July

Using this document

The document specifies topics with section references to the course text book - "Algorithm Design Manual" by Steven Skiena. The practice problem set will contain problems based on the topics specified. For each of the topics, there are ample problems to try on CodeChef, CodeForces and other websites. For effectiveness, use the problem-tag feature to practice particular topics. Going through all the resources **is not necessary but recommended.**

From The Algorithm Design Manual by Steven Skienna

8 Dynamic Programming
8.1 Caching vs. Computation
8.2 Approximate String Matching
8.3 Longest Increasing Sequence
8.5 The Partition Problem

Introduction to Algorithms (CLRS) and Algorithm Design (Kleinberg & Tardos) are fantastic resources to learn dynamic programming. If you have time, you should definitely read through one of these. Sections -
CLRS - 15.1, 15.2, 15.3, 15.4
K&T - 6.1, 6.2, 6.4, 6.6

Dynamic Programming on Trees
http://www.iarcs.org.in/inoi/online-study-material/topics/dp-trees.php
http://codeforces.com/blog/entry/20935

Discrete Mathematics and Probability
https://www.quora.com/What-are-some-must-know-topics-in-discrete-math-and-probability-for-competitive-programming
Brush up on your understanding of counting, modulo arithmetic and probability from whatever sources you like. There can be some dynamic programming questions based on these topics in the practice set.