



SNS COLLEGE OF TECHNOLOGY

(An Autonomous Institution)



COIMBATORE-35

**Accredited by NBA-AICTE and Accredited by NAAC – UGC with A++ Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai**

**DEPARTMENT OF ELECTRICAL AND ELECTRONICS
ENGINEERING**

**COURSE NAME: 19EEB210/ELECTRICAL MACHINES
AND DRIVES**

Unit I – Classification of Motor Duty Classes



CLASSIFICATION OF MOTOR DUTY CLASSES

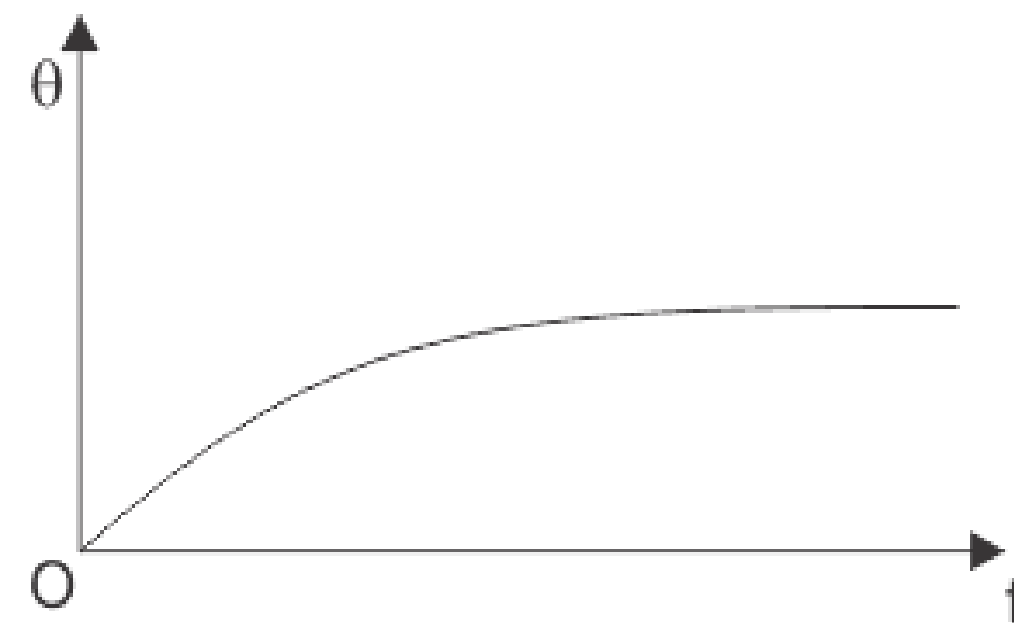
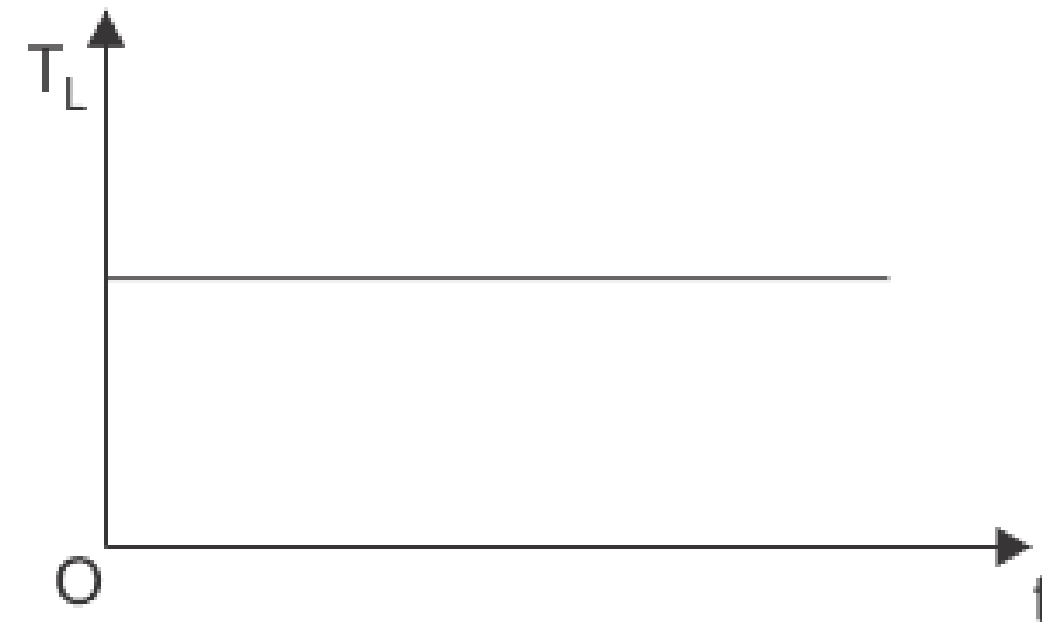
- Continuous duty
- Short time duty
- Intermittent periodic duty
- Intermittent periodic duty with starting
- Intermittent periodic duty with starting and braking
- Continuous duty with intermittent periodic loading
- Continuous duty with starting and braking
- Continuous duty with periodic speed changes





