I. *JOB TITLE* : **TOOL/MOULD/DIE MECHANIC**
[Tool and Die Maker, Mould and Die Maker and Repairer]

II. *JOB LEVEL* : CRAFTSMAN

III. *JOB DESCRIPTION* : According to drawings and other specifications, makes, maintains and repairs:
(i) press tools, dies, cutting tools, gauges, jigs and fixtures ; OR (ii) moulds and dies for plastics processing machines

IV. *TRADE SKILLS* Ability to:

1. Select, set up and operate all common machine tools used for tool/mould and die manufacture.
2. Undertake proper marking out on tool/mould and die parts.
3. Read and interpret engineering drawings and specifications.
4. Use and care for hand tools and maintain machine tools.
5. Carry out all necessary safety precautions.
6. Fit to specified tolerances.†
7. Perform soldering, brazing and welding.†
8. Make, maintain and repair press tools, special cutting tools, dies, gauges and jigs and fixtures in accordance with drawings and other specifications.†
9. Use and care for standards and precision measuring instruments and devices.†
10. Identify and select materials in accordance with specifications.†
11. Perform heat treatment of metals to give specified properties.†
12. Select and sharpen cutting tools.†
13. Select and use correct speeds, feeds, lubricants and coolants for efficient machining.†

14. Produce required surface finishes on metals.*

15. Analyse and rectify mould failures.*

16. Identify common engineering materials and use correct tool cutting angles, speeds and lubricants for their machining.*

17. Perform heat treatment of metals.*

18. Perform simple mould design.*

V. *TRADE THEORY* : Knowledge of:

1. Workshop technology including common and special machine tools, hand tools, metrology, properties and heat treatment of materials, extrusion and diecasting/moulding of plastics.

2. Engineering science and workshop calculations.

3. Engineering drawing.

4. Standards of measurement.

5. Industrial hazards including those associated with power-driven machinery and other mechanical and electrical work, and safety precautions to be observed.

6. Relevant sections of the Factories and Industrial Undertakings Ordinance, national and international safety standards and regulations, and codes of practice.

7. Press tools, dies, gauges, jigs and fixtures.†

8. Basic electrical, hydraulic and pneumatic theories.†

9. Principles of plastic mould and die design. *

10. Plastics processing machines. *

11. Common plastics materials.*

VI. *QUALIFICATIOS AND TRAINING* : Stream 1

Successful completion of Secondary 3, plus 4-year organized craft apprenticeship with attendance at a relevant part-time day release or block release craft course in a technical institution.

Stream 2

Successful completion of a relevant 1-year full-time basic craft course or a relevant 3-year full-time course in a prevocational school, plus 3-year organized craft apprenticeship with attendance at a relevant part-time day release or block release craft course in a technical institution.

Note: [ ] Equivalent job title

* Applied to Mould and Die Maker and Repairer only.

† Applied to Tool and Die Maker only.