

Midterm Examination
CSE 455 / CIS 555 – Internet and Web Systems
Spring 2006
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Name: _____

6 questions, 100 pts, 80 minutes

1. (20 pts) Explain what makes the Web Service/Service Oriented Architecture problem so challenging. Outline how we have begun to address these challenges, and what still remains to be done.

2. (20 pts) Explain the tradeoffs between a structured vs. unstructured P2P system. If one were to build a scalable distributed file system, which would be preferable and why?

3. (15 pts) Given a schema of the form:

```
<schedule>
  <month>
    <event>
      <event>
        <description>...</description>
      </event>
    </event>
  </month>
</schedule>
```

Write an XPath query that returns all events whose description is “vacation”.

4. (15 pts) What is the “random surfer” model, and how is it employed? What fixes needed to be done to avoid various kinds of traps?

5. (10 pts) What is marshalling and how does it relate to XML?

6. (20 pts) Provide a sketch of the algorithms (including sync primitives) for passing a request to a member of a thread pool. This may be in pseudocode.