Continuous Duty

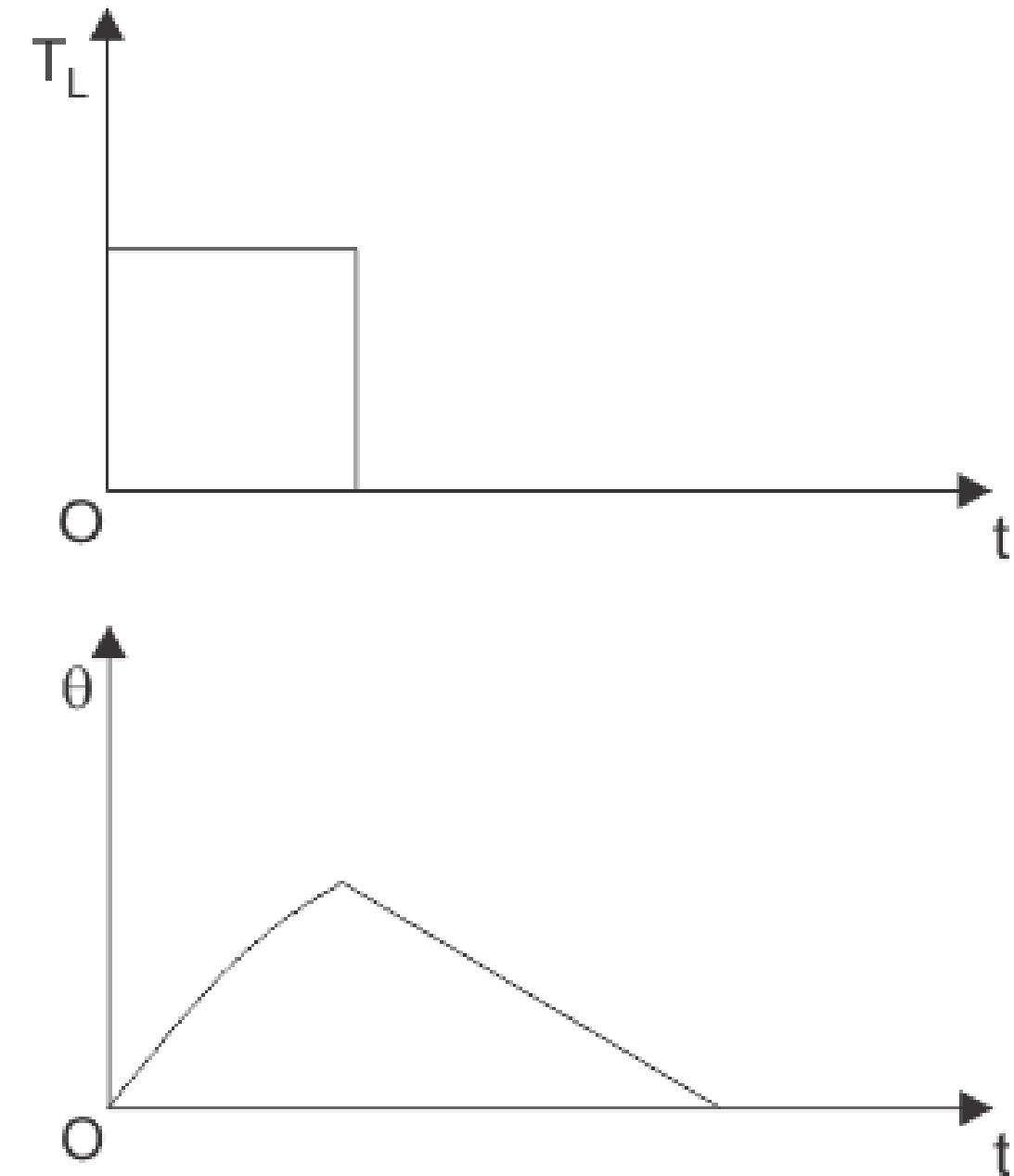
- This duty denotes that, the motor is running long enough AND the electric motor temperature reaches the steady state value.
- These motors are used in paper mill drives, compressors, conveyors etc.





