are widely used because every part or every structural relationship is only listed once.

2 points

This avoids redundancies and associated storage requirements. Changes to parts have less of an impact and do not necessitate the amendment of all flow diagrams containing that part.



**QUESTION 255 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



The term “lean production” originated in Japan and is aimed at avoiding all types of waste. Name the key strategies of lean production.

1 point per criterion:

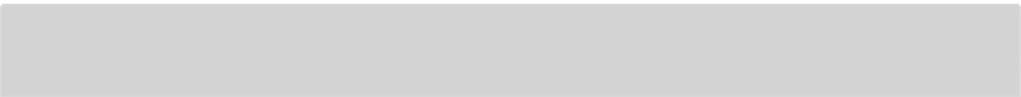
U-shaped machine arrangement Jidoka (autonomation)

Line stop concept

Integration of control

Poka-Yoke (fool-proof production)

SMED (Single Minute Exchange of Die).



**QUESTION 256 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Using a complete, continuous example, explain the approach and tools used in net requirements planning.

2 points for a continuous example (e.g. furniture industry)

(e.g.: Define how many sofas are sold, e.g. 40K sofas = gross; 40K gross - 5K inventories - 1K finished workshop inventories + 2K addition to buffer stocks = 36K net sofas must be produced)

2 points

The net requirement calculation follows on from the gross requirement calculation within the framework of program-linked demand quantity planning. The final stage is to deduct any freely available warehouse stocks.

3 points

Where applicable, workshop inventories over the period in question should also be considered. Stocks reserved for planned orders and buffer stocks plus incoming ordered deliveries in the period under review may be deducted separately.

1 point

This deduction is also known as a net change.



**QUESTION 257 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



List the features of logistics postponement and full-time postponement.

1 point per feature:

The features of logistics postponement are as follows:

Manufacturing to stock is combined with a customer-specific delivery.

Distribution operations are slowed down.

Economies of scale are achieved.

The characteristics of full-time postponement are as follows:

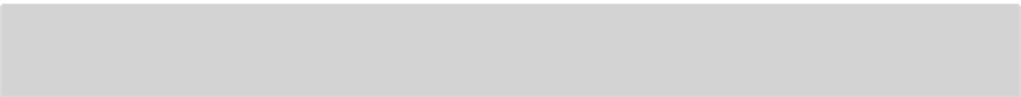
Production and distribution are customer-specific.

Production and distribution do not occur until an order is received from the customer.

The pull principle is strictly observed.

Warehouse stocks are avoided.

Economics of scale are almost impossible to achieve.



**QUESTION 258 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Within the context of order planning, what constitutes a cost-optimized order quantity? Describe the correlations.

2 points

A cost-optimized order quantity applies if the sum total of order costs and warehousing costs are at a minimum level.

3 points

The optimum order quantity is on a line between two extremes: One-off orders for the total material requirements for a given period at the start of the planning period (leading to minimum order costs and maximum warehousing costs)

1 point

and multiple orders for a single quantity unit, leading to maximum order costs and minimum warehousing costs.



**QUESTION 259 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



Time-to-market is becoming ever more critical as a competitive factor. For this reason, production logistics should precisely analyze the elements of production logistics. Name the different elements which make up the throughput time in production logistics.

1 point per element:

The elements of the throughput time are: Execution time

Setup time

Idle period – operationally determined (queuing) Transportation time

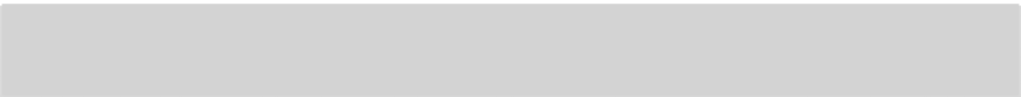
Idle period – Malfunction-induced

Idle period – During warehousing Check time

Packaging

Sorting and order-picking

Troubleshooting time



**QUESTION 260 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



Explain the characteristics of a production network and the principles governing the design of logistical networks.

1 point per characteristic (6 points in total)

A production network gives mutual access to the partners’ resources. Communication between partners is also improved. Services are exchanged between partners at a high level of intensity. Leadership in a production network may be centralized or localized. The organizational structures may be hierarchical or distributed among several companies. Production networks are distinguished by a high level of stability.

1 point per principle (4 points in total):

1. Simplify structures and operations.
2. Synchronize the flows of information and materials.
3. Automate the exchange of information and
4. Modularize logistical systems.



**QUESTION 261 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



With an optimum order volume, how are the order costs structured? What is the graphical correlation with volume? Give three examples of order costs.

3 points

As when determining batch sizes, calculation of the optimum order quantity is influenced by a range of company costs. Fixed order costs are not related to order volume but apply to every order.

2 points

The larger the order volume, the smaller the order costs per unit of quantity (fixed cost degression).

3x 1 points

Order costs include:

* Procurement market research
* Supplier selection and materials scheduling
* Inspection of incoming goods
* Internal transportation
* Storage
* Administrative handling including check procedures.



**QUESTION 262 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Explain how the Economic Order Quantity (OEQ) formula works. How is it structured? What is it used to calculate? Give four examples of the formula’s components.

2 points

It is used to calculate the optimum order quantity. It aims to find the best order policy at minimal costs

2 points

where each lot has the same volume X = [quantity unit] and the inventory is topped up at constant intervals t [time unit]

4 x 1 point

D = Annual demand (units per time unit)

Q = Order quantity (in units per order)

P = Purchase unit price (in euro)

h = Holding cost (%)

K = Cost per order

2 points

This is a statistical model. It does not explicitly emulate inventory development over time. An infinite time horizon is implicitly assumed.



**QUESTION 263 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



Production logistics play a key role when planning the layout and structure of a factory. Modern factories are increasingly being organized along modular lines. What are the distinguishing features of a modular factory design? (Name 3 criteria). Which objectives should layout planning generally follow? (Name 3 objectives). Name 2 key tasks of layout design in production logistics.

A modular factory design is distinguished by the following concepts (3 points: 3 out of the following 4 criteria should be stated):

Reverse engineering

Production segmentation

Focus on processes

- Focus on flexibility

The objectives of layout planning are as follows (3 points: 1 point per objective, name 3 of the following):

Maximize use of the available premises.

Arrange production and storage areas with a view to both production and flow.

Consider the forecasted production range and quantity structure.

Optimize the internal infrastructure.

Ensure that service-providers are seamlessly incorporated.

Create potential for extensions and modifications.

Layout planning should produce a factory design that is centred around materials flow and guarantees exceptional process flexibility.

(4 points: 2 points per task)



**QUESTION 264 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Based on the four assumptions of Andlers’ lot size formula, explain why its use requires careful consideration.

4X 2 points for explaining the assumptions

The key assumptions when applying the conventional lot size formula are:

* The principal cost types when calculating an economic order quantity are the order and warehousing costs (warehousing cost approach).
* The consumption curve is linear.
* The warehousing cost rates are known and remain constant over the monitored period.
* The order costs are known and remain constant over the monitored period.
* The annual demand is known and remains constant over the monitored period.
* The marginal costs for ordering an additional unit with a one-off purchase are constant, i.e. no volume discounts.
* Orders for individual items are independent, i.e. no consideration is given to combined scheduling.
* The replenishment lead time is known and constant.
* Adequate capital and storage space are available for procurement.

2 points for explaining why its use requires careful consideration:

- Many of the assumptions are not particularly realistic in a corporate context.



**QUESTION 265 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



Explain what is meant by TQM in production and the intended objectives.

10 points (1 point per feature):

TQM in production means that all interest groups involved in production are involved in quality management. Communication with customers is particularly important. Quality improvements encompass all hierarchical levels. Furthermore, all company activities must be consistently aligned with quality requirements. Non-customer-relevant activities should be avoided.

The use of statistical techniques is an important tool. Preventing defects is another objective. Quality is the overarching leadership principle. The corporate culture serves as a role model (top down). Employees’ willingness to learn and work as a team are important factors.



**QUESTION 266 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Explain the various purposes of a bill of materials.

1 point per criterion:

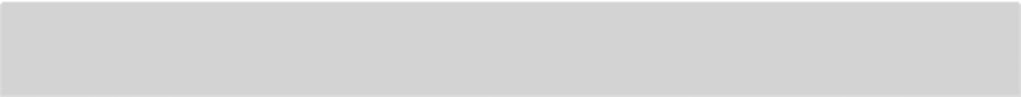
A bill of materials serves the following purposes:

To document and implement modifications

To calculate demand

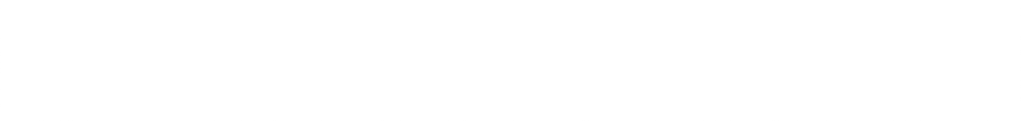
To check availability of materials To provide assembly instructions

To generate checklists and lists of spare parts To document preliminary and final costings



**QUESTION 267 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Which aspects must be defined when planning lot sizes and what are the potential impacts? Explain using an example.

2 points +1 point for the example

When planning lot sizes, it is important to define the product quantity which is to be manufactured between retooling operations (e.g.: total production: 700k smartphones of the White Edition, 500k smartphones of the Special Edition and 1m smartphones of the Normal Edition)

2 points +1 point for the example

For example, where several similar products are manufactured on the same production equipment, calculate the number and size of lots which the total production for a given planning period should be subdivided into. (e.g.: alternate manufacturing of: 7k smartphones of the White Edition, 5ksmartphones of the Special Edition, 10k smartphones of the Normal Edition)

3 points + 1 point for the example

Large lot sizes produce large inventories, which in turn means high warehousing costs. Retooling costs are incurred for every retooling, regardless of the batch size. The level of retooling costs depends on the number of retooling operations in a given planning period (e.g. the planned changeovers will incur 300x retooling costs. Retooling costs and lot sizes should be carefully coordinated).



**QUESTION 268 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Explain the correlations between preproduction costs, warehousing costs and lot size creation and how they may be optimized.

2 points

The problem with optimization is the opposing trends of retooling costs and warehousing costs. A small number of batches incurs minimal retooling costs over the planning period and encourages larger lot sizes.

1 point

However, larger lot sizes incur high warehousing costs.

3 points

Lot sizes are optimized by minimizing the fixed retooling costs over a given period and the variable warehousing costs proportionate to lot size.



**QUESTION 269 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Explain the cumulative quantity concept.

1 point per feature (6 p. in total):

The cumulative quantity concept counts the number of unfinished products flowing past certain points. Movements of intermediate goods and materials are cumulated over a defined period, and the target cumulative quantity compared with the actual cumulative quantity. The cumulative quantities are represented by curves and combined in a cumulative quantity diagram. Control blocks are set up for monitoring purposes.



**QUESTION 270 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Name 8 distinguishing criteria of production segmentation.

Any 8 from the following, 1 point per criterion. Production segmentation is distinguished by the following:

Separation of standard products and customer-specific products

Production in different segments

Small units

Flow optimization

Factory-within-a-factory concept Targeted surplus capacity Flexible systems

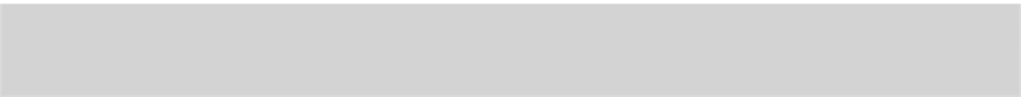
Production-centric layout Expanded job content

Bonus-based salary system with segment-specific reference variables

Customer-specific production of variants and warehousing of standard parts

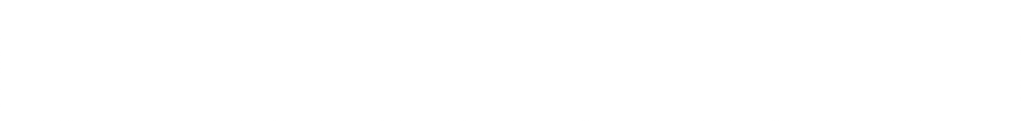
Self-regulating control loops

Localized self-monitoring.



**QUESTION 271 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Which criteria can be used to classify lot size planning models? Name five criteria and their sub-divisions (if applicable).

5x1 point per classification, 3x1 point for the sub-divisions

* Development over time
* Demand process - constant or fluctuating demand
* Capacity limits
* Number of products under consideration - single-product models or multi-product models
* Number of production stages - Single-stage models or multi-stage models



**QUESTION 272 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



What is the cost situation when planning the optimum lot size? In which situation is the optimum lot size **not** relevant?

