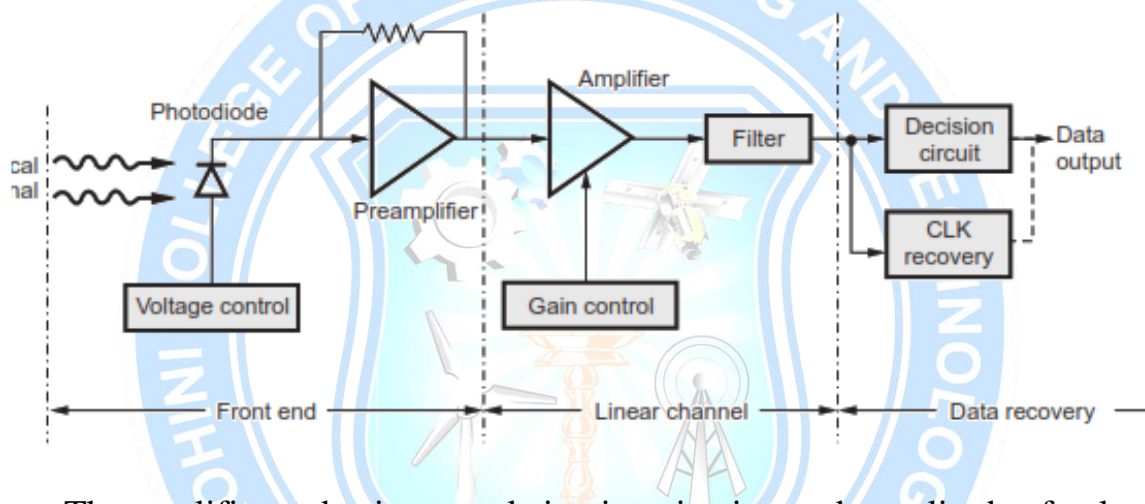


## 4.1 Fundamental receiver operation

- An optical receiver system converts optical energy into electrical signal, amplify the signal and process it.
- Therefore the important blocks of optical receiver are
  1. Photodetector / Front-end
  2. Amplifier / Linear channel
  3. Signal processing circuitry / Data recovery



- The amplifier and gain control circuit maintains peak amplitude of voltage at constant.
- Filter circuit reduces the noise output from the amplifier.
- Decision circuit converts the analog signal into two level binary (digital) signal.
- Noise generated in receiver must be controlled precisely as it decides the lowest signal level that can be detected and processed. Hence noise consideration is an important factor in receiver design.
- Another important performance criteria of optical receiver is average error probability