



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: 23EEB210/Electrical Machines and Drives

II YEAR / IV SEMESTER

Unit I – OVERVIEW OF ELECTRICAL DRIVE

Topic : FACTORS INFLUENCING CHOICE OF DRIVES



FACTORS INFLUENCING CHOICE OF ELECTRICAL DRIVES

(i) Nature of electric supply

- ☐ Whether AC or DC supply is to be used for supply

(ii) Nature of the drive

- ☐ Whether the particular motor is going to drive individual machine or a group of machines

(iii) Capital and running cost

(iv) Maintenance requirement

(v) Space and weight restrictions

(vi) Environment and location

(vii) Nature of load

- ☐ Whether the load requires light or heavy starting torque
- ☐ Whether load torque increases with speed remain constant
- ☐ Whether the load has heavy inertia which may require longer straight time



FACTORS INFLUENCING CHOICE OF ELECTRICAL DRIVES

(viii) Electrical characteristics of motor

- ☐ Starting characteristics
- ☐ running characteristics
- ☐ speed control

(ix) Size, rating and duty cycle of motors

- ☐ Whether the motor is going to the operator for a short time or whether it has to run continuously intermittently or on a variable load cycle

(x) Mechanical considerations

- ☐ Type of enclosures, type of bearings, transmission of drive and Noise level.

☐ Due to practical difficulties, it may not possible to satisfy all the above considerations.

☐ In such circumstances, it is the experience and knowledge background which plays a vital role in the selection of the suitable drive.



FACTORS INFLUENCING CHOICE OF ELECTRICAL DRIVES

The following points must be given utmost important for the selection of motor. The factors are:

- ☐ Nature of the mechanical load driven
- ☐ Matching of the speed torque characteristics of the motor with that of the load
- ☐ Starting conditions of the load.