2 points

Determination of the optimum lot size entails a range of different company costs. When planning operational lot sizes, the fixed costs associated with building capacity are not relevant to decision-making.

2 points

The variable costs are a far more relevant factor and are determined by the lot size and the distribution of production over time.

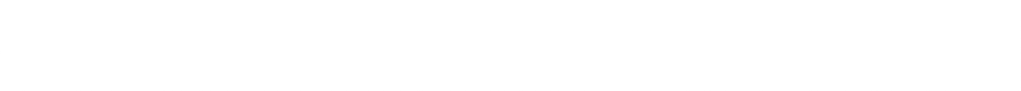
2 points

However, optimum lot or order sizes are not relevant to just-in-time procurement / production or one-off production.



**QUESTION 273 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



Name 8 causes of waste in production.

8 points: 1 point per cause

The following are causes of waste:

Surplus production due to uncoordinated capacities

Defective and disruption-susceptible processes (faulty processes)

Blindleistung (idle output??)

Failure of internal sources to meetdeadlines

High levels of rejects Recall campaigns Lack of production flexibility

No internal understanding of marketing Lack of pull principle



**QUESTION 274 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Which are the three different cost types associated with warehousing? Give an example of each.

3x2 points

- Fixed warehouse costs e.g. rent, depreciation of warehousing space, heating and lighting costs etc.

- Variable warehouse costs e.g. return on tied capital, insurance premiums and costs associated with spoilage and wastage

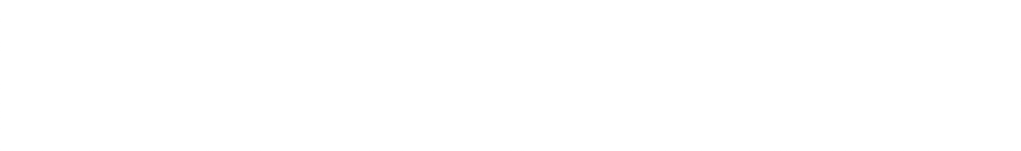
- Fixed batch costs e.g. tooling costs for setting up or changing over machines

- Out-of-stock costs e.g. demand and turnover losses, reservations and loss of goodwill



**QUESTION 275 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



There are various tools available for optimizing quality in production. Assess these tools according to the role played by employees and how much influence they have.

1 point for each tool assessed according to employee influence.

Poka-yoke installs principles, precautions and devices to prevent errors. The employee has almost no influence over its design. The seven QC tools use quality data visualization methods to solve problems. They draw on the workers’ knowledge. Statistical process control (SPC) uses quality control cards to make target/actual comparisons. The employee’s influence is minimal. The taguchi method centers around designing the optimum combination. The employee’s influence is limited. By contrast, employees play a key role in the shainin method, which focuses on identifying the key variables in quality problems. In jidoka, machines are automatically halted in the event of quality problems, so the employee has virtually no influence. By contrast, the integrated line stop concept gives employees a significant amount of influence, because it is their responsibility to stop the line where malfunctions occur.

Employees also play a major role in the integrated control system because they are directly responsible for inspecting the manufactured parts. They also play a key role in the continuous improvement process (CIP) by making independent improvement suggestions. As a general principle, workers should always be consulted on the development of a TQM system.



**QUESTION 276 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



Just-in-time production aims both to minimize production inventory levels and shorten throughput times. However, large numbers of production stages create long throughput chains and, in turn, excessive capital tie-up. Which requirements must product design meet in order to avoid this? Which other requirements apply to just-in-time production in order to meet its targets?

The following requirements apply to product design (5 points): Consistent standardization of products and production equipment

Simplification of design (modular layout)

Modularization with maximum identical parts & a reduced spectrum of different parts Variants are only created at the end of the supply chain

Assembly-, automation- and inspection-friendly product design.

Just-in-time production is linked to the following requirements (5 points): Consistently high standards of quality

A process-centric production structure with minimal transport distances Small production batch sizes

Spare capacity to balance out fluctuations Integrated data processing.



**QUESTION 277 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Which two cost types arise within warehousing regardless of the batch size? Define the selected options. Also, describe what these cost types lead to in terms of batch size.

3 points Fixed warehousing costs

Fixed warehousing costs are incurred simply because the warehouse exists. They depend on the existence of the warehouse, not the size of the inventory.

3 points Fixed batch costs

These costs are incurred for every batch (costs incurred when production begins) and are therefore independent of lot size.

2 points

They tend to lead to large batches because as the number of batches rises, the costs are distributed across multiple units and the costs per unit are therefore minimized.



**QUESTION 278 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Explain the difference between variable warehousing costs and fixed warehousing costs.

Fixed warehousw costs

2 points

Fixed warehousw costs are incurred simply because the warehouse exists. These are the costs incurred for setting up and maintaining the warehouse,

2 x 1 point

such as rent, depreciations on premises, heating and lighting costs etc.

1 point

They depend on the existence of the warehouse, not the size of the inventory. As such, they are not relevant when determining the optimum stock level.

Variable warehouse costs

3 points

These costs rise as the quantity and duration of warehousing increases, usually proportionately to the stock level. For simplification purposes these costs are often estimated as a proportion of the warehoused value, although this is not strictly accurate except in particular circumstances.

2 x 1 point

Examples of variable warehousing costs are return on tied capital, insurance premiums and costs associated with spoilage and wastage.



**QUESTION 279 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Explain why bills of materials are essential in industry and what purpose they serve.

Bills of materials are crucial for a smooth order handling process in industry. They are an important information carrier (2 points). They serve the following purposes (1 point per purpose): As a document for checking and implementing changes, as the basis for determining requirements, as an availability check, as assembly instructions, as distribution and check lists, and as a document for preliminary and final costings.



**QUESTION 280 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Name the assumptions when applying the conventional order quantity batch size formula.

The following assumptions are relevant here (1 point per assumption) The consumption curve is linear.

The warehousing cost rate is known.

The warehousing cost rate remains constant over the period.

The principal cost types are the ordering and warehousing costs.

The annual demand is known and constant.

The marginal costs for ordering an additional unit are constant.

Orders of individual items are not dependent on one another.

The replenishment lead time is known and constant.

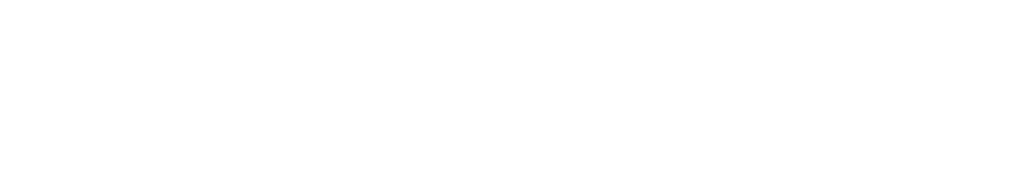
Adequate capital and storage space are available for procurement.

The order costs are known and remain constant over the monitored period.



**QUESTION 281 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



As a manufacturer of electronic products, you have noticed more of your business clients switching to your competitors. Define and briefly describe under which cost type this is incorporated into your warehousing costs. What are the other features of this cost type?

Out-of-stock quantities are demand volumes which cannot be satisfied from existing warehouse stock. For example, out-of-stock costs may arise when demand losses occur. (2 points)

Such cases are known as lost sales. (1 point)

As well as direct out-of-stock costs, indirect costs are also incurred and reflected in a loss of customers (loss of goodwill). (3 points)

If the missing quantity can be delivered at a later date, this is known as a back order. However, this incurs higher costs than an on-time delivery. (2 points)



**QUESTION 282 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Describe the first three steps in the capacity scheduling procedure using an example.

1 point +1 point for the example

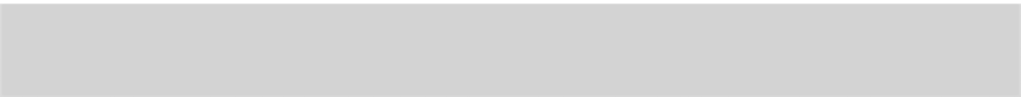
1. Determine the order priorities. (e.g.: ascertain which orders have which priority. Medium priority: table lamp. Low priority: standard lamp. High priority: pendant lamp).

2.5 points + 0.5 for the example

1. Starting with the highest-priority order, schedule each workstation group based on the start date for work operations (e.g. earliest start date) as determined by throughput scheduling. Scheduling continues until all orders have been planned. (e.g.: Sort into high priority: pendant lamp, start in 1 week, 1.5 weeks production; medium priority - table lamp, start in 2 weeks, 1.5 weeks production; low priority - standard lamp, start in 4 weeks, 1 week production)

2.5 points + 0.5 for the example

1. In case of overcrowding, postpone work operations to the next less busy period. Where possible, always try to postpone a work operation within its buffer zone, i.e. between the latest and earliest start date (e.g. overcrowding: postpone the table lamp, start in 2.5 weeks, 1.5 weeks production).



**QUESTION 283 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Name 6 features of job shop production.

In job shop production, the non-consumable resources are organized according to job shop principles.

Similar functions are combined in the same space.

The processing sequence need not be uniform. Processing need not follow a fixed rhythm.

Production takes up a large amount of space. Interim storage is required.

(1 point per feature).



**QUESTION 284 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Describe the three sub-goals of operations planning, giving an example of each.

3x2 points

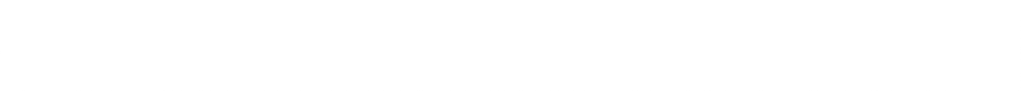
Sub-goals of operations planning:

* Inventory-related goals, e.g. to minimize average waiting times or order throughput times
* Deadline-related goals e.g. to minimize the average or maximum number of missed deadlines
* Capacity utilization-related goals, e.g. to minimize the average idle time or maximize average capacity utilization



**QUESTION 285 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Explain the concept of simultaneous engineering (SE).

1 point per feature (10 points).

Synchronized development and execution processes. Non-dependent processes are executed simultaneously.

Time buffers are removed from the product creation process.

One process begins before the preceding process is complete. Downstream processes can usually be brought forward.

Standardization of modules to prevent repetitions and unnecessary work. Process-related aspects should also be standardized.

Organizational aspects such as interfaces should also be standardized.

The management team employs a suitable coordination process to maximize synergy effects. Access is made to the same resources.



**QUESTION 286 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



Name 8 workflow management rules for kanban control.

(Name 8 rules from the following list, 1 point per rule)

One kanban per container. Observe the pull principle. Production should follow the sequence as pulled by the downstream process. Limit production to the quantity actually required. Only standard containers may be used. Only parts that have passed the quality inspection may be forwarded. The sink should only take the quantity needed from the buffer store. The sink should never request parts earlier than they are actually needed. Each source should not begin producing parts until a withdrawal has been made from the buffer store. At least two kanbans exist for each container.



**QUESTION 287 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Describe three priority rules for capacity minimization.

3x2 points

1. FCFS rule: The “first come first served” rule is analogous to the inventory management approach. In other words, orders are processed in the order received and then transferred to production for machine scheduling.
2. LRTF rule: The longest remaining time first (LRTF) rule stipulates that orders requiring the longest processing time on all machines are transferred to production first.
3. SRTF rule: The shortest remaining time first (SRTF) rule stipulates that orders requiring the shortest time on all machines are transferred to production first.
4. LJN rule: The longest job next (LJN) rule stipulates that orders with the most work are prioritized in machine scheduling.
5. SJN rule: The shortest job next (SJN) rule stipulates that orders with the least work are prioritized in machine scheduling.
6. LOT rule: The longest operating time (LOT) rule gives preference to orders requiring the shortest operating time.
7. SOT rule: The shortest operating time (SOT) rule gives preference to orders requiring the shortest operating time.
8. LPT rule: The orders with the longest (total) processing time (LPT) are prioritized in machine scheduling.
9. SPT rule: The orders with the shortest (total) processing time (SPT) are prioritized in machine scheduling.
10. EDD rule: The order with the earliest due date (EDD) enters production first.
11. ST rule: Orders with the least slack time (ST) enter production first. The slack time represents the difference between delivery date and remaining processing time.
12. Value rule: Machine scheduling gives preference to orders with a higher product value.



**QUESTION 288 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



A supermarket wishes to establish a reputation for the fastest service.

It is testing the option of directing customers with a few straightforward items to a separate till or automatically giving them priority over customers with a full trolley.

Describe the three priority rules which should be considered for processing.

After a certain amount of time, many customers will become annoyed and may stop shopping there altogether or will only purchase a few items.

Describe some alternative rules to improve the situation.

