

**Ollscoil na hÉireann, Gaillimh**  
**National University of Ireland, Galway**  
**Semester One Examinations 1999/00**

**Higher Diploma In Systems Analysis Examination**

**(Business Systems Development)**

**Software Quality and Testing (MS877)**

Professor R. O'Callaghan

Professor S. Collins

Ms. M. Hogan

Time allowed: TWO hours

Candidates should answer *THREE* questions

All questions carry EQUAL marks

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**Q.1. (a).** Explain briefly the following terms:

Product metric  
Process metric  
Predictor metric  
Result metric

**(10 marks)**

**(b).** In order to ensure the successful use of metrics, it is important that the metrics chosen are appropriate for the project. Describe, in detail, how you would derive appropriate metrics for a software project.

**(23 marks)**

**Q. 2. (a).** Describe, in detail, the use of a Work Breakdown Structure in project costing during the project planning stage of a project.

**(17 marks)**

**(b).** Describe, in detail, the purpose and contents of a quality plan for a project.

**(16 marks)**

**Q.3.** Many organisations use benchmarking in order to achieve superior performance in critical areas of work. Describe, in detail, the process of benchmarking.

**(33 marks)**

**Q. 4. (a).** Describe, in detail, the process of *Unit Testing*.

**(13 marks)**

**(b).** Describe, in detail, the process of *Systems Testing*.

**(20 marks)**

**Q.5. (a).** Describe, in detail, how you would validate a design specification using a *Technical Review*.

**(20 marks)**

**(b).** Describe, in detail, how you would validate a design specification using a *Verification Matrix*.

**(13 marks)**