CO7216 Mock Test 2

Question 1 [10 marks]**:**

Match the following properties against their types:

A. shakingHandsWith	a. Symmetric
B. subClassOf	b. Transitive
C. hasCountryOfBirth	c. Functional
D. isFatherOf	d. InverseFunctional

Question 2: [15 marks]

Give **one** Object Property that is Transitive, Symmetric and Reflexive at the same time. Identify its domain and range. (You may choose a property from any topics)

Question 3: [10 marks]

Which of the following statements are true?

(A) rdf:type cannot be used in an OWL document.
(B) An InverseFunctional property must be a DatatypeProperty
(C) owl:ObjectProperty and owl:DatatypeProperty are disjointed.
(D) The domain and range of a Symmetric Property are the same.
(E) Given an AsymmetricProperty *p*, RDF triple statements <*s,p,o*> and <*o,p,s*> cannot both be true.

Question 4: [10 marks]

_____ is a subclass of owl:Class. It can be used to define anonymous classes.

Question 5: [20 marks]

Write the following RDF/XML code snippet in OWL Functional Syntax or in OWL Manchester Syntax. (You don not have to include <rdfs:comment> in your answer)

```
<owl:Class rdf:ID="SpicyPizza">
  <owl:equivalentClass>
   <owl:Class>
    <owl:intersectionOf rdf:parseType="Collection">
     <owl:Class rdf:about="#Pizza"/>
     <owl:Restriction>
      <owl:onProperty>
       <owl:ObjectProperty rdf:about="#hasTopping"/>
      </owl:onProperty>
      <owl:someValuesFrom>
       <owl:Class>
```

```
            <owl:intersectionOf rdf:parseType="Collection">
              <owl:Class rdf:about="#PizzaTopping"/>
              <owl:Restriction>
                <owl:someValuesFrom rdf:resource="#Hot"/>
                <owl:onProperty>
                  <owl:FunctionalProperty rdf:about="#hasSpiciness"/>
                </owl:onProperty>
              </owl:Restriction>
            </owl:intersectionOf>
          </owl:Class>
        </owl:someValuesFrom>
      </owl:Restriction>
    </owl:intersectionOf>
  </owl:Class>
 </owl:equivalentClass>
 <rdfs:comment xml:lang="en">Pizzas that have at least one topping that is both a
PizzaTopping and has spiciness hot are members of SpicyPizza. </rdfs:comment>
</owl:Class>
```

Question 6: [15 marks]

Which of the following OWL property indicates that all property value must come from a certain class. (choose one)

owl:someValueFrom
owl:minCardidna
owl:allValueFrom
owl:hasValue
owl:unionOf

Question 7: [10 marks]

(7) _____ is the class of all individuals and is a superclass of all OWL classes.

Question 8: [10 marks]

The class definition below states that that all four classes (A, B, C and D) are all disjoint.

```
<owl:Class rdf:ID="A">
      <owl:disjointWith rdf:resource="#B"/>
      <owl:disjointWith rdf:resource="#C"/>
      <owl:disjointWith rdf:resource="#D"/>
</owl:Class>
```