3x2 points for the description and 1 point for the explanation

(e.g. explanation: Use rules which prioritize speed).

3. SRTF rule: The shortest remaining time first (SRTF) rule stipulates that orders requiring the shortest time on all machines are transferred to production first.

5. SJN rule: The shortest job next (SJN) rule stipulates that orders with the least work are prioritized in machine scheduling.

7. SOT rule: The shortest operating time (SOT) rule gives preference to orders requiring the shortest operating time.

9. SPT rule: The orders with the shortest (total) processing time (SPT) are prioritized in machine scheduling.

2 points description and 1 point explanation

(e.g. explanation: Prioritize rules which give a sense of fairness).

1. FCFS rule: The “first come first served” rule is analogous to the inventory management approach. In other words, orders are processed in the order received and then transferred to production for machine scheduling.

12. Value rule: Machine scheduling gives preference to orders with a higher product value.



**QUESTION 289 OF 387**

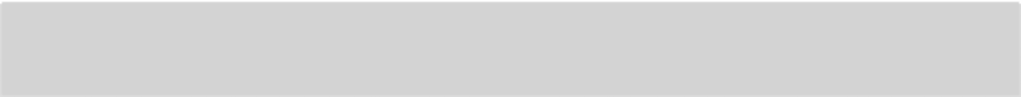
**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Name 6 available tools for optimizing quality in production.

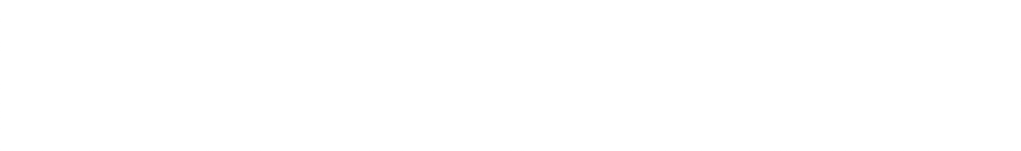
The following tools are available (1 point per tool):

Poka-yoke, the seven QA tools, statistical process control (SPC), the Taguchi method, the Shainin System, jidoka automation, the line stop concept, integrated control and Six Sigma.



**QUESTION 290 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



Describe the features of the penetration point. Also, list the differences between and objectives associated with variation of the penetration point.

The penetration point is the moment when an anonymous variant becomes a customer-specific variant. (2 points)

This point can also be implemented at various stages in production, at which point it is referred to as “make-to-stock”, “assemble-to-order”, “make-to-order” or “engineer-to-order” (3 points).

On the one hand, the aim is to minimize production costs and inventories, but on the other, short throughput times are required. This balancing act calls for an appropriate ratio between the plan- or forecast-based push principle and the order-triggered pull principle. (3 points)



**QUESTION 291 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



Explain the difference between an engineer-to-order approach and a make-to-order approach. What are the advantages of each?

3 points

With engineer-to-order (ETO), the penetration point is right at the beginning of the supply chain, ahead of development. In other words, the product is not designed until the customer order has been received. Only the capacity and some input materials are reserved in advance.

2 points

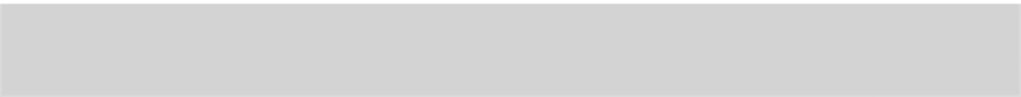
The customer receives a highly individual product. The benefit of this approach is that inventories are eliminated almost entirely.

3 points

With make-to-order (MTO), the penetration point sits between procurement and production. Raw materials, standard components and other parts are procured on an anonymous basis and production only begins upon receipt of a specific customer order.

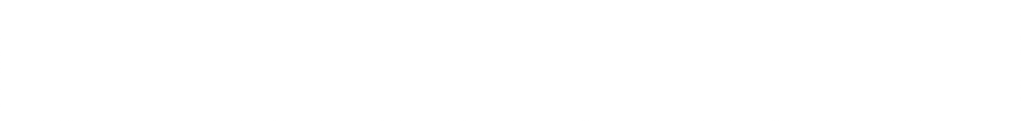
2 points

Inventories are lower compared with regular production but not lower than with ETO. However, the throughput time is shorter than with ETO (although longer than with regular production).



**QUESTION 292 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 01**



Explain the objective and intended purpose of inventory-centric concepts.

3 points

There are various objectives relating to material flow, including minimizing production costs and inventories, but short throughput times are also required.

3 points

Balancing these aspects requires a careful balance between the plan or forecast-based push principle and the order-triggered pull principle.



**QUESTION 293 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



A textiles company specializes in producing and selling basic shirts for different retailers. Describe which concept is used for the penetration point and the specific aspects the company must consider. Name two further options for the penetration point.

3 points + 1 point for the transfer

Make-to-stock (MTS) means manufacturing purely for warehousing. Here, the penetration point sits between final assembly and distribution. (Transfer: T-shirts are fully manufactured and delivered to the customer distribution point)

3 points + 1 point for the transfer

Although this means fast customer deliveries, the warehousing costs are very high, because there is a risk that not all the stock can be sold. (Transfer: The T-shirts must be fully manufactured and paid for, and warehousing paid for, without knowing whether the customer likes the color and cut).

2x1 points Assemble-to-order Make-to-order Engineer-to-order



**QUESTION 294 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 01**



How would you characterize order costs in relation to lot size? Explain the difference between order costs and warehousing costs, giving two examples of each.

3 points

As when determining lot size, calculation of the optimum order quantity is influenced by a range of company costs. The fixed order costs are incurred with every order, irrespective of the order volume.

2x 1 point

Order costs include:

* Procurement market research
* Supplier selection and materials scheduling
* Inspection of incoming goods
* Internal transportation
* Storage
* Administrative handling including check procedures.

3 points

Warehousing costs

Warehousing costs include the costs of the space utilized and the variable costs in terms of capital tie-up costs. The larger the order quantity, the higher the stock levels and consequently, the higher the warehousing costs:

2 x 1 point

* Capital tie-up costs (warehouse interest)
* Storage costs
* Cost of premises
* Cost of special treatment (for goods subject to special storage conditions)
* Imputed interest and depreciation for warehousing equipment.



**QUESTION 295 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 01**



A handbag manufacturer wishes to change the penetration point. There is some discussion about whether to add customizations to the handbag, and if so, to what extent. Give a brief explanation of the pros and cons of the four different penetration point options.

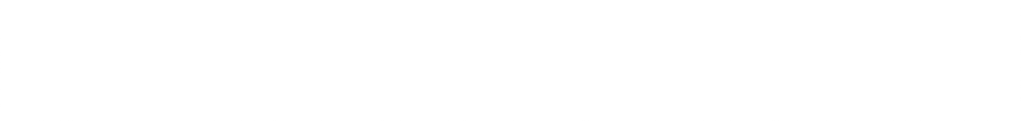
4 x 2 points (relating to the example)

* With make-to-stock, customer deliveries are fast, but warehousing costs are very high, because there is a risk that not all stock can be sold.
* With assemble-to-order (ATO), the throughput time is longer but inventory costs can be significantly reduced.
* With make-to-order (MTO), inventories will be significantly reduced but throughput times will be considerably longer.
* With engineer-to-order (ETO), the customer must wait a very long time for their delivery. The benefit is that inventories are eliminated almost entirely.



**QUESTION 296 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Explain how a narrow interpretation of the term “production” differs from the more modern interpretation? What is the reason for this?

3 points

A narrow interpretation focuses on the generation of material products, i.e. the crafting or industrial manufacturing of material goods from a technical perspective. In this interpretation, production and manufacturing are synonyms for the same thing.

1 point

A more recent, alternative definition of production focuses on the generation of both material and non-material goods.

2 points

This is partly attributable to the growing importance of services. In the traditional interpretation, services are not produced, merely “made available” (known as the two-factor case).



**QUESTION 297 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Explain the difference between production management and production logistics.

3 points

Production management is a functional discipline dedicated to how products and services are generated, incorporating both business management and technical aspects.

3 points

Production management is therefore broader than production logistics, which focuses primarily on processes (operations) rather than functional or institutional tasks.

2 points

Production logistics is less concerned with coordination and reconciliation issues between companies and focuses instead on optimizing process chains within the company.



**QUESTION 298 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Define production logistics from two different perspectives.

3 points

Production logistics is a sub-system of corporate logistics covering the planning, control and execution of material flows from the incoming goods warehouse to the production zone, interim storage facility and finally the finished goods store (process chain-centric approach).

3 points

Production logistics is concerned with managing processes to coordinate material and information flows in the in-house manufacturing of goods (coordination-centric approach).



**QUESTION 299 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



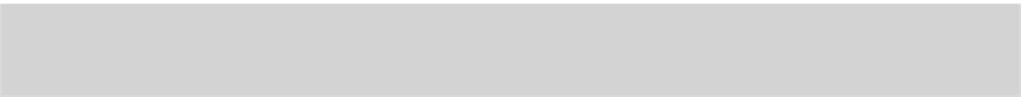
Define the various organizational tasks of production logistics.

4 points

The organizational tasks of production logistics may be divided into medium- to long-term planning of the logistical structure (2 points) and short-term planning and controlling of the flow of goods. (2 points)

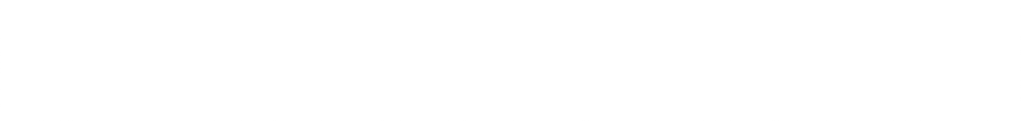
2 points

Production logistics also includes tasks relating to the organization of global production and delivery networks.



**QUESTION 300 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Describe five (organizational) tasks of production logistics, giving a brief example of each one.

5 x 1 point for naming correctly, 5x1 point for illustrating with an example.

The tasks of production logistics are as follows:

* To improve customer-related production (e.g. process improvement for customized golf gloves).
* To boost production flexibility (e.g. improve retooling operations when manufacturing a range of office supplies).
* To reduce throughput times, inventories, parts diversity, program breadth and number of variants (e.g. minimize different waste types in radio production).
* To optimize transport operations in production (e.g. route planning with lamp production)
* To ensure balanced lot sizes (e.g. a furniture manufacturer must weigh up retooling costs versus lot size)
* To harmonize capacity
* To improve the availability of production factors (e.g. a jeweller can source rare precious stones from remote locations with transportation)
* To improve the layout of the materials flow (e.g. U-shaped layout to create a narrower materials flow)
* To reduce manufacturing costs (e.g. improve the material flow to cut costs)
* To expediently combine in-house production and external procurement (e.g. weigh up external manufacturing versus in-house production of toys).



**QUESTION 301 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Describe the basic principles behind the different types of production organization and how they can be further sub-classified.

3 points

The different types of production organization are distinguished according to the spatial arrangement of resources (operating equipment) in relation to one another and the production process. The key factors are orientation and location dependence.

Orientation makes a distinction between the object principle and the function principle.

2 points

The object principle structures and organizes work systems on the basis of objects, i.e. products or processes.

1 point

The function principle groups work systems together on the basis of activities or tasks.

2 points

Location dependence distinguishes between location-dependent and location-independent systems.

2 points

In the case of the latter, the work object moves through production.



**QUESTION 302 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Using a suitable example, describe how job shop production is organized.

3 points

Non-consumable resources are arranged according to the task orientation principle. Job shop production is characterized by spatially grouping similar functions together (such as turning, drilling, milling). Job shop production aspires to optimize work tasks.

3 points

One example of a typical application is machine tool manufacturing. Production orders may be processed without a uniform machining sequence / time and without a predefined rhythm in the production flow. The flexible processing (and hence machine) sequence means that an order may well pass through a particular job shop at various different processing phases.



**QUESTION 303 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Describe two pros and two cons of job shop production.

3 points each. Pros:

Production orders may be processed without a uniform processing sequence and time and without a pre-defined rhythm in the production flow. - Very flexible

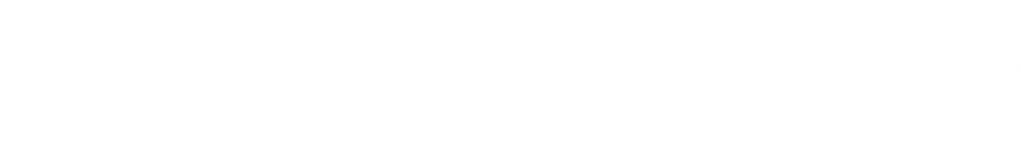
Cons:

This flexibility means that job shop production is less transparent in terms of timing and organization, requires a large amount of space due to lengthy, unclear transport routes, and requires interim storage facilities, which translates into a large capital tie-up



**QUESTION 304 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Which three types of production organization differ according to the level of chronological coordination and the type of material flow within flow production? Describe each type, giving an example you have devised yourself.

