#### NAME:

**FORM/GROUP** 

# DESIGN AND TECHNOLOGY REVISION BOOKLET 8

WORLD ASSOCIATION OF TECHNOLOGY TEACHERS

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# **PRODUCTION SYSTEMS - BOOKLET 3**

COMPUTER INTEGRATED MANUFACTURE (CIM) REMOTE MANUFACTURING FLEXIBLE MANUFACTURING SYSTEMS JUST IN TIME (JIT) LEAN MANUFACTURING

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## SUITABLE REVISION MATERIAL FOR:

## DESIGN AND TECHNOLOGY PRODUCT DESIGN RESISTANT MATERIALS GRAPHIC PRODUCTS

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### COMPUTER INTEGRATED MANUFACTURE (CIM)

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LINKS TO HELP AND INFORMATION https://www.technologystudent.com/rmprp07/intman1.html https://www.technologystudent.com/rmprp07/injec1.html

1. In simple terms, what is CIM? 4 marks

2. In the space below, draw a labelled layout of a factory, that is a typical example of CIM. **6** marks

3. Explain the layout that you have drawn for question 2. 4 marks

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LINK TO HELP AND INFORMATION https://www.technologystudent.com/prddes1/remote1.html

4. Briefly explain the meaning of Remote Manufacturing. 4 marks

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5. Publishing is an industry that often uses remote manufacturing. Describe the stages involved in publishing a book, from the author writing the book, to it's final delivery to the bookshop / online retailer. **8 marks** 

#### **REMOTE MANUFACTURING**

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6. Explain the advantages of Remote Manufacturing. The key words / phrases may help you answer the question. **6 marks** 

COST EFFECTIVE - CHEAPER MANUFACTURING ABROAD - NO NEED TO INVEST IN MANUFACTURING TECHNOLOGY IN THIS COUNTRY - CHEAPER PRODUCTS FOR THE CUSTOMER - GOOD COMMUNICATION BETWEEN CUSTOMER AND MANUFACTURER - FAST AND CHEAP TRANSPORT - GLOBAL ECONOMY

#### **ADVANTAGES:**

#### **REMOTE MANUFACTURING**

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7. Explain the **dis**advantages of Remote Manufacturing. The key words / phrases may help you answer the question. **6 marks** 

LOCAL INDUSTRIAL / TECHNICAL SKILLS LOST - LOCAL SUPPLIERS SUFFER -MANUFACTURING CARRIED OUT ELSEWHERE - CONTROL OF THE MANUFACTURING PROCESS MOVES ABROAD - RELYING ON FOREIGN MANUFACTURERS - DESKILLING OF LOCAL WORKFORCE - UNEMPLOYMENT -ONLY RETAIL BUSINESS LEFT

**DISADVANTAGES:** 

#### FLEXIBLE MANUFACTURING SYSTEMS (FMS)

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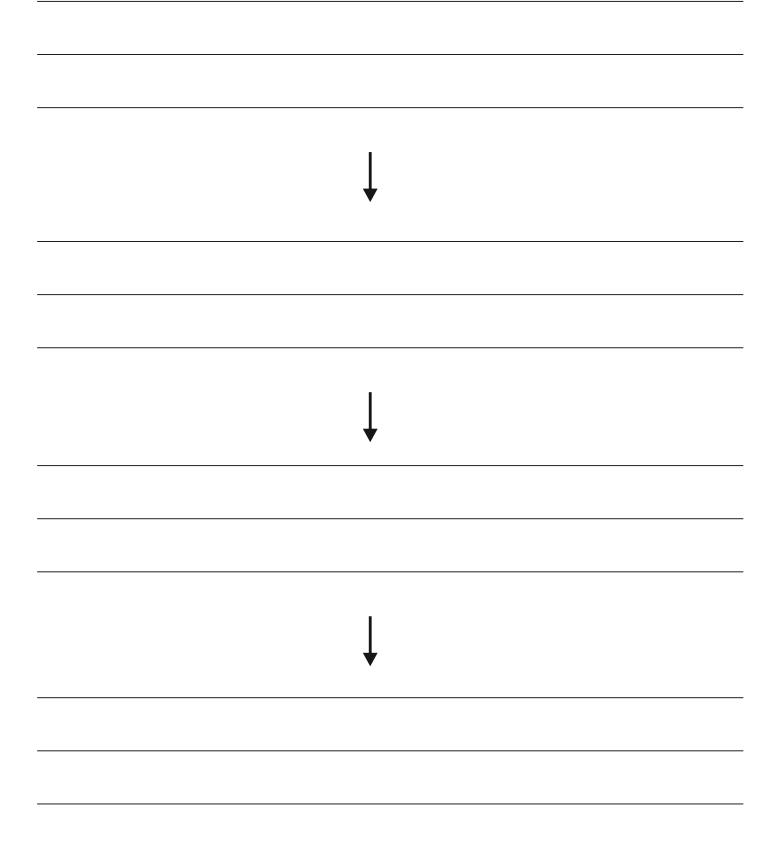
LINKS TO HELP AND INFORMATION https://www.technologystudent.com/prddes1/flexbl1.html https://www.technologystudent.com/prddes1/flexbl3.html

8. Briefly, what is a Flexible Manufacturing System? 4 marks

9. With reference to the manufacture of CDs / DVDs, describe how they are manufactured through a flexible manufacturing system. 6 marks

LINK TO HELP AND INFORMATION https://www.technologystudent.com/prddes1/justintime1.html

10. What is 'Just in Time'? Include the stages from the customer order, ordering materials and components, manufacturing on the production line and finally distribution of the finished product. *8 marks* 



LINK TO HELP AND INFORMATION https://www.technologystudent.com/prddes1/justintime1.html

11. Describe some of the advantages of Just in Time. 6 marks

## LEAN MANUFACTURING

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LINKS TO HELP AND INFORMATION https://www.technologystudent.com/despro\_3/lean1.html https://www.technologystudent.com/despro\_3/lean2.html

#### 12. What is Lean Manufacturing? 8 marks

13. Complete the diagram below, by adding the rest of the key features of Lean Manufacturing. *6 marks* 

LEAN MANUFACTURE - KEY FEATURES DIAGRAM

