

Cell Cycle, Cell Division and Cancer

Chapter 1: Cell Cycle, Cell Division and Cancer · Topic 1

Key Concept

The cell cycle consists of interphase (growth and DNA replication) and the mitotic (M) phase, where the cell actually divides.

Cancer occurs when cells lose control over their normal division cycle, dividing uncontrollably and forming tumours that can invade other tissues.

Carcinogens (cancer-causing agents) like tobacco smoke, UV radiation, and certain chemicals can damage DNA, triggering cancerous changes in cells.

Understanding the cell cycle and cancer helps in developing treatments and preventive measures, like avoiding known carcinogens and regular health check-ups.

Quick Revision Notes

- Cell cycle: interphase + mitotic (M) phase.
- Interphase: growth and DNA replication.
- M phase: actual cell division.
- Cancer: uncontrolled cell division.
- Cancer forms tumours invading other tissues.
- Carcinogens damage DNA, trigger cancer.
- Examples: tobacco smoke, UV radiation.
- Understanding aids treatment and prevention.

Practice Questions

- 1 Describe the two main phases of the cell cycle.
- 2 Discuss how cancer disrupts normal cell division.
- 3 Research common carcinogens and how to avoid them.
- 4 Discuss the importance of regular health check-ups.
- 5 Explain why UV radiation can cause cancer.
- 6 Explain the cell cycle in your own words.