Flow production is differentiated according to the level of chronological coordination and the type of material flow as follows:

1 point for the description - 1 point for the example

* Batch production: Resources are arranged according to work operations (e.g. furniture industry arranged similar to flow production but without synchronization)

2 points for the description - 1 point for the example

* Assembly line production: Workstations are linked together by conveyor belts, i.e. there is a chronological link between work operations (chronologically linked, directed material flow). (e.g. auto industry: synchronized machining in the processing sequence)

2 points for the description - 1 point for the example

* Transfer lines (production lines): This is a highly automated material flow which is both chronologically linked and physically linked by automated conveyor systems, i.e. the workpieces are linked to the transport system. (e.g. fully automated canning)



**QUESTION 305 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Describe the characteristics of flow production.

2 points per paragraph

In flow production, work systems are geared to the object principle, i.e. the work schedules of the products being processed.

The processing sequence of the objects is identical for every product. This dictates the sequence in which the operating equipment is arranged.

Flow production requires substantial planning effort, but controlling the material flow is straightforward.

Other logistical benefits include short transportation routes and a small number of interim stores. However, logistical flexibility is limited because the materials flow is precisely defined.



**QUESTION 306 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Describe two forms of group organization which are fully automated.

2 points

* Flexible production islands: Workpieces are manufactured entirely in an autonomous spatial zone. Workpieces with similar machining features are usually grouped together in families.

2 points

This spatial concentration helps to shorten transport routes and reduce transport input. It also reduces material shipments and interim warehouse stocks. The throughput time is also shortened.

2 points

* Flexible production systems: A series of numerically controlled machines are linked together by a control and conveyor system to enable parallel machining of different workpieces within the overall system.

2 points

The machining process is highly automated with a modular system configuration. The throughput time is minimized by complete machining and automatic movement through the workstation.

2 points

Conversely, these systems are very flexible because the conveying process is individually controlled and synchronization is not required. However, flexible production systems are very cost-intensive and susceptible to errors.



**QUESTION 307 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Explain the difference between mass production and batch production.

2 points

Mass production: Mass production is characterized by the continuous manufacturing of large quantities and high levels of repetition.

2 points

This requires logistical systems which continuously produce the same output with minimal interruption and a high degree of mechanization and automation (e.g. continuous handling system).

2 points

Batch production: In batch production, identical or similar products are manufactured in the required quantities without interruption. Because individual batches are produced in series rather than in parallel, determining the optimum lot size can be problematic.

2 points

As well as retooling costs and times, material inventories and adherence to deadlines are crucial.



**QUESTION 308 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



A ceramics manufacturer produces limited quantities of various plate designs (e.g. different sizes and colors) at one of their locations within a limited timeframe.

Name this production type and describe its features.

1 point

Continuous batch production:

1 point

There are only marginal differences between the features of the manufactured products.

3 points +1 point for the example

Continuous batch production is a special type of mass production which interrupts production processes for each variant change and converts the production machine accordingly. (e.g. different varieties of fruit yogurt such as strawberry, stracciatella, apple etc.

The machines are converted for each variety) 3 points + 1 point for the example.

The critical points in logistical planning are order size planning and the sequence in which varieties are produced. The aim here is minimal inventories (e.g. what quantities of strawberry or apple should be produced and in which order)



**QUESTION 309 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



What is jobbing production? Define and describe the features of jobbing production.

2 points

Jobbing production: Jobbing production involves products which are manufactured once only or several times at undefined intervals.

Customer requests are accommodated.

3 points

In the light of these two aspects, make-to-stock production is largely avoided. As the products involved are often complex with equally complex operations which preclude advance prefiguration of the entire material flow, materials scheduling is carried out on an order-specific basis.

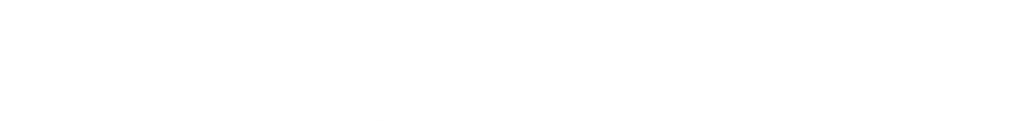
3 points

The production units tend to use universal machines which support a variety of different work operations. Transport options must be organized with sufficient flexibility to accommodate every conceivable product from this production site.



**QUESTION 310 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Name and describe a production principle that may be used in combination with all production types.

1 point - Correct allocation

Mixed production

3 points.

With mixed production, machines of different types and functions which perform a series of identical or related sub-processes are locally combined.

2 points.

Mixed production is a combination of job shop production and flow production. It endeavors to harness the benefits of both organizational forms.

2 points.

Sub-groups of parts with the same properties, shapes and functions are processed.

2 points.

The requirement for joint processing is that there must be an affinity in the way the parts are manufactured.



**QUESTION 311 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Define the term “production segmentation” and name four distinguishing features.

2 points

Production segmentation refers to product-centric organizational units which follow a specific competitive strategy.

2 points

Characteristic features include the integration of multiple stages of the logistics chain, the transfer of indirect functions and pronounced cost responsibility.

4 x 1 point

Production segmentation is distinguished by the following:

* Separation of standard products and customer-specific products
* Production in different segments
* Small units
* Flow optimization
* Factory-within-a-factory concept
* Production-centric layout
* Targeted surplus capacity
* Flexible machines
* Extension of work content and scheduling tasks
* Bonus-based salary system with segment-specific reference variables
* Customer-specific production of variants and warehousing of standard parts
* Self-regulating control loops
* Localized self-monitoring.



**QUESTION 312 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Give an example which explains the classification of production segments according to three separate aspects. Name a fourth criterion.

3 x 3 points

The formation of production segments may be based on various aspects:

* Market and goal orientation: Production segments aim to form product/market combinations. Not all of a company’s products with their varying focal points and competitive strategies will pass through the same production system. Production zones are formed and tailored to specific competitive strategies.
* Product orientation: Production segments focus on specific products, leading to a narrow production breadth. The aim is to achieve complete processing, leading to a comparatively high production depth.
* Multiple stages in the logistical chain: Production segments always comprise multiple stages of the product’s logistical chain. In an extreme case, this would incorporate every level of the value chain.
* Transfer of indirect functions: Previously, in many sectors the division of labor created numerous interfaces and separation between planning / executing tasks and direct / indirect tasks. Process orientation is the common theme here, based on the realization that only cross-divisional measures and the transfer of responsibility for an entire process can influence its design and efficiency.
* Responsibility for costs: The two preceding dimensions create a direct opportunity to organize production segmentation as a “cost center” or “service center”, whereby individual stages in the logistical chain are more extensively integrated than with traditional production structures and there is indirect/planning responsibility for costs which must be reflected in the design of controlling mechanisms.

1 x 1 point

* Market and goal orientation
* Product orientation
* Multiple stages in the logistical chain
* Transfer of indirect functions
* Responsibility for costs



**QUESTION 313 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



A wine gum manufacturer wants to use production segmentation to improve production. They are particularly keen to ensure the cost-efficient production of different varieties and avoid frequent recall campaigns linked to defective products.

Explain four benefits relating to this situation and two additional benefits which the manufacturer could achieve.

4x2 points. Benefits relating to the situation

The benefits of production segmentation are:

* \*\* Shorter throughput and setup times - production becomes more efficient and hence more cost-effective
* \*\*Automation helps to improve quality and eliminate quality problems
* \*\*More variety - More varieties can be produced
* \*\*Superior capacity utilization (faster changeovers) - They can switch more rapidly between varieties at a lower cost

2x1 point. Other benefits:

* Call-off procurement and production (pull principle)
* Pronounced identification with the product and the company
* Clarity regarding the production system



**QUESTION 314 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



What are the positive effects and impacts of using production segmentation? What is the prevailing factor?

1 point

The effects of production segmentation are only partially reflected in direct cost differences

2 points

Other effects are difficult to monetarize, such as greater work satisfaction among employees.

1 point

Comparing the positive and negative impacts of production segmentation, the positive factors outweigh the negative.

2 points

A modular factory with production segmentation can boost a company’s performance potential.



**QUESTION 315 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Define the simultaneous engineering approach. Which processes does it apply to?

2 points

The SE approach parallelizes the work operations of different functional areas. 2 points

The parallelization of individual development operations leads to simultaneous performance processes. This method is known as “simultaneous engineering”.

2 points

Not just development processes but also execution processes are handled synchronously.



**QUESTION 316 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Which aspects of process planning and logistics must be taken into account with simultaneous engineering?

2 points

If the processes are dependent on one another, the dependent operation will have already begun before the preceding process is complete.

3 points

The downstream process can usually be brought forward, because a short time into production, sufficient information is available to allow the downstream processes to be started.

3 points

Logistics play a cross-sectional role in an SE approach and should be incorporated into product development early on so as to influence the range of different parts and variants as well as packaging.



**QUESTION 317 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



A toothbrush manufacturer wishes to launch a new shape of toothbrush on the market, but competition is fierce and they are wary of industrial espionage. Initial prototyping and production planning of the new toothbrush design is about to begin.

Which approach is described here? Explain the approach using an example.

1 point

Simultaneous Engineering

2 points + 1 point for the example

The SE approach parallelizes the work operations of different functional areas (such as development of a new adhesive tape involving procurement, production etc.)

2 points +1 point for the example

The parallelization of individual development operations leads to simultaneous performance processes. This method is known as “Simultaneous Engineering”. (e.g. parallelization of product development and production planning)

2 points +1 point for the example

Both development processes and execution processes are handled synchronously. (e.g. logistics and production control of the adhesive tape)



**QUESTION 318 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Which conditions apply to simultaneous engineering?

2 points

Simultaneous development requires far more precise planning, even at the conception phase. This facilitates the implementation of simultaneous processes.

2 points

Because SE is also used in the production of high-quality variants, a high level of discipline is required from all parties involved, throughput every phase of product generation and production set-up.

2 points

Modifications made shortly before the planned series production date may jeopardize any time leads gained by simultaneous engineering.



**QUESTION 319 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



What is required for the effective use of simultaneous engineering? How can this be further differentiated?

3 points

The processes and their dependencies must be very precisely known so that parallelization/SE may be optimized. Standardization should also be carried out and all repetitions and unnecessary work avoided.

3 points

In this regard, standardization may refer to:

* Technical/structural aspects such as modules, assemblies and components
* Process-related aspects such as production phases and workflow management, and
* Organizational aspects such as interfaces between projects and departments.



**QUESTION 320 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Define and delineate the various postponement strategies of logistics and production.

3 points

Postponement refers to the late specification of products with the aim of utilizing economies of scale in production and logistics. Postponement strategies may relate to production (assembly postponement) or logistics (geographic postponement).

2 points

With assembly postponement, production activities leading to product differentiation are postponed to the end of the production processes.

2 points

With geographic postponement, the transportation of differentiated products to specific sales regions is delayed to the latest possible date.

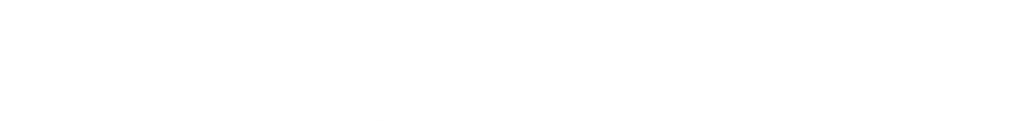
3 points

These differentiated products are stored in central locations and not delivered until specific customer orders have been received.



**QUESTION 321 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Which requirements must be met in order to delay variant formation within the context of postponement for as long as possible? Which areas does this affect?

3 points

To delay postponement strategies or variant formation as late as possible, modules or components should procured / produced and stored initially, rather than finished products.

3 points

Customer orders can then be rapidly fulfilled by combining individual modules to create the finished product as per the customer’s specifications.

2 points

Labelling, assembly, warehousing, packaging and distribution can also be postponed as well as production.



**QUESTION 322 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



The manager at a muesli manufacturing company has the idea of allowing customers to compile their own individual muesli recipes. He is aware of the mass customization concept but isn’t sure whether it will be useful.

What are the five benefits of this concept?

3 points

Postponement helps companies to move away from the competitive strategies of either cost leadership or differentiation in favor of a strategy which combines both. This helps to lower costs and increase customer benefits through individualization/diversity.

3 points

Postponement not only allows economies of scales and synergies to be exploited but also helps to delay cost increases in the value chain and therefore reduce capital tie-up.