Short Time Duty

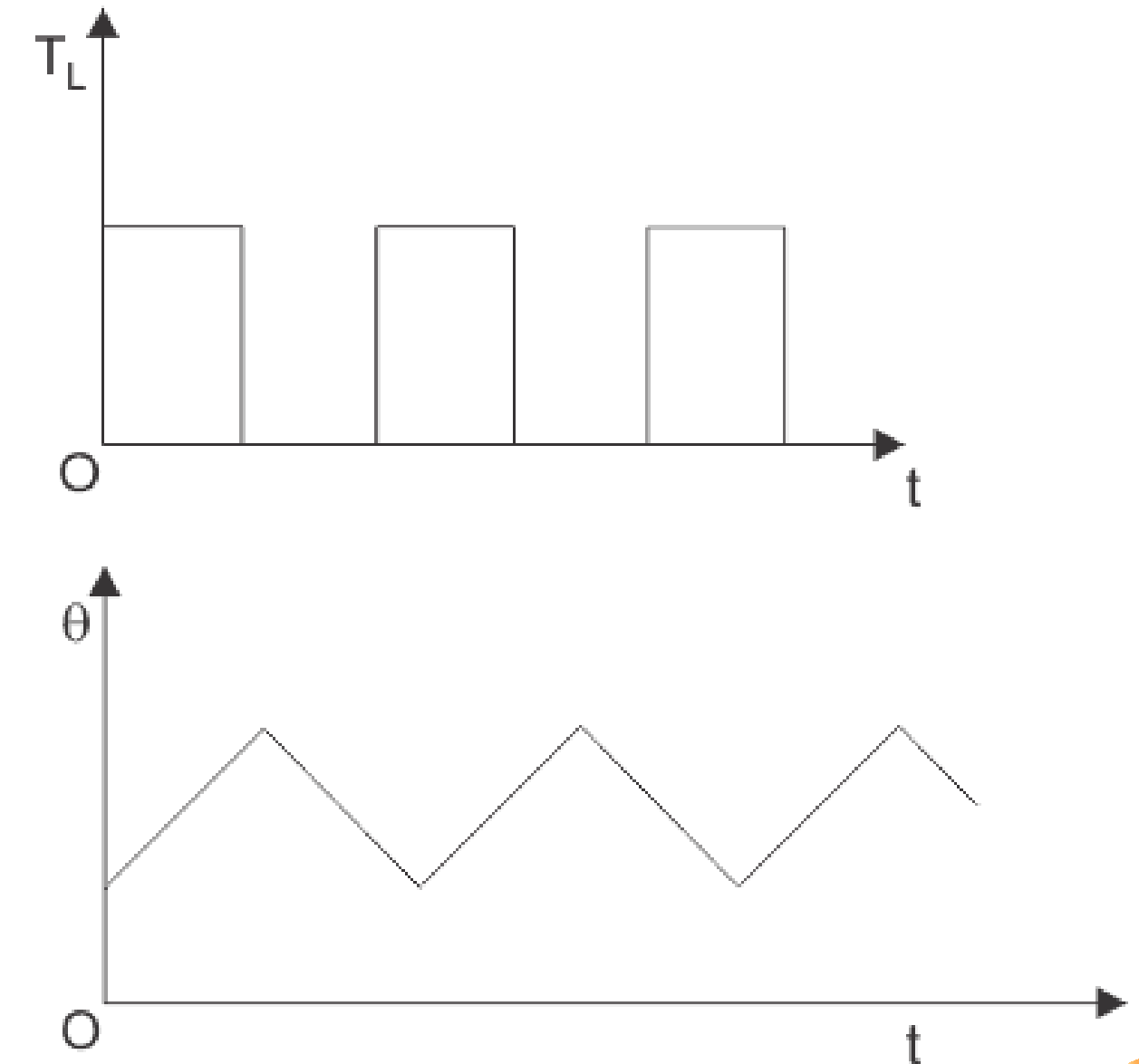
- In these motors, the time of operation is very low and the heating time is much lower than the cooling time. So, the motor cools off to ambient temperature before operating again.
- These motors are used in crane drives, drives for house hold appliances, valve drives etc..





