



STUDENT NUMBER

CENTRE NUMBER

HIGHER SCHOOL CERTIFICATE EXAMINATION

1997

INDUSTRIAL TECHNOLOGY

2 UNIT
(40 Marks)

SECTIONS I AND II

*Total time allowed for Sections I, II, and III—One hour and a half
(Plus 5 minutes reading time)*

DIRECTIONS TO CANDIDATES

- Write your Student Number and Centre Number at the top right-hand corner of this page.

Section I (10 marks)

- Attempt ALL questions.
- Mark your answers in pencil on the Answer Sheet provided.

Section II (15 marks)

- Attempt ALL questions.
- Answer the questions in the spaces provided in this paper.

Section III (15 marks)

- Attempt ALL questions from your Area of Study.
- Answer the questions in the spaces provided in the Section III paper.
- Write your Student Number and Centre Number at the top right-hand corner of the first page of the Section III paper.

SECTION I

(10 Marks)

Attempt ALL questions.

Each question is worth 1 mark.

Select the alternative A, B, C, or D that best answers the question.

Mark your answers in pencil on the Answer Sheet provided.

1. Introduction of computer control systems has greatly improved mass production techniques. This is a good example of
 - (A) company restructuring.
 - (B) specialisation.
 - (C) automation.
 - (D) mechanisation.

2. An organisation is attempting to increase the number of product sales. The most likely strategy to boost sales would be to
 - (A) run additional advertising/promotional campaigns.
 - (B) reduce the cost of the product by improving production methods.
 - (C) increase the number of sales personnel.
 - (D) increase production output.

3. When deciding if a machine should be purchased to replace a hand process, which factors are most important?
 - (A) Operator training needs and running costs
 - (B) Size and shape of the machine
 - (C) Simplicity of operation and speed of process
 - (D) The increase in efficiency provided by the machine, and the reduction in manufacturing costs

4. A large company has developed a new product and wishes to put it into production. In order to raise the necessary capital to meet production costs, does the company
 - (A) apply to the bank for an increase in its overdraft limit?
 - (B) ask the shareholders to contribute towards the cost?
 - (C) raise money through selling some of the company's shares?
 - (D) raise capital by selling surplus equipment?

5. Economical use of resources would best be described as
- (A) using the right material for the product.
 - (B) ensuring that waste is minimised.
 - (C) purchasing resources only when required.
 - (D) making products as small as possible.
6. Within a large organisation, the union representative would mainly be concerned with
- (A) liaising with senior management to get the best working conditions for the workers.
 - (B) ensuring that the workers are happy and are working in a safe environment.
 - (C) ensuring that all workers are being paid award wages.
 - (D) ensuring that the workers are not retrenched.
7. Marketing is best described as
- (A) activities to determine the target market for product distribution.
 - (B) activities in the developmental stages of new products.
 - (C) the total of all activities in planning, developing, pricing, promoting, and distributing goods and services.
 - (D) liaising with the production managers, finance managers, and sales managers.
8. Industry can best be encouraged to recycle waste materials through
- (A) extensive education programs.
 - (B) imposition of fines for failing to recycle.
 - (C) formation of a special government department.
 - (D) development of waste material buy-back schemes.
9. Industrial pollution can be minimised through
- (A) minimisation of packaging.
 - (B) greater use of electrically powered delivery vehicles.
 - (C) installation of exhaust filters to all factories.
 - (D) careful management of industrial waste products.
10. The major role of company management is
- (A) ensuring that the company is always working to its maximum capacity.
 - (B) dealing directly with the unions.
 - (C) ensuring that the company is profitable.
 - (D) making sure that the workers are always working in a happy, friendly environment.

SECTION II

(15 Marks)

The two questions in this Section are **COMPULSORY**.
Answer the questions in the spaces provided in this paper.

EXAMINER'S
USE ONLY



QUESTION 11. (10 marks)

Answers to this question must be written in terms of the Area of Study undertaken, that is, Automotive, Ceramics, Drawing, Electronics, Metal, Plastics, or Wood.

Area of Study

(a) Refer to **ONE** specific company you have studied.

(i) Name the company studied.

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(ii) Briefly describe the products or services of the company.

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(b) Name and describe the roles of **THREE** different personnel in the workforce of the company you have studied.

(i) Name of role

Description of role

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(ii) Name of role

Description of role

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(iii) Name of role

Description of role

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QUESTION 11. (Continued)

EXAMINER'S
USE ONLY

(c) A production system in a company transforms resources into finished products.

(i) For the company you have studied, name a product.

Product

(ii) List the resources/raw materials used to make the product.

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(iii) Describe the production processes that transform the resources/raw materials into the finished product.

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(iv) Suggest ONE step in production where the product's overall quality could easily be reduced.

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(v) Explain how poor quality products could damage the company.

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(d) List TWO strategies that the company uses to improve its market share.

(i)

(ii)

(e) Sales promotion techniques form part of a company's advertising program.

List TWO examples of sales promotion used by the company.

(i)

(ii)

QUESTION 11. (Continued)

EXAMINER'S
USE ONLY

- (f) Name a pollutant produced by the company, and indicate the action taken to minimise its effect on society.

Pollutant

Action taken

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- (g) Describe TWO situations in which computer technology has increased efficiency in office administration.

Situation 1

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Situation 2

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- (h) For the company you have studied, suggest ONE way in which the introduction of computer technology has improved production.

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QUESTION 12. (5 marks)

EXAMINER'S
USE ONLY



(a) For the TWO drawing methods given below, briefly describe their application in the development of a major project.

(i) Sketches

Application

(ii) Detailed orthogonal drawing

Application

(b) Shape, size, and proportion need to be considered when making design modifications to existing plans/structures. Explain the importance of size, shape, and proportion in design.

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(c) Describe TWO factors that you would consider when making a choice between materials for a project.

Factor 1

Factor 2

QUESTION 12. (Continued)

EXAMINER'S
USE ONLY

- (d) The word list below is provided to assist in the development of a flowchart.

WORD LIST

- | | | |
|-----------------------|----------------|--------------|
| • Calculations | • Shape | • Costing |
| • Ideas | • Research | • Sketching |
| • Justification | • Notes | • Design |
| • Workshop drawings | • Size | • Evaluation |
| • Planning | • Construction | • Choice |
| • Statement of intent | • Record | |

Select keywords from the word list and produce a flowchart to represent the development and production of a major project. (Keywords may be used more than once.)