Channel Allocation Problem

- Static Allocation
- Dynamic Allocation

Static Allocation

- Static allocation of bandwidth may be done using TDM or FDM
  - Divide the available bandwidth into _____ _____
  - Hence there will be _____
- Problems
  - The division of bandwidth is static.
    - We may have _____
    - Or we may have _____
    - As the number of users changes we would like the _____
  - Traffic is generally not constant. Hence some _____

Static Allocation

- Consider the mean time delay (T) for a channel

$$T = \frac{1}{\mu C - \lambda}$$

  - $1/\mu$ _____
  - λ _____
- Now consider dividing the channel into N sub-channels

$$T_{FDM} = \frac{1}{\mu(C/N) - (\lambda/N)} = \frac{N}{\mu C - \lambda}$$

  - The mean time delay T_{FDM} becomes _____

Dynamic Allocation

Five key concepts of dynamic channel allocation:

1. Station Model.
   - N independent stations _____
   - Probability _____
   - Once a frame is generated _____
2. Single Channel Assumption
   - A single channel is available _____
3. Collision Assumption
   - If two stations transmit simultaneously _____
     _____
   - All stations _____

Dynamic Allocation

4. (a) Continuous Time: _____
   _____
   or (b) Slotted Time: _____
   _____
5. (a) Carrier Sense: _____
   _____
   or (b) No Carrier Sense _____
   _____