

OLLSCOIL NA hÉIREANN, GAILLIMH
NATIONAL UNIVERSITY OF IRELAND, GALWAY

Semester I Examinations 2000

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Third Industrial Engineering & Information Systems

IE332 : Quality Management

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Time allowed: Two hours
Attempt *three* questions

- Q1.** (a) Audits of organisations can expose a range of deficiencies in Quality Management practices. List **any five** such deficiencies – your selection may relate to people, systems, information, technology etc. [5 marks]
- (b) " Total Quality Management(TQM) is a philosophy and set of guiding principles for managing an organisation " Develop this point, and outline general areas in which organisations developing/implementing TQM, should focus their efforts. [12 marks]
- Q2.** (a) What is the difference between *Checklists* and *Checksheets*? [1 mark]
- Three general classes of checksheets may be identified; so-called Attributes Checksheets, Variables Checksheets and 'Measles' Charts. Differentiate between them. [2 marks]
- A large block of toilets is cleaned/maintained on a rota basis, by a number of cleaners. Prepare/design a checklist for this activity, which would help assure a uniform performance by the different cleaners. [3 marks]
- (b) How would you structure/run a *Brainstorming* session? [5 marks]
- (c) Write a short note on *Supplier Audits*, indicating why/when they should be undertaken, the general atmosphere in which an audit should be conducted, and benefits arising from the activity. [6 marks]

- Q3.** Why is the Quality Manual such an important document for companies seeking ISO9000 accreditation? [2 marks]

Describe briefly, and in general terms, the structure and contents of a typical Quality Manual. [7 marks]

Establish a 'road map' to ISO9000 accreditation, for a small organisation. [8 marks]

- Q4.** Write a short note on the breakdown/classification of Quality Costs - you should refer to the standard categories employed and explain, via examples or otherwise, why it is sometimes difficult to categorise particular cost elements. [5 marks]

Analyse the following cost data – summarise the data as you see fit; then comment on what you find. [12 marks]

| Cost Element | Cost | Cost Element | Cost |
|------------------------------|--------|----------------------------------|--------|
| Incoming test & inspection | 17,500 | Rework | 70,000 |
| Scrap | 35,000 | Nonconforming product evaluation | 8,000 |
| Quality training | 2,000 | Quality problem troubleshooting | 11,750 |
| In-process inspection | 17,000 | Calibration of test equipment | 25,000 |
| Adjustment of complaints | 21,250 | Writing procedures/instructions | 2,500 |
| Final inspection | 7,000 | Vendor materials rectification | 12,000 |
| Quality audits | 2,500 | Depreciation of test equipment | 3,000 |
| Discounting inferior product | 15,000 | External laboratory services | 2,500 |

- Q5.** The so-called *House of Quality* is central to Quality Function Deployment (QFD) activity. Write a technical note describing how this tool is implemented and interpreted. [Note: You should construct/sketch a notional example, which you may then refer to in your narrative]. [14 marks]

Outline benefits which an organisation can expect to gain from QFD usage. [3 marks]