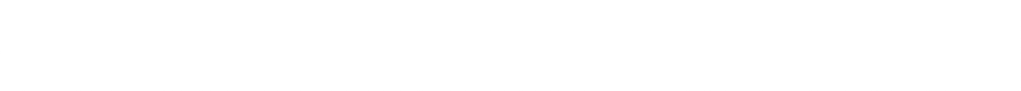
2 points

Demand fluctuations are compensated by different product variants thanks to the “risk pooling effect”. As well as reducing risks, this also enables greater flexibility of logistical activities.



**QUESTION 323 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Name six benefits of postponement.

6 x 1 point

Postponement helps to

- Reduce the diversity of parts and models

- Reduce inventories, slow-moving items and the warehousing risk

- Minimize the risk of scrapping

- Accelerate response times

- Enhance delivery flexibility and

- Generate tax benefits.



**QUESTION 324 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



Explain the differences between the two basic types of postponement, citing three characteristics of each.

2 points

Form postponement: The design of products and bundles is postponed, allowing the standard condition to be extended for longer.

3 x 1 point

Other features include:

1. Service differentiation is delayed to the end of the value chain
2. Individualization and volume degression effects are combined
3. A modular principle is used
4. The transshipment frequency for modules is increased

2 points

Time postponement: Generation processes in the supply chain are timed as closely as possible to the customer order.

3 x 1 point

We distinguish between the following sub-systems:

1. Full speculation
   1. Pure speculation
   2. Production and distribution based on forecasts
   3. Production and distribution from the warehouse
   4. Maximization of volume degression effects
   5. Short delivery times
   6. High warehousing costs
2. Manufacturing postponement:
   1. Production operations are delayed
   2. Production does not begin until the order has been received
   3. Delivery is standardized
3. Logistics postponement:
   1. Production to stock is combined with customer-specific delivery
   2. Distribution operations are slowed down
   3. Economies of scale are achieved.
4. Full-time postponement:
   1. Production and distribution are customer-specific.
   2. Production and distribution do not occur until the customer order is received
   3. The pull principle is strictly observed
   4. Warehouse stocks are avoided
   5. Economics of scale are almost impossible to achieve



**QUESTION 325 OF 387**

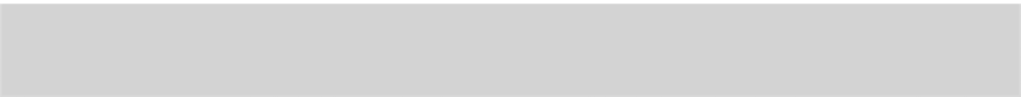
**DLBLOISCM101\_Offen\_mittel\_F1/Lektion 02**



Explain the difference between manufacturing postponement and full speculation in terms of their characteristics.

8 x 1 point

1. Full speculation
   1. Pure speculation
   2. Production and distribution based on forecasts
   3. Production and distribution from the warehouse
   4. Maximization of volume degression effects
   5. Short delivery times
   6. High warehousing costs
2. Manufacturing postponement:
   1. Production operations are delayed
   2. Production does not begin until the order has been received
   3. Delivery is standardized



**QUESTION 326 OF 387**

**DLBLOISCM101\_MC\_mittel/Lektion 02**



Describe the characteristics of full-time postponement.

4 x 1.5 points

Full-time postponement:

1. Production and distribution are customer-specific.
2. Production and distribution only occur following receipt of the customer order
3. The pull principle is strictly observed
4. Warehouse stocks are avoided
5. Economics of scale are almost impossible to achieve



**QUESTION 327 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



A pharmaceuticals manufacturer wishes to review and improve their production logistics strategy.

What are the objectives of production logistics? Examine the two differentiations according to their time range, giving two types of objectives for each.

1 point

Strategic objectives

2x2 points per objective with example

- To secure resources in the long term and

* To secure potential and safeguard the targets (short throughput times (quantitative and time-related), low inventories, a high level of punctuality, a high level of flexibility and a high level of capacity utilization).

- Long-term organization of the internal flow system and its structures and procedures

1 point

Operational objectives

2x2 points per objective with example

* To coordinate short-term time frames for material and information flows

- To ensure short throughput times (quantitative and time-related), low inventories, a high level of punctuality, a high level of flexibility and a high level of capacity utilization



**QUESTION 328 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



A company is having problems with their operational production logistics and is unsure what to do. The consultant advises them to assess the current situation using ratios.

Which four parameters of operational production logistics can be used here, and why?

4x2 points (1 point for naming, 1 point for purpose)

Throughput time (duration of the material flow)

Adherence to deadlines (compliance with the agreed dates)

Capacity utilization (utilization level of resources)

Inventory (overview of inventory level and degree of utilization)

Range (how long inventories will last)

Transport costs (cost situation in that sector - is expenditure or investment justified?

Transshipment costs

Warehousing costs

System costs



**QUESTION 329 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



Using an example, describe in detail the four positive effects of inventory reductions.

2 points per description

The positive effects that can be achieved by reducing inventories include the following:

* Avoidance of capital tie-up: Each reduction in excessive interim storage has a positive effect on production space and transport requirements.
* Throughput times for orders are reduced by the time spent in interim storage. If each part were to arrive at the next production stage precisely when needed, the throughput times would be reduced to the sum total of actual processing times.
* Increased flexibility: High inventories make it more difficult to respond rapidly to market dynamics. If changes are made to the production range, some of the intermediate goods may become unusable.
* Exposure of planning errors: High inventories in production conceal planning errors at the scheduling stage. Scheduling errors are a major reason for surplus interim inventories and must be rectified.



**QUESTION 330 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



Explain what is meant by throughput time and the correlation between throughput time and core hours analysis. Which five measures can help to reduce throughput times?

2 points

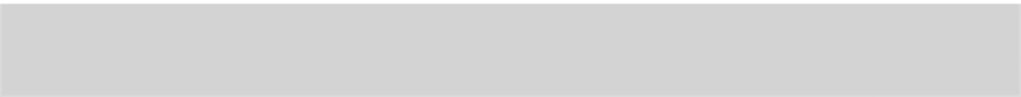
Throughput time is currently a key indicator of a company’s performance capability in a competitive environment (time to market).

3 points

The throughput time has a lasting influence on planning quality, costs and risks. A core time analysis is needed to minimize throughput times by means of the following measures.

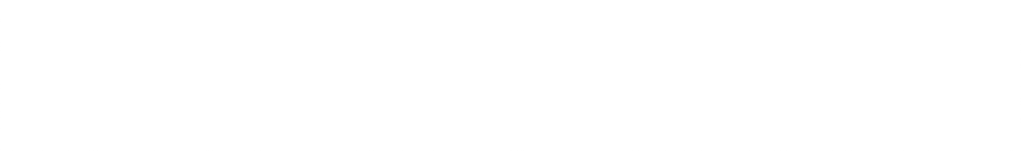
5 x 1 point

* No idle periods
* No transport times
* No setup times
* No defective parts
* No disruptions
* No quality problems
* No bottlenecks / maximum synchronization of processes



**QUESTION 331 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



What are the four essential design elements of materials flow optimization?

Give your own example of each.

2 points per item (1 point description, 1 point transfer). The following design elements must be taken into account:

* Reduce setup times (e.g. company uses MED to optimize setup times)
* Harmonize capacities and batch sizes (e.g. batch size planning)
* Change transport routes and containers (e.g. alter the machine layout)
* Introduce mandatory call-offs from segment to segment. (e.g. JIT/JIS or kanban)



**QUESTION 332 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Name and define the three basic principles of production logistics.

3x 2 points

- An optimum materials flow is a key characteristic/design principle of production segmentation.

- Holistic approach: Each decision and process in production logistics should be assessed vis-a-vis its impacts on other logistical systems and the fulfilment of customer requirements.

- Flexible factory layout: The variable layout created by production segmentation and process-driven spatial concentration of operating equipment creates shorter paths for materials and information.

- Self-regulating control loops: Flow optimization requires new control concepts for easier transmission of information and coordination within the segments.

- In end-to-end processing, employees or team members are responsible for processing a range of parts from start to finish.

- Harmonization of the production flow aims to standardize production volumes.



**QUESTION 333 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



Which design aspects should a packaging manufacturer consider from an integrity perspective?

3 points + 1 point for referring to an example

Every decision and process in production logistics should be assessed in terms of its impacts on other logistical systems and the fulfilment of customer requirements. Suboptimum aspects in the overall logistical chain should be eliminated when designing the process chains (e.g. packaging materials should be optimized: they must improve the logistical flow of all units/companies via the use of palletizable modules and be compatible with the departmental infrastructure). At the same time, they must provide optimum packaging / protection for the product and not leave too much empty space in order to keep costs low.

3 points + 1 point for referring to an example

Logistics should not be biased toward the production process. The system boundaries must be defined so that procurement, distribution and disposal can be organized and implemented together with production processes. The objectives of the production process should also be derived from superordinate logistical goals.

(For example, a company should define the relevant processes and the appearance of its packaging materials; if price-consciousness is cited as an objective, this indicates to logistics that costs are a key factor).



**QUESTION 334 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



Which of the following are characteristics of a flexible factory layout? Explain in detail.

2 points

The variable layout created by production segmentation and spatial concentration of operating equipment creates shorter paths for materials and information, enabling fast throughput with minimum disruptions.

2 points

Explicit control of transport activities (often required when equipment is arranged according to the job shop principle) is largely eliminated in the flexible factory layout, because the conventional push principle is replaced by the pull principle.

2 points

The close spatial arrangement of machines still allows close visual and/or acoustic contact between workers, making it easier for them to coordinate with one another.

It is still possible to swap jobs, rectify short-term bottlenecks and give mutual support.

2 points

The spatial concentration of operating equipment depends on a variable layout. This enables capacity adjustment if a production process is integrated at short notice. When equipment is no longer required, it can be removed again from the segment at short notice.

2 points

To facilitate this principle of spatial concentration, machines should be arranged along a conveyor system, such as a U-shaped or linear slideway.



**QUESTION 335 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



Describe self-regulating control loops and their characteristics. What are the application benefits?

3 points

The logic behind self-organizing and self-regulating control loops is based on the pull principle. The source should only produce products which are requested and required by the sink. Workers at the source should be strictly guided by the sink’s quality guidelines and assume a high level of responsibility for quality.

2 points

As a general rule, only acceptable parts are forwarded to the next station. As well as being responsible for quality, workers are also responsible for observing the prescribed quantities.

3 points

Flow optimization requires new control concepts for easier transmission of information and coordination within the segments. Regulations and standards must be stringently observed to ensure reliable operations and procedures.

2 points

This enables the consuming station to autonomously determine the timing of requisitions and relieve the pressure on superordinate control instances.



**QUESTION 336 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



When is harmonization of the production flow a suitable option for problem-solving? Describe a potential solution.

3 points

One of the key problems faced by production logistics is how to remain flexible in the face of fluctuating customer demand while at the same time ensuring optimum capacity utilization. Often the only solution is to harmonize and balance the production flow without delaying throughput times.

3 points

The aim is an evenly balanced production volume with minimal waiting times at the processing stations. Conventional job shop production with a distinct division of labor and long idle and transport times is replaced by the flow principle with short throughput times and complete processing.



**QUESTION 337 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



Explain the difference between harmonization of the production flow and complete processing. Name two differences / common features between these two approaches.

2x2 points complete processing

- Reduce idle times

The main aim of complete processing of parts and assemblies in a production segment is to reduce transitional and idle times for workpieces before and after every machining operation. Idle times generally account for the bulk of the throughput time but do not add value.

- Reduce control effort

Complete processing reduces overall control effort because the scheduling and control tasks for materials and tools can be completed by employees from any production segment.

- Give employees more responsibility

As employees or team members are responsible for processing a range of parts from start to finish, they have independence and are responsible for the finished outcome.

- Quality is important

Self-monitoring by employees prevents “hidden” forwarding of errors, which helps to raise quality standards.

2x2 points

Harmonization of the production flow

- Minimize waiting times in front of machining stations (same as reducing idle times)

- Aspire to a uniform production volume

- No direct consideration of employees

- No direct consideration of quality

- Minimal consideration of control effort



**QUESTION 338 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



A car battery manufacturer has expanded to increase the number of models and customers are now asking them to include a just-in-time concept in their production.

Which five requirements must be put in place? Describe each one giving examples.

2 points per possible answer (1 point for the description, 1 point for the example)

* Consistently high standards of quality (e.g. introduce quality systems if not yet in place)
* Process-oriented organization of production with minimal transport routes (e.g. supplier parks in the proximity of the customer, process coordination at interfaces)
* Production in small batch sizes (e.g. different models in small quantities, production changeovers supported)
* Create spare capacity to balance out fluctuations in demand and disruptions (e.g. storage buffering for production, transport capacities etc.) and
* Integrated data processing (between customer and manufacturer)



**QUESTION 339 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Describe the complex cross-sectional character of the just-in-time principle.