Intermittent Periodic Duty

- Here the motor operates for some time and then there is rest period.
- In both cases, the time is insufficient to raise the temperature to steady state value or cool it off to ambient temperature.
- This is seen at press and drilling machine drives.

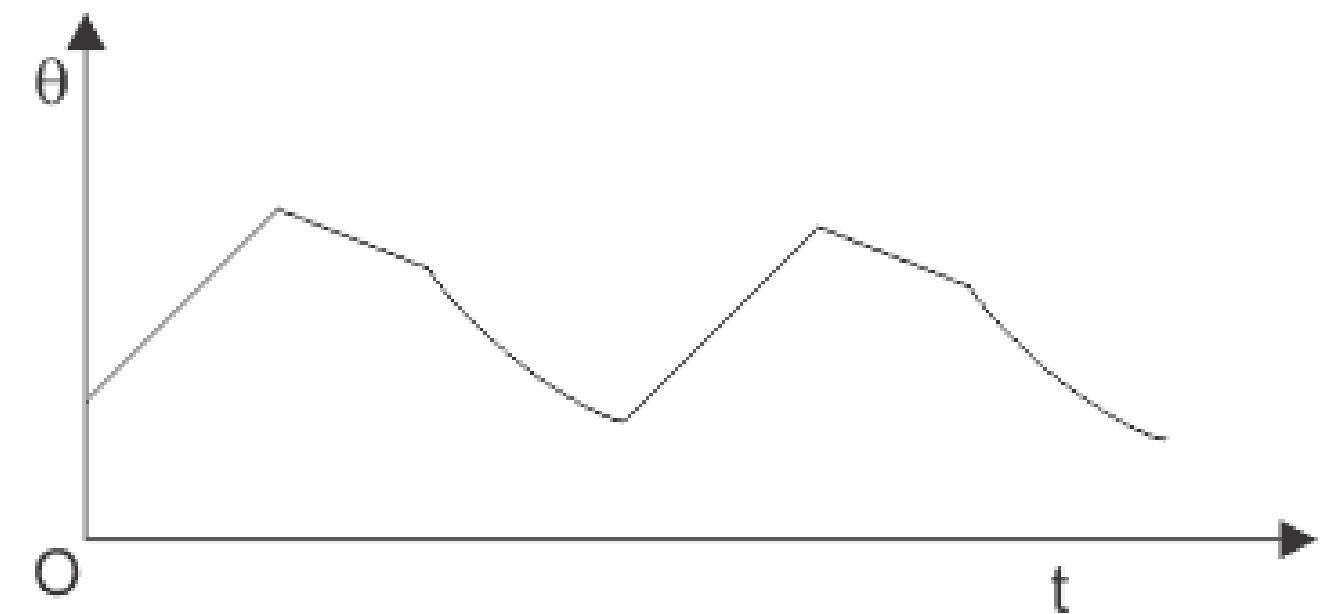
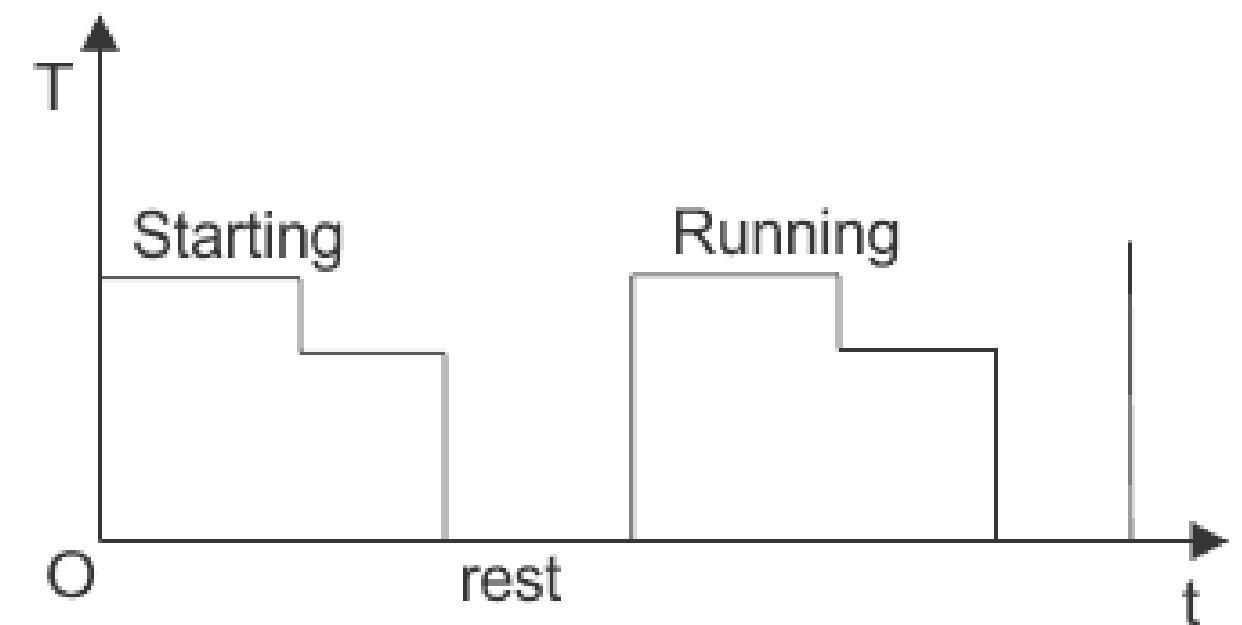




Intermittent Periodic Duty with Starting and Braking



- In this type of drives, heat loss during starting and braking cannot be ignored.
- The corresponding periods are starting period, operating period, braking period and resting period, but all the periods are too short to attain the respective steady state temperatures, these techniques are used in billet mill drive, manipulator drive, mine hoist etc.





- **Continuous Duty with Intermittent Periodic Loading**

In this type of motor duty, everything is same as the periodic duty but here a no load running period occurs instead of the rest period. Pressing, cutting are the examples of this system.

- **Continuous Duty with Starting and Braking**

It is also a period of starting, running and braking and there is no resting period. The main drive of a blooming mill is an example.

- **Continuous Duty with Periodic Speed Changes**

In this type of motor duty, there are different running periods at different loads and speeds. But there is no rest period and all the periods are too short to attain the steady state temperatures..



KEEP
LEARNING..
Thank u

SEE YOU IN NEXT CLASS

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