

It includes -

(I) Interphase / (Resting phase) / Preparatory phase

(II) Mitotic phase.

Interphase: (L. inter = between, Div. phase = appearance)  
Chemically & metabolically, it is the most active & longest phase of Cell Cycle.

- The basic unit is the same in all living organisms.
- It includes four phases namely:

G<sub>1</sub> phase

S phase.

G<sub>2</sub> phase

Mitotic phase.

- It occurs in succession & forming the so called Cell Cycle.
- The G<sub>1</sub> phase, S phase, & G<sub>2</sub> phase are collectively forming Interphase. It continuously dividing cells, an individual cell passes through following two main phases of Cell or Mitotic Cycle.
- The Resting phase or stage between the two Mitotic Divisions is known as Intermittent phase or Interphase.
- In Interphase no division occurs but in the Nucleus & Cytoplasm active metabolic activities occur & also increase in the volume of the Cytoplasmic & Nuclear substances takes place.
- The Interphase is the longest phase of the Mitotic Cycle and it takes one or two days in its completion. During the Interphase following events take place:

G<sub>1</sub> / Presynthetic phase (critical growth) -  
It involves synthesis of RNA & proteins

S / Synthetic phase

It involves replication / or duplication of DNA.

G<sub>2</sub> / Post-synthetic phase

It involves division of Centriole & ATP synthesis

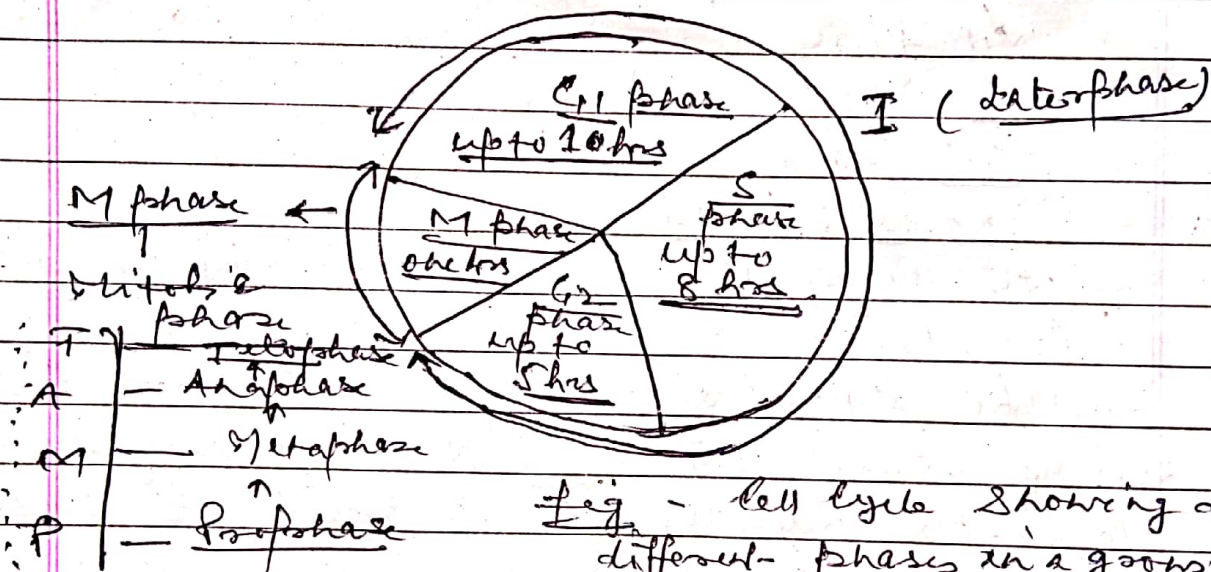


Fig - Cell cycle showing different different-phases in a growing cell.

Besides, during interphase, following events take place:

- The N.E. / Nuclear envelope remains intact.
- The chromosomes occur in the form of diffused long, coiled, & indistinctly visible chromatin fibres.
- The DNA amount becomes double.
- Due to accumulation of Ribosomal RNA (rRNA) & Ribosomal proteins, the nucleolus attains maximum size.
- A daughter centriole is originated near the already existing centriole & thus an interphase cell has two centriole or a diplosome (Fulton - 1971).