3 points

In a company logistics context, the just-in-time strategy and the logistics exert a cross-functional effect on the tools used. The organization should incorporate all essential areas to achieve a market-centric process.

3 points

As well as the actual logistical organizational parameters such as materials flow technology, defining material and information flows and production control, this also extends to other aspects such as quality assurance and involving employees in the incremental improvement process. This explains why the just-in-time strategy is extremely complex.



**QUESTION 340 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



You work for a food supplement manufacturer who is planning to successively add 20 new products to their well-established portfolio of 100 items. They confer with their suppliers and are keen to introduce the just-in-time principle in the hope of improving the process and responding more flexibly to market changes.

Describe the pros and cons of just-in-time production using this example.

What is your assessment?

2 points per answer (1 point for the description, 1 point for the example). Just-in-time production offers the following benefits:

* The total throughput time is minimal (e.g. thanks to better coordination which saves costs and allows faster market launches)
* Buffers and stores are not required (e.g. better coordination, saves costs).

2 points per answer (1 point for the description, 1 point for the example). The disadvantages are as follows:

- Costs cannot be optimized by using existing time buffers to maximize capacity utilization. (e.g the plan must be rigidly followed).

- As the number of products increases, the company is less likely to meet its deadlines for the entire order throughput. (The current large number of products will increase further).

2 points

1st option: Too inflexible and too much effort makes it unsuitable

2nd option: There are some benefits in terms of coordination, testing or cautious roll-outs in certain areas (e.g. new products).



**QUESTION 341 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



List six objectives of the just-in-time principle.

1 point per objective

The just-in-time objectives are:

* Production-synchronous material deliveries
* Reduced hierarchies within the organization
* Increased responsibility of individual employees,
* Inventory optimization (less capital tie-up, reduced storage risk etc.).
* Improved quality
* Improved productivity



**QUESTION 342 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Within a kanban system, how is control implemented? Describe the procedure and the required conditions.

3 points

Centralized production control is replaced with a decentralized organization of production in control loops. A control loop always consists of a parts-producing source and a consuming sink.

3 points

Once the sink has taken the required products from the container, the Kanban card is returned to the source. This card is subsequently sent back to the sink with a filled container.



**QUESTION 343 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



What are the three objectives of a kanban system?

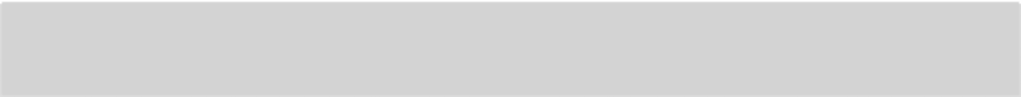
3 x 2 points per answer e.g.

- Decentralized production control using the pull principle

- Reduce/avoid inventories on the line and in the warehouse

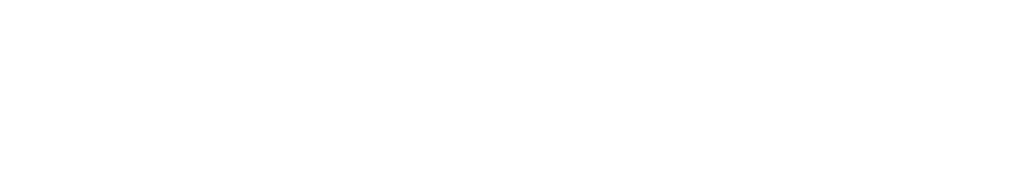
- Maintain a high quality

- Make the required parts and operations transparent for employees



**QUESTION 344 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



A company plans to use a kanban system to reduce interim stocks on the production lines.

Which four organizational rules should be specifically observed and adapted to the situation?

4x2 points

* The downstream process must fetch the required parts from the preceding process, otherwise the pull system is not being implemented.
* Delivery must occur in the order pulled by the downstream process, otherwise the synchronicity of the production process is not guaranteed.
* To avoid unnecessary inventories, only the quantity required by the downstream process is brought to the line. Any shortfalls should be notified to the upstream process.
* It is crucial here that no reject parts are forwarded in the overall production process. If a reject part is detected, it must be removed from the process immediately to prevent another reject part being produced. Total quality management must be practised in conjunction with the kanban system.
* Each sink must only take the quantity of materials (number of containers) from the buffer store which it requires at that moment in time.
* A sink must never request parts any earlier than actually needed.
* Each source (producer) only begins producing parts after a withdrawal has been made from the buffer store or a kanban signals the start of production.



**QUESTION 345 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



How do we define the two basic cumulative quantities and what is their relationship to one another?

1 point

The target cumulative quantity documents planned quantity movements

1 point

The actual cumulative quantity documents the actual quantities accumulated

2 points

Comparison between the target and actual cumulative quantities enables control and monitoring of the production process, and in the event of deviations, counteractive measures are initiated.

2 points

If the actual cumulative quantity exceeds the target cumulative quantity, the system is ahead of schedule (an inventory is crewated).

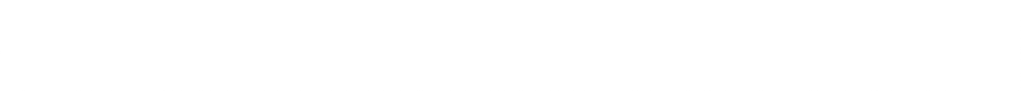
2 points

If the target cumulative quantity exceeds the actual cumulative quantity, there is a shortfall.



**QUESTION 346 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



What are the eight different cumulative quantities?

8 x 1 point

We distinguish between the following cumulative quantities:

* Incoming cumulative quantity for finished parts
* Outgoing cumulative quantity for finished parts
* Call-off cumulative quantity
* Delivery cumulative quantity
* Incoming cumulative quantity for accessories and raw materials
* Outgoing cumulative quantity for accessories and raw materials
* Demand cumulative quantity
* Planned incoming cumulative quantity
* Assembly cumulative quantity
* Work operation cumulative quantity



**QUESTION 347 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



An electronics manufacturer wants to use cumulative quantities.

Which five requirements must be put in place? Explain using an example.

The cumulative quantities system can only be used to support the material flow control provided the following conditions are met:

2 points each

* Medium to large-scale production of largely similar products in flow production
* Largely controlled, uninterrupted production processes (minimal random downtime in the blocks)
* Known mean target throughput times through the individual production blocks with minimal spread (with larger spreads, retroactive throughput scheduling will create unrealistic target dates)
* A transport system designed for a high transport frequency and material supplies on demand, avoiding transport-related intermediate storage wherever possible
* Long-term framework agreements with suppliers and call-off of delivery quantities on demand (just-in-time concept).



**QUESTION 348 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



What are the potential benefits of using cumulative quantities?

2 points per paragraph

- The cumulative quantity system can be applied to the entire production process and logistics chain for simple, manageable control of the company.

- Target/actual deviations mean that ahead-of-schedule and shortfall situations can be identified and suitable counteractive measures taken, and the consequences readily visualized.

- Another advantage is that inventories are effectively controlled by offsetting cumulative quantities, eliminating the need for time-consuming stock accounting in some cases.



**QUESTION 349 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



In a workload-based order release system, what is the key to mastering throughput times? Describe the procedure.

3 points

The key to mastering throughput times is to release orders before production begins, because released orders utilize or over-utilize capacities, leading to high inventories and long throughput times.

2 points

The procedure attempts to break the vicious cycle that causes long throughput times:

3 points

If delivery dates are exceeded, longer throughput times are planned; this leads to an earlier release of orders which puts additional pressure on capacities while output remains the same. Throughput times are spread even further, and ultimately deadlines are missed.



**QUESTION 350 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



How does a release work with a workload-based order release system? Explain in detail.

2 points

A stress test is used to review order release and only ever considers the next planning period. It does not aspire to manage capacity utilization over multiple periods.

3 points

Each capacity unit is checked to determine whether each work operation equating to a planned throughput time exceeds the maximum load level or limit.

3 points

A special depreciation factor accounts for the load of work operations which are not scheduled to begin until the period after the current planning period.

2 points

Concurrently with the stress test, the system also checks whether the required resources such as personnel, materials, tools etc. are available.

After this release check, a list of released orders will be generated.



**QUESTION 351 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 03**



Explain the funnel model of workload-based order release using an example you have chosen yourself.

3 points (2 points + 1 point for the example)

The funnel model is an idealized throughput diagram with parallel incoming and outgoing curves. The content at the top of the funnel symbolizes the current inventory of waiting orders. The opening of the funnel represents the capacity demand that must be released.

3 points (2 points + 1 point for the example)

Before an order is released, the system first checks whether it would exceed the capacity limit or whether there is still sufficient space available in the defined capacity limit. In the case of the latter, the order is released.

2 points (1 points + 1 point for the example)

The bottom funnel represents all released orders. The funnel opening represents the workstation capacity. The completed orders are represented by the outflow.



**QUESTION 352 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



In your company’s repair workshop, the tools are in chaos, messily arranged on the workbench or scattered throughout the production line. Workers waste a lot of time searching for the tools they need.

Describe in detail how this situation can be improved using the 5 S method.

2 points each (1 point for naming, 1 point for the example)

- Sort (tools are tidied up and sorted according to importance)

- Set in order (an organizational system is devised and fixed locations allocated, e.g. tools on a mobile trolley or hanging on the wall with outlines)

- Shine (cleaning and regular inspections)

- Standardize (draw up utilization standards, color coding etc., prepare plans)

- Sustain (observe compliance and continuously improve)



**QUESTION 353 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



How would you characterize the flow principle, and in particular, the continuous flow in lean management?

3 points

The flow principle describes a comprehensive process for achieving a consistent, low-turbulence flow of materials, goods and information throughout the entire supply chain.

With regard to production logistics, this means coordinating goods and services within the company

and beyond company boundaries

3 points.

Continuous flow means ensuring that processing continues without any idle or waiting times. Periods of time which do not add value are a form of waste and must be minimized. This also means that inventories in production processes contradict the flow principle and conceal certain adverse elements.



**QUESTION 354 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Describe two Japanese lean production strategies.

2x 3 points

U-shaped machine arrangement

The means of production are arranged in a U-shape to allow workers to perform multiple tasks in the sequence of the production process without being forced by long distances to manufacture in batches

Jidoka (autonomation)

Jidoka is an advanced form of automation. The machines are equipped with mechanisms that halt them automatically if a deviation from the regular process is ascertained. The monitoring personnel are notified automatically.

Line stop concept

The jidoka concept can be extended to entire production zones. In the event of malfunctions (e.g. missing parts), workers can stop the line. Organizational feedback loops rectify the causes of the problem which led to the line stop.

Integration of control

Control of the manufactured parts is transferred directly to the workers involved in the manufacturing process. This helps to ensure the smooth-running of the manufacturing process.

Poka-yoke (fool-proof mechanism)

Problems are prevented from occurring directly at the source. The poka-yoke devices are mechanical devices which make incorrect operation or loading of the machine impossible.

SMED (Single Minute Exchange of Die)

The SMED concept aims to achieve production lot sizes of close to one. To achieve this, retooling times must be minimized to a few minutes. An entire system of devices has been developed for this purpose.



**QUESTION 355 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 03**



You are a manager of a laundry detergent manufacturing company. Your boss has heard about the flow principle and wishes to investigate whether it would be suitable for the company. Define the flow principle and give four examples explaining how to address current problems.

2 points

Continuous flow means eliminating idle and waiting times. Any periods which do not add value are a form of waste and must be minimized. This also means that inventories in production processes contradict the flow principle and conceal certain adverse elements:

4 x 2 points (1 point for the description, 1 point for the example)

* Excess production due to uncoordinated capacities,
* Defective processes susceptible to disruption (faulty processes)
* Processes that do not create value (idle processes)
* Lack of punctuality from internal sources
* High level of wastage and recall campaigns
* Lack of production flexibility
* No internal understanding of marketing (i.e. the source is not geared to the needs of the sink)
* Lack of pull principle



**QUESTION 356 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 03**



Describe the jidoka principle and compare it with the line stop concept. How are the two systems organized?

3 points

Jidoka (autonomation)

Jidoka is an advanced form of automation. The machines are equipped with mechanisms that halt them automatically if any deviations from the regular process are ascertained. The monitoring personnel are notified automatically.

3 points

Line stop concept

The jidoka concept can be extended to entire production areas. In the event of malfunctions (e.g. missing parts), workers can stop the line. Organizational feedback loops rectify the causes of the problem which led to the line stop.



