

# Mark-up Languages Sample Solutions

## Question 1

Consider the following two XML fragments:

```
<a xmlns="http://example.com">
  <b>
    <c xmlns="http://another.com">Hello</c>
  </b>
</a>

<x:d xmlns:x="http://another.com">
  <x:e>
    <x:f xmlns:y="http://example.com">Hello</x:f>
  </x:e>
</x:d>
```

Which elements have namespace “http://example.com” in each fragment?

## Question 2

Write two very simple XHTML pages containing links to each other. You can omit the XML prolog from the pages.

## Question 3

Consider the HTML form below. The drop-down Age menu contains the options “0 to 25”, “26 to 50”, “51 to 75” and “76 to 100”. Give an example of the encoded form data sent over HTTP when the submit button is clicked.

Name:	<input type="text"/>
Password:	<input type="password"/>
Age:	<input type="text"/> ▼

## Question 4

Write a fragment of XML Schema to define a simple type with name postCodeType. It should allow only string values of the following form:

- one or more upper case letters or digits, followed by
- one space, followed by
- one or more upper case letters or digits

### Question 5

Write a fragment of XML Schema to define a complex type with name `addressType`. It should allow only element hierarchies of the following form:

- two or more elements named `line`, each containing an arbitrary string of text, followed by
- one element named `postCode` of type `postCodeType`

Use `tns:` as the prefix mapped to the target namespace, if required.

### Question 6

Write a fragment of XML Schema to define an element named `employee`. It should allow only element hierarchies of the following form:

- one element named `name`, containing an arbitrary string of text, followed by
- one element named `address` of type `addressType`