CO7216 Mock Test 1

Question 1 [10 marks]**:**

(True/False)____
RDFS is more expressive than DAML-OIL

Question 2: [10 marks]

Turtle allows grouping of triples according to _____

(a) same URI
(b) same object
(c) same subject and predicate

Question 3:

Turtle has a special keyword to replace rdf:type relation, this keyword is _____ [10 marks]

Question 4:

Which of the following statements is correct? [15 marks]

(a) rdfs:range specifies the class of those resources that may appear as values (of objects) in a triple
(b) RDF can be represented as directed graph, blanks nodes are shown as empty circles.
(c) In SPARQL, A UNION pattern matches if any of the alternative patterns match.
(d) A RDF document may contains several <rdf:RDF> elements

Question 5:

Which RDF(S) core property relates a class to one of its superclasses [10 marks]

(a) rdfs:subClassOf
(b) rdf:type
(c) rdf:Property
(d) rdfs:Class

Question 6:

Which option is equivalent to the statement below? [15 marks]

@prefix foaf: <http://xmlns.com/foaf/0.1/> .
_:a foaf:name "John" .
_:a foaf:knows _:b.
_:b foaf:knows _:c.

_:c foaf:name "Tom".
_:b foaf:make <http://www.example.com/document/doc1> .
_:b foaf:name "Mary".

(a)

@prefix foaf: <http://xmlns.com/foaf/0.1/> .
[foaf:name "John"] foaf:knows [
   foaf:knows "Tom";
   foaf:name "Mary";
   foaf:make <http://www.example.com/document/doc1>] .

(b)
@prefix foaf: <http://xmlns.com/foaf/0.1/> .

[foaf:name "John"] foaf:knows [
   foaf:knows [
      foaf:name "Tom"] ;
   foaf:name "Mary" ;
   foaf:make <http://www.example.com/document/doc1>] .

(c)

@prefix foaf: <http://xmlns.com/foaf/0.1/> .

[foaf:name "John"] foaf:knows [
   foaf:knows [
      foaf:name "Mary"] ;
   foaf:name "Tom" ;
   foaf:make <http://www.example.com/document/doc1>] .

(d)

@prefix foaf: <http://xmlns.com/foaf/0.1/> .

[foaf:name "Tom"] foaf:knows [
   foaf:make <http://www.example.com/document/doc1> ;
   foaf:knows [
      foaf:name "Mary"] ;
   foaf:name "John"] .

Question 7:

Which of the following statements is correct? [10 marks]

(a) RDF offers ONLY binary predicates (properties)
(b) For a specific RDF property, its domain class and range class must be different.
(c) In Turtle syntax, "123"^^xsd:integer is a typed literal
(d) FILTER must be written outside the WHERE clauses in SPARQL

Question 8 [20 marks]

Given a RDF document below:

@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix uol: <http://www.cs.le.ac.uk/rdf#> .
@prefix foaf: <http://xmlns.com/foaf/0.1/> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .

uol:John rdf:type uol:Postgraduate.
uol:John foaf:age "22"^^xsd:integer.
uol:Alice rdf:type uol:Undergraduate.
uol:Alice foaf:age "23"^^xsd:integer.
uol:Mary rdf:type uol:Postgraduate.
uol:Mary foaf:age "26"^^xsd:integer
uol:Lee rdf:type uol:Undergraduate.
uol:Lee foaf:age "21"^^xsd:integer.
uol:Tom rdf:type uol:Undergraduate.
uol:Tom foaf:age "27"^^xsd:integer.

Write one SPARQL query to count the number of undergraduate and postgraduate
students who are at least 22 years old.