Evolution of O.S

1945 - 1955

① <u>First Generation</u> → • No operating system

(•) Hardware like vaccum tubes & plugboard were used.

(•) No protection

(•) Consume more electricity and generates lots of heat.

(•) These systems k/a serial processing

(•) kle have to work with Machine language.

(•) Ex ⇒ ENIAC

⑪ <u>Second Generation</u> • 1955 - 1965

(•) Batch system was introduced.

(•) Transitors were used.

(•) Minimal protection.

(•) I/O operation - processor had to remain idle.
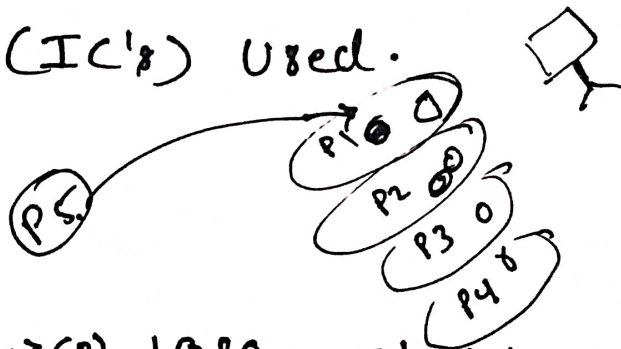
(•) Laid the foundation for multitasking.

③ **Third Generation** – (•) 1965 – 1980

(•) multiple programming / multi tasking

(•) Online storage for → System programs
→ User program and data
→ program libraries.

(•) Integrated Circuits (IC's) Used.

(•) No starvation.

④ **Fourth Generation** → (•) 1980 – Now.

(•) Computer networking.

(') Provides Graphical user Interface (GUI).

(•) No starvation.

(•) Max CPU utilization.

(•) provides High priority execution also.

(•) Set of programs (software).