

#### **Self Assessment Questions (SAQs) 4**

- Briefly outlined the stages involved in semiconductor packaging and provide at least an example of failure mechanism in each stage.
- List potential package reliability issues in plastic encapsulated IC.
- What is popcorn effect?
- Briefly discuss the operation principles of x-radiography (x-rad), scanning acoustic microscope (SAM) and scanning electron microscopy (SEM).
- What are the possible operation modes in SEM? Briefly discuss how each mode is used in failure analysis.
- Discuss how x-radiography, SAM and SEM can be used to characterise failure mechanisms in electronic devices.