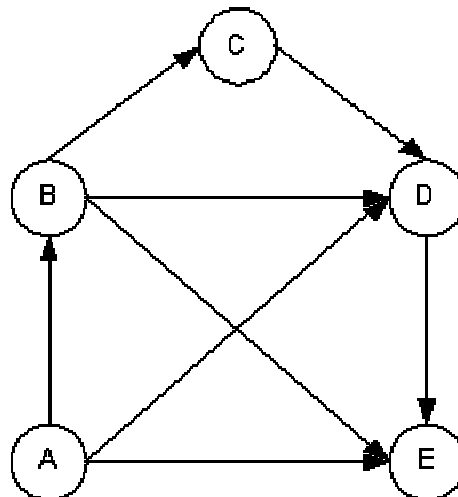


# 1 Routing in circuit switched networks

Consider the network of Fig. 1 where the only traffic is between nodes  $A$ ,  $E$ .

1. Define the state space.
2. Write down the general term of transition matrix. Assume that the policy is the standard fan rule for hierarchical networks.
3. Assume that SOC control is used, and that the only links present are those indicated on the figure. Construct the augmented route tree corresponding to the full fan rule for a pair of nodes  $A$  and  $E$ .
4. Construct the influence graph corresponding to Problem 1.3.



**Fig. 1** Hierarchical network