

COMMERCIAL MANUFACTURING PRACTICES

Examination questions: answer sheet.

Answer all the following questions which have been taken from past papers. The mark allocation for each question is given in brackets at the end of each question.

Read the questions carefully.

The most appropriate system for manufacturing shirts is the progressive bundle system. Explain how this system works. [4]

A production line is set up with specific machines set to do a particular job. Each machinist is responsible for sewing one section of the product. When he/she has finished her 'bundle' she passes her box of work on to the next person in the production line so that he/she can complete the next section. This continues until all the products have been finished.

In industry many sports bags would be cut out at the same time. Explain how this is achieved and name the specialist equipment used. [4]

Several layers of fabric would be laid out on top of each other by an automated spreading machine on a large table. A vacuum sucks the air out from the layers of material keeping the fabric in place. A computer controlled cutting machine cuts out the individual pieces according to the lay plan that has been programmed into it.

Explain what is meant by the following terms.

Die cutter [2]

Meaning: This is a preformed metal template with a cutting edge that is pressed into several layers of fabric to make cut specific shapes for a product. (Usually for relatively small pieces).

Cell production [2]

Meaning: A small team of skilled machinists working together, taking responsibility for manufacturing products.

Describe **one** advantage of using computer integrated manufacture (CIM) in the fashion industry. [3]

CIM allows all sectors of the fashion manufacturing/retail industry to track the development/sales of a product at any one time. If a product sells well manufacturers are instantly aware of this and can manufacture more to keep up with demand.

The picture below shows a factory system for cutting out different pieces to make jackets.



Describe **two** features of the industrial system shown above that make it a suitable method for mass production.

Feature 1: [2]

The computer is programmed to automatically cut out all the pieces needed for production; this is much faster and much more efficient than using manual labour.

Feature 2: [2]

Mass produced products are generally cheaper and cost can be reduced considerably using automated machinery because less man power is needed, less wages are paid which keeps costs down.

CAD has brought many benefits to textile manufacturers.

State what the initials **CAD** stand for.

[2]

Computer

AIDED

DESIGN

The picture below shows a lay plan for cutting out fabrics using computer software.



Explain the advantages of using a CAD system to plan fabric cutting.

[3]

All the templates (including different sizes) for producing a particular product are fed in to the computer; this allows the operator to tessellate all the pieces and find the most economical lay plan for manufacturing the product. This is cost effective saving the manufacturer time and money.

List the 4 main types of production system.

[4]

1. One-off production
2. Batch production
3. Mass production
4. Just in time production

Some parts of a product can be made on a sub-assembly line. Describe briefly what this is. [2]

Certain parts of a complicated product are made on a separate assembly line away from the main assembly line; the pieces are added on to the main product at a suitable time in the production line.

(An example could be: the collar of a shirt made in one section while the rest of the shirt is made elsewhere, it is sewn in place at a suitable point during manufacture).

Explain what type of production would be used to manufacture simple red and white Santa hats at Christmas. [2]

This would be batch production because only a limited number would be needed around the festive season. If too many are made they may not sell which would be a waste.

Describe **one** advantage for the workforce in using cell production. [2]

Jobs are quite often rotated amongst the team of machinists which is more interesting for the workers - less repetitive and boring!

State what the initials JIT stand for. [1]

JUST IN TIME

Give **one** advantage of a JIT production system. [1]

The manufacturer saves money because he does not need large warehouses to hold stock.

List **one** disadvantage of JIT production. [1]

If stock does not come in on time production can grind to a halt - adding costs for the manufacturer.