I. *JOB TITLE* : **SOFTWARE ENGINEER**

II. *JOB LEVEL* : TECHNOLOGIST

III. *JOB DESCRIPTION* : In accordance with product specifications, designs system firmware/software using high level and/or assembler languages for microcomputers, microprocessors and electronics systems.

IV. *PROFESSIONAL SKILLS* : Ability to:

1. Apply original thought and judgement to the analysis and solution of firmware/software for electronic system.

2. Analyse and interpret system specifications and requirements.

3. Plan and design programme logic to meet specifications and requirements.

4. Divide the total system into functional modules.

5. Design and organise input data and output data to meet functional and operational requirements.

6. Use design-charts and standard design language to define and specify the functions of each module and associated interfaces.

7. Write programmes using appropriate languages to implement system firmware/software design.

8. Devise test plans and procedures to prove the adequacy and correctness of the software.

9. Codify, test and correct programme faults, review and rewrite programmes to enhance efficiency or to adapt to new requirements.

10. Specify and produce documentation.

11. Liaise with departments within organization, contractors, suppliers and clients in the development of applications.

12. Develop subordinate staff and appraise their performance.

V. *TECHNOLOGY*   : Knowledge of:

1. Electronic engineering including:

    (i)   Microprocessor and microcomputer based systems

    (ii) Instrumentation and control

    (iii) Analogue and digital electronics

    (iv) Circuit and field theories

    (v) Telecommunications

2. Project management, system analysis and system firmware/software design for the development of electronic systems.

3. Computer programming concepts, techniques and languages and tools.

4. Management techniques.

5. Engineering economics and the engineer's responsibility to society.

6. Relevant standards, specifications and codes of practice.

7. The electronics industry.

VI. *QUALIFICATIONS AND TRAINING*   :   (i) Successful completion of a relevant course of technical education leading to exemption from the academic requirements for corporate membership of the Hong Kong Institution of Engineers or equivalent; and

    (ii) A minimum of 2-year practical training and subsequent experience in a position of responsibility acceptable to the Hong Kong Institution of Engineers for corporate membership, or equivalent.