**QUESTION 357 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



You are the manager of a bicycle manufacturing company. Your team believes better results could be achieved with better factory layout planning, but one of the other managers thinks this is pointless and believes that the main aim of layout planning should be to save space.

Explain five objectives which could be achieved by planning the bicycle factory layout.

5 x 1 point for the description, 5 x 1 point for the example. The objectives of layout planning should be:

* To make optimum use of the available site with due regard for structural and safety regulations without interrupting the material flow (optimization in line with regulations and production principles, processes and bicycle production architecture)
* To arrange production and warehousing zones in a functional, flow-appropriate and logistically meaningful way (e.g. planning the warehouse for replenishment of production)
* To allow for the forecasted production quantities and volume structure (e.g. plan for different types and quantities in order to avoid over- and under-dimensioning)
* To optimize the in-house infrastructure, i.e. the supply routes, transport routes and areas for auxiliary operations (e.g. marking off areas for stock replenishment routes)
* To link service-providers seamlessly to the transport and supply systems (e.g. planning the ramp design)
* To ensure potential for future expansions and modifications to premises, plant and equipment (e.g. keeping some areas undeveloped).



**QUESTION 358 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



When designing a toy factory, why should you opt for a modular layout?

1. Points per paragraph (1.5 points for the explanation, 0.5 points e.g. for toy)
   * A modular factory layout allows individual modules to be assembled at the most favorable location. (For example, interchangeable modular machines depending on the model (car, tractor etc.)).
   * The underlying assumption of the segmentation approach is that it’s easier to coordinate within a subzone than between subzones. (For example, this enables improved coordination between and quality of related parts)

- All operational sub-functions needed to deliver the performance are therefore combined in a single unit. (For example, spatial separation of the chassis and top part).

* + Segmentation is a design approach which transforms cumbersome, bureaucratic structures into more market-friendly “small units”. (For example, modules are produced at a single location, with customized configuration in proximity to the customer)



**QUESTION 359 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



A toothbrush manufacturer wishes to modify their production. Explain the differences between a modular factory and a functional factory, giving two aspects that relate to the example.

2x2 points + 1 point for the example

A modular factory layout allows individual modules to be assembled at the location with the most favorable conditions. The segmentation approach assumes it is easier to coordinate within a subzone than between subzones.

For this reason, all operational subfunctions needed for goods and services are combined in a single unit. Segmentation is a design approach which transforms cumbersome, bureaucratic structures into “small units” more closely related to the market.

(For example, machines are located according to the flow principle or function and convertible machines are available depending on demand).

2x2 points +1 point for the example

The opposite to a modular factory is a factory organized according to functional aspects, but the potential for this type of organization would appear to be exhausted.

Organizational structures that focus on productivity focus, learning curve theories and technology have little chance to assert themselves in the face of fiercer competition and a market where quality, variant diversity, time and flexibility are the factors of success. (For example, functions are combined and located together, e.g. plastics processing, water requirements, production fluctuations may be problematic ...).



**QUESTION 360 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



Which three concepts are needed to transform a functional factory into a modular factory?

Give two meaningful features for each concept.

2.5 points

Reverse engineering

* + Starting from the outcome, reorganize the entire supply chain for products and services (develop the production process from a market perspective)
  + Align with the specific requirements of a specified market and competitive environment. (Develop the production process from a market perspective)

- Shift the focus away from functions in favor of products and objectives while simultaneously transferring holistic tasks, competencies and responsibilities

* + The value creation perspective aims to boost the efficiency of all processes by eliminating all forms of waste
  + All the company’s activities should have a market-related and process-centric focus.

2.5 points

Production segmentation

* + Product-centric organizational units allow the company to pursue a specific competitive strategy. These are:
  + Integration of multiple stages in the logistical chain
  + Transfer of indirect functions

- High level of cost responsibility

1. points

Process orientation

* + Indicates that the operators are production modules which perform tasks on an object and are linked together in an input/output arrangement
  + Income & expenditure and cross-functional collaboration are factors to be taken into consideration.



**QUESTION 361 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



Explain the objectives and significance of the reverse engineering concept.

The reverse engineering concept is the opposite of the industrial engineering philosophy.

2 points.

Reverse engineering aims to reorganize the entire supply chain of products and services, starting from the outcome, and align it with the specific requirements of a defined market and competitive environment.

2 points

From an organizational factory design perspective, reverse engineering means shifting the emphasis away from functions in favor of products and objectives while simultaneously transferring holistic tasks, competencies and responsibilities.

2 points

The value creation approach aims to improve the efficiency of all processes by eliminating all forms of waste. In this connection “waste” means anything the customer is not willing to pay for.

2 points

The value creation approach with its product- and customer-centric focus of the value chain aligns all of the company’s activities in a process-centric way in line with the market.



**QUESTION 362 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



Using an example you have chosen yourself, describe production segmentation and its key features in a factory design context.

1.5 points +1 point for the example

Production segmentation refers to product-centric organizational units which pursue a specific competitive strategy. (For example, packaging ready meals in a plastic tray; there are organizational units to manufacture the two side dishes and the main from the raw product through to the cooked product and package them in plastic trays).

2 points +1 point for the example

Characteristic features include the integration of multiple stages of the logistics chain, the transfer of indirect functions and a high degree of cost responsibility. (For example, machine maintenance).

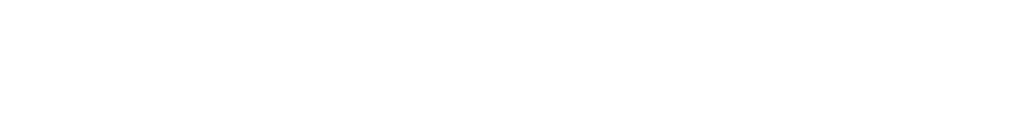
1.5 point + 1 point for the example

The modules created by segmentation are linked together in the process chain organization concept. (For example, machine locations and sequences may be modified depending on the menu compilation).



**QUESTION 363 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Explain the concept of process chain organization in a factory design concept.

3 points

The “process chain organization” concept is characterized by production modules which perform tasks on the object.

3 points

They are “linked together” in an input/output description, the emphasis being on inputs, outputs and cross-functional collaboration.



**QUESTION 364 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



You are the manager of an electronics firm. Prompted by major market changes, you want to expand your portfolio with numerous new products. This will require a spatial reorganization of your production network.

Using this example, explain how production networks are spatially broken down into activities and functions.

2 points

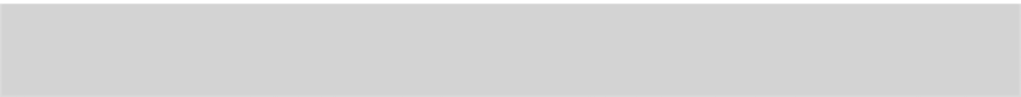
Production companies that operate (or wish to operate) on the international market must consider how best to distribute their value activities among the various regions of the international / transnational market.

3 points + 1 point for the example

There is a trend for sales market-related functions to be based in the (geographical) proximity of those markets. In particular, this means that sales offices and customer service agents must be present in every sales region. (For example, the warehouse locations for electronic products are regionally well-distributed to enable fast delivery to retailers).

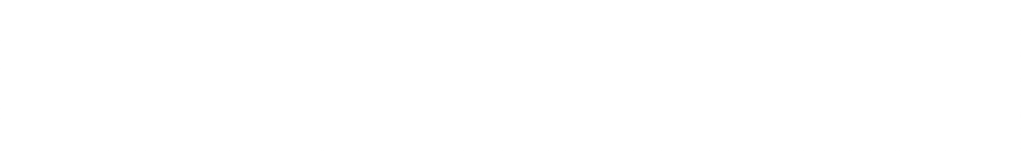
3 points + 1 point for the example

By contrast, production and procurement activities may be geographically separate from the sales markets and positioned according to their specific requirements in terms of the availability and cost of various input factors. (For example, production itself may be outsourced to more favourable conditions).



**QUESTION 365 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Explain which decisions are made regarding the geographical distribution of production processes. How do they influence the resulting transfer and transformation processes?

1 point

Transformation processes are repeatedly linked together by transfer processes.

3 points

The global opening of markets requires decision-making as to which transformation processes should concentrate on comparatively inexpensive locations and which should be more scattered in the proximity of sales markets.

2 points

At the same time, this will influence decisions about the transfer of goods and information between transformation processes.



**QUESTION 366 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



What are the four features of production networks? Explain in detail.

4 x 2.5 points

* Management within a network may be provided centrally by one company, which becomes the lead agent in that network. Alternatively, management may be distributed among multiple companies.
* The organizational structure may be hierarchical (as is the case in the auto industry’s supplier pyramid) or divided among multiple players with equal rights linked together on a cooperative basis.
* Stability is an important feature for a network. It is important to consider the chronological aspect involving long and short connections. A long connection may persist for years while a short one may relate to a project spanning several months.
* Their mutual links to a network allow all participating companies to implement and invest in the network-specific use of resources (employee training or personnel transfer in order to safeguard expertise). There is mutual access to partners’ resources.
* Given the scope and extent of contractual ties and the geographical distance between partners, mutual trust is vital for proper functioning of the network. Other key features include communication and the intensity of the exchange of services between partners.



**QUESTION 367 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



A frozen pizza manufacturer is having problems with their IT interfaces and processes with 21 different suppliers of meats, cheeses, packaging materials and forwarding companies. Which three principles should they follow in relation to the design of logistical networks? Briefly explain this using the example given.

2.5 points + 1 point for the example

1. Streamline structures and operations: Simplifying the structure and operations helps to prevent the network from becoming overly complex by reducing the number of intersections between delivery and receipt. Any redundant functions should be eliminated.

(For example, supplier management: reduce the number of suppliers where appropriate, prevent duplication of work, increase frequency)

2.5 points + 1 point for the example

1. Synchronize the flow of materials and information: Synchronization should be facilitated by coordinating capacity intersections in the various elements of the logistics channel, continuously monitoring flows of information and goods, and forming logistical units to transmit and process information.

(For example, seamless and coordinated use of IT, coordinated procedure with regard to monitoring and handling of goods)

2 points + 1 point for the example

1. Automate the exchange of information: The aim is to achieve error-free logging of information and efficient network communications. (For example, seamless use of identification options such as RFID, communications options)



**QUESTION 368 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



What are the different types of production network? Explain the three different types, and illustrate each one with a specific example.

2 points + 2 points for each example

Depending on the direction of cooperation, there are three different types of production network:

- Horizontal networks between different companies at the same stage of the supply chain (e.g. manufacturers of muesli oats form a network)

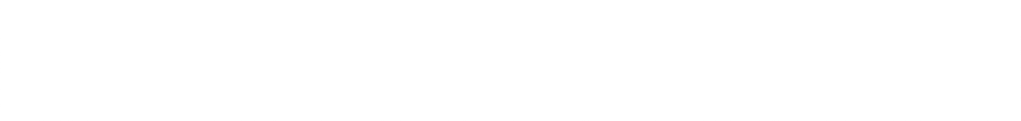
- Vertical company networks between customers and suppliers (e.g. collaboration between retailers and wholesalers)

- Lateral and conglomerate networks involving companies from different industries. (e.g. a supermarket collaborates with the auto industry)



**QUESTION 369 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



What does TQM stand for, and which aspects must be taken into consideration? Explain the three components in detail.

4 points

In this connection, “total” means that all stakeholders (interest groups) are involved in the quality assurance process. Cross-functional, partnership-based cooperation across all hierarchical levels, both with the company’s own employees and with its suppliers, service-providers and customers is crucial. Cooperation may occur in the form of group work or via communities or networks.

3 points

Quality must always be centred around customer requirements. Quality not only refers to product performance but also includes processes and procedures. Quality only exists where there is an improvement in customer benefits. As such, any products, services and procedures which do not add value should be removed. Statistical techniques are often used to prevent errors.

3 points

Management in this connection refers to a quality-centric leadership approach and is tasked with incorporating the entire corporate culture into the quality process. The relevant quality goals and strategies are shared in a top-down process and completed with suggested improvements and additions for quality assurance from the lower hierarchical levels. A team-led approach ensures the success of the quality management system



**QUESTION 370 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



What are the key aspects of management execution in TQM?

1 point each

TQM is a management approach relating to employees and work, leadership style,

involvement of employees in decision-making, teamwork, lifelong learning and an open organizational climate.



**QUESTION 371 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



An e-bike manufacturer has been forced to implement a second recall campaign due to the poor quality of their electric drive and associated safety risks. Quality campaigns within production have thus far been unsuccessful. Now a new attempt is being launched with TQM.

Which four modules would you apply to this example?

