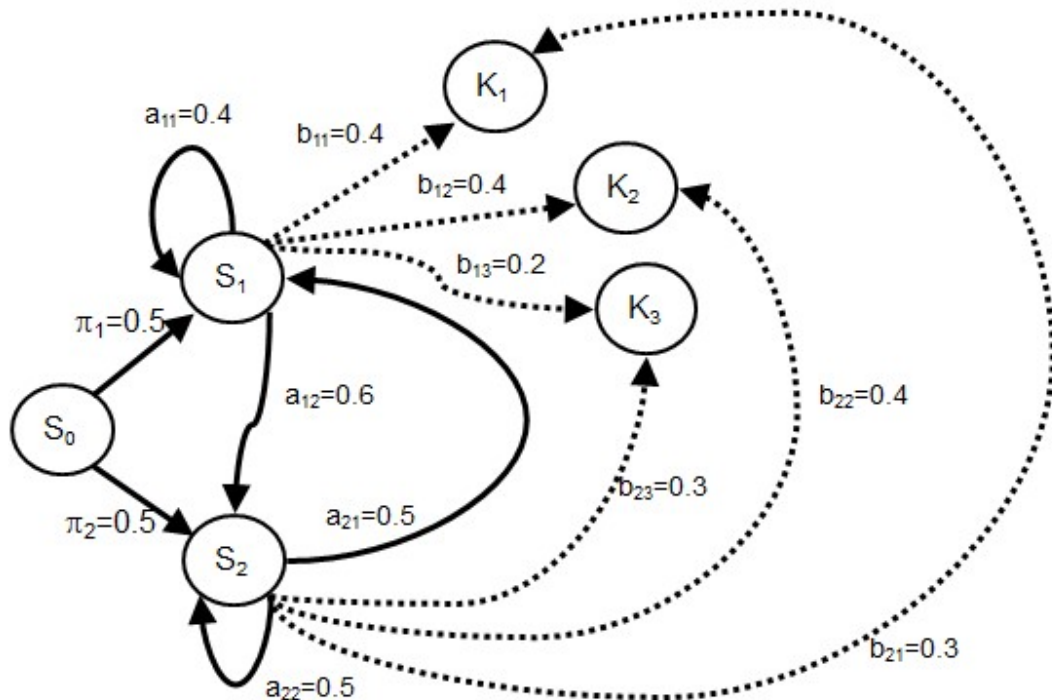
 <p><b>SASTRA</b> ENGINEERING · MANAGEMENT · LAW · SCIENCES · HUMANITIES · EDUCATION DEEMED TO BE UNIVERSITY (U/33 J OF THE UGC ACT-1956) THINK MERIT · THINK TRANSPARENCY · THINK SASTRA</p>	<p><b>School of Computing</b> <b>Course Code: CSE405R02</b> <b>Course Name: Natural Language Processing</b> <b>Duration: 3 hrs</b>      <b>Max Marks: 50</b></p>
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### Question 3

- From the following state diagram, find the probability of the output sequence (K2,K1,K2,K3,K1) using Trellis Forward and Backward procedure.



- Apply Feed Forward Neural network for the task of classifying the ecommerce products with text description (Perform the required data pre-processing and feature engineering). Use TF-IDF representation  
**File name: Q1ecommerceDataset.**