4 x 2.5 points

* From the management side, the quality policy comprises a comprehensive commitment to a quality organization (e.g. quality targets for monitoring processes and the use of regular quality controls).
* The structural organization defines responsibilities, powers and mutual relationships between all employees who perform managerial, executive and monitoring activities with an influence on quality (e.g. define the organizational hierarchy for manufacturing and staff units and transfer new quality responsibilities)
* The structural organization defines and coordinates all processes which influence quality (e.g. define process stages for quality as part of the production process)
* Records are kept documenting the fact that quality requirements are met and the quality management system functions effectively (e.g. documentation of QM ratios illustrating compliance with quality requirements)
* Continuous target/actual comparisons in control loops with corrective measures implemented in the event of deviations (e.g. measurement of the QM ratio in control loops, measures in the event of deviations from the value).
* Goal-led leadership (e.g. minimum failure probability for electric motors, whereby leadership is adapted accordingly)
* Customer centricity throughout the entire company (e.g. customer survey and corresponding modifications to the motor; avoid excess quality as well as sub-par quality).
* Internal and external improvements in customer/supplier relationships (e.g. supplier relationship management, communicate to the employees and agree with suppliers; reduce the number of defective parts in deliveries).
* Zero error program (reduce the number of defective parts)
* Continuous improvements with measurement variables (kaizen)
* Continuous training and advancement (e.g. employees should be trained in the QM techniques for their unit)
* Regular management audits (e.g. review of target compliance)



**QUESTION 372 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



What is the aim of the seven basic quality tools? Additionally, name six of the seven basic quality tools

2 points

The seven quality assurance tools are simple aids for visualizing quality data and assisting with the problem-solving process.

6 x 1 point

Specifically, these are: Flow diagram

Check sheet

Pareto diagram

Cause/effect diagram

Histogram

Scatter diagram and

Quality control chart.



**QUESTION 373 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Describe what is meant by statistical process control (SPC).

2 points per paragraph

- Continuous target/actual comparisons are performed using quality control cards to prevent systematic disturbances in production processes.

- Statistical process control identifies systematic deviations in a random sample within calculated limits of variation.

- This includes dispersion analysis and mean analysis. Conclusions regarding process control and quality are then drawn from this.



**QUESTION 374 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



Explain the difference between the Taguchi method and the Shainin method.

3 points

Taguchi method: The Taguchi method is a technique for minimizing test and error costs. The aim is to identify the optimum combination of control variables via simultaneous variation.

2 points.

This occurs in three stages: system design, parameter design and tolerance design.

3 points

Shainin method: Compared with the Taguchi method, the Shainin method is less complex and adopts a more pragmatic approach. The aim is to identify the key factors which influence quality problems.

2 points.

The Shainin method is divided into three phases: Identify the principal influences, optimize the target variables and validate the results.



**QUESTION 375 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Where is Six Sigma used and what are its objectives and key tasks?

3 points

The concept is aimed at continuous process improvement. The statistical goal is approximately 3.4 errors per million processes.

3 points

The main task is the description, measurement, analysis, improvement and monitoring of

processes by statistical means.



**QUESTION 376 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**

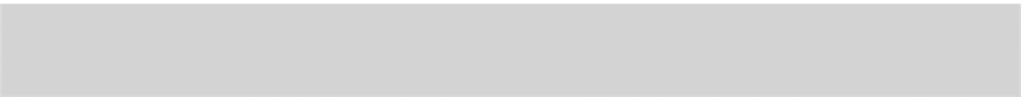


Describe the three tasks required within the context of product controlling.

2 points per bullet point

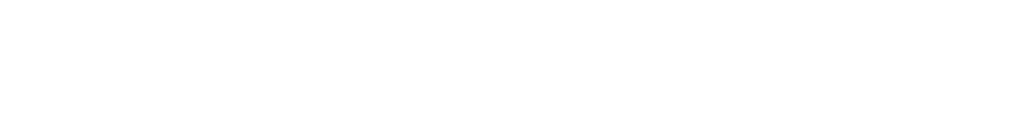
Production controlling must perform the following tasks:

* Coordinate the production sector with internal and other corporate divisions.
* Organize systems in the production sector (i.e. organize the production planning, control and monitoring systems of the linked information supply system)
* Utilize systems in the production sector (i.e. perform activities within the system structures created).



**QUESTION 377 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



Describe which types of planning ideally take place in strategic production controlling and how they might be organized.

1 point

- Strategic production controlling must prepare a long-term production plan.

1.5 points

This entails planning the long-term production program, the production process structure and the production technologies.

2 points

Production program planning includes defining the product areas and structure of the production range by defining the breadth (= number of different products) and depth (number of different production levels).

2 points

This occurs simultaneously with planning personnel and operating equipment capacity

1.5 points

Production process planning focuses on defining the production type and the technical production process.



**QUESTION 378 OF 387**

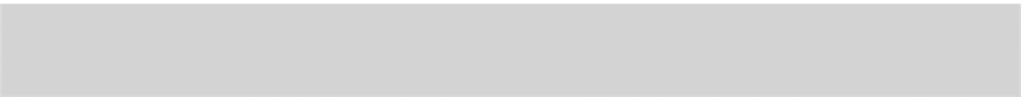
**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Name the six types of operational controlling in short-term production program planning.

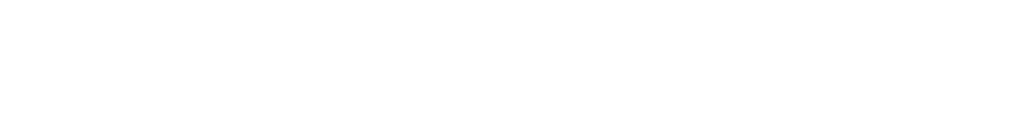
1 point per bullet point

* Short-term profit margin/cost target planning for individual products / production centers
* Short-term deadline planning (throughput times)
* Short-term volume target planning (spoilage rates)
* Operational/short-term production program planning
* Operational/short-term production process planning
* Operational/short-term production factor planning



**QUESTION 379 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Name the three planning types of operational or short-term production factor planning.

2 points per planning type

* Operating equipment scheduling
* Personnel scheduling
* Materials and energy use scheduling



**QUESTION 380 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



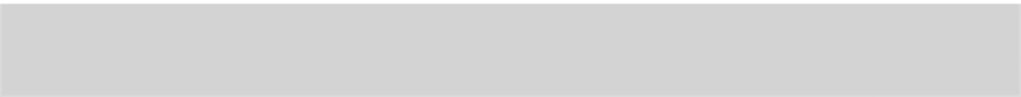
An electronics manufacturer discovers that no information is being generated by their new operational production information system.

Using this example, describe which information should be delivered by the system.

2.5 points per bullet point; 1.5 point for naming, 1 point for an example

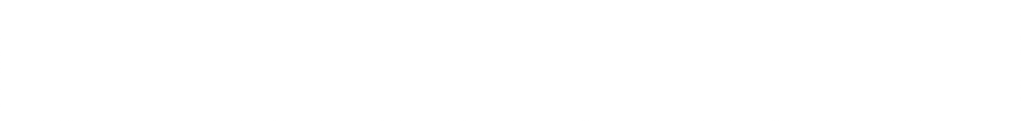
The operational production information system must supply the following information to perform these tasks:

* Supply information for production control and monitoring (e.g. machine scheduling, PPS data)
* Cost calculation to supply operational budgeting data within production program, production factor and production process planning (production cost planning) and variances for production cost monitoring (production cost control); (e.g. cost of set-up times, machine changeovers etc.)
* Analyze overheads to eliminate unnecessary services and cut production overhead costs as the preliminary stage of production cost planning (e.g. supplier management, check framework agreements etc. and, where applicable, reorganize more efficiently).
* Calculate production indices for reporting purposes (e.g. production productivity).



**QUESTION 381 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Name four tools used in operational production controlling.

4 x 1.5 points

The operational production control system includes the following tools:

* Cost center-specific analyses of target/actual deviations,
* Benefit and idle cost analyses
* Throughput time analyses
* Production division calculations
* Productivity calculations



**QUESTION 382 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F1/Lektion 02**



In operational production controlling, which three areas must be planned and in which order? Give two examples of each.

1 point for naming, 2x1 point for examples, 1 point for sequence

* 1. Operational production controlling begins with short-term production program planning, which is sub-divided as follows:
     + Short-term profit margin/cost target planning for individual products / production centers
     + Short-term deadline planning (throughput times)
     + Short-term volume target planning (spoilage rates)
     + Operational/short-term production range planning
     + Operational/short-term production process planning
     + Operational/short-term production factor planning
* Operating equipment scheduling
* Personnel scheduling
* Materials and energy use scheduling.
  1. The operational production information system must supply the following information to perform these tasks:
     + Supply information for production control and monitoring
     + Calculate costs to supply data for operational budgeting within production program, production factor and production process planning (production cost planning) and variances for cost monitoring within the production monitoring system (production cost control)
     + Analyze overheads to eliminate unnecessary services and cut production overheads as the preliminary stage of production cost planning
     + Calculate production indices for reporting purposes
  2. The operational production control system includes the following tools:
     + Cost center-specific analyses of target/actual deviations,
     + Benefit and idle cost analyses
     + Throughput time analyses
     + Production division calculations
     + Productivity calculations



**QUESTION 383 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



Briefly describe what is meant by a cockpit system. Why is it needed?

2 points

A cockpit system supplies management with the requisite information about demand, capacities, inventories and production bottlenecks, ideally in real time.

3 points

A cockpit system primarily ensures that those responsible for production logistics receive the relevant production data in a bespoke and condensed format in the form of overviews, lists, charts,

ratios etc.

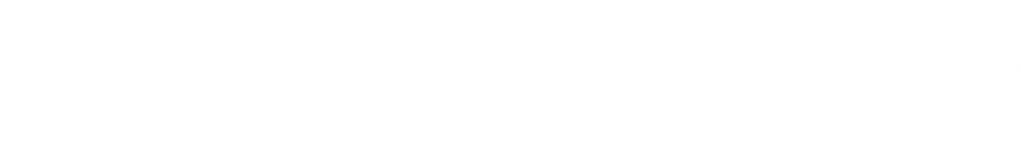
3 points

This information is used to align the production sequence and capacity allocations etc. with the current situation and material flows. It helps those responsible for production logistics to identify control potential and malfunctions in the material flow.



**QUESTION 384 OF 387**

**DLBLOISCM101\_Offen\_mittel\_F2/Lektion 04**



The boss of a logistics company wants to introduce a cockpit system. Define what is meant by a cockpit system and name four functions relating to evaluations.

2 points.

Cockpit systems supply essential information, for example regarding demand, capacity, inventories and production bottlenecks, ideally in real time.

(To eliminate disruptions to the material flow, cockpit systems must transmit information in real time).

1.5 points per criterion

* Evaluations of machine standstills;
* Evaluation of disruptions and remedies;
* Evaluations of production capacity utilization levels;
* Evaluations of ratios relating to delivery problems, missed deadlines, development of rates, waiting times and idle periods.



**QUESTION 385 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



Which measures can be derived from the functions of a cockpit system?

4x 1.5 points

Possible measures include:

* Postpone individual processes or orders using available buffer times
* Postpone multiple work processes or orders with due regard for the material flow conditions
* Accelerate or slow down the material flow
* Extend machine and shipping capacity
* Plan a new order handling sequence to suit the modified deadline situation.



**QUESTION 386 OF 387**

**DLBLOISCM101\_Offen\_schwer\_F2/Lektion 04**



How have software concepts within production planning developed? Name and explain the two stages and the relevant characteristics, and also explain the Industry 4.0 approach.

3 points

In the past, MRP (material resource planning) software concepts were mainly used for production planning and control. Material requirement planning and order scheduling were carried out on a centralized basis and followed the push principle.

2 points

While the MRP-I system only allowed one scenario, its successor model MRP II also supported the determination and evaluation of alternative scenarios using simulations.

3 points

These days, increasing use is made of APS (advanced planning systems). Unlike MRP systems, APS systems are capable of operating on a cross-functional, cross-company basis and generating a “production master plan” for the entire supply chain.

2 points

The fourth industrial revolution (Industry 4.0) also has wide-ranging implications for logistics. Interactions between multiple modern software solutions and digitalization (e.g. RFID = Radio Frequency Identification) facilitate the automation of multiple processes and complex operations in production logistics.



**QUESTION 387 OF 387**

**DLBLOISCM101\_Offen\_leicht\_F2/Lektion 04**



What is an MRP-I system, how is it organized and what are its functions? What has been modified in MRP-II?

2 points

MRP (material resource planning) software concepts were primarily used for production planning and control.

1 point

Material requirement planning and order scheduling were carried out on a centralized basis using the push principle.

3 points

While the MRP-I system only allowed one scenario, its successor model MRP II also supported the determination and evaluation of alternative scenarios using simulations.