



**NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY**

**FACULTY OF COMPUTING AND INFORMATICS**

**DEPARTMENT OF INFORMATICS, JOURNALISM AND MEDIA TECHNOLOGY**

<b>QUALIFICATION : B. INFORMATICS HONOURS (WEB INFOR)</b>	
<b>QUALIFICATION CODE: 08BIHW</b>	<b>COURSE LEVEL: NQF LEVEL 8</b>
<b>COURSE: WEB APPLICATION DEVELOPMENT &amp; TESTING</b>	<b>COURSE CODE: WED811S</b>
<b>DATE: JULY 2022</b>	<b>SESSION: 2</b>
<b>DURATION: 2 Hours</b>	<b>MARKS: 50</b>

<b>SECOND OPPORTUNITY/SUPPLEMENTARY EXAMINATION QUESTION PAPER</b>	
<b>EXAMINER(S):</b>	<b>Mr E. MBAEVA</b>
<b>MODERATOR (S):</b>	<b>Ms A. SHIPEPE</b>

**THIS EXAMINATION PAPER CONSISTS OF 3 PAGES  
(INCLUDING THIS FRONT PAGE)**

**Instructions for the students**

- 1. Answer ALL the questions.**
- 2. Write clearly and neatly.**
- 3. Number the answers clearly.**

## SECTION B: Descriptive Questions [35 Marks]

- Answer all the questions in the provided booklet.
- The section consists of 5 questions.

1. Define the following concepts: (8 Marks)
  - a. Semantic Web [1 Mark]
  - b. Ontologies [1 Mark]
  - c. OWL [1 Mark]
  - d. RDF [1 Mark]
  - e. SPARQL [1 Mark]
  - f. How do you understand the FOAF concept? [3 Marks]
2. Given the following turtle statement. Determine subject, predicate and the object. (3 Marks)

**People:** Ryan **ext:** worksWith **People:** John
3. Create an RDF graph for the following statement? (5 Marks)

**People:** Andrew **foaf:** knows **People:** Steven  
**Foaf:** surname "Tjirare";
4. To whom does the surname of relation in question above 3 belong? (2 Marks)
5. What is the significance of programming languages in web applications development? (2 Marks)
6. Define the difference between a knowledge base and an ontology. (2 Marks)
7. What are the two ways of making a website more accessible for users with different abilities? (3 Marks)
8. Define the difference between Contextual Inquiry and Ethnographic Interviewing. (3 Marks)
9. Define the difference between Contextual Inquiry and Ethnographic Interviewing. (3 Marks)
10. Describe the problems in the current web and the vision of the semantic web. (2 Marks)

### SECTION C: Practical Questions [10 Marks]

- Answer all the questions in the provided booklet.
- The section consists of 2 questions.

1. Explain the code snippet below. Create a graphical representation of the code in reference. (6 Marks)

```
<?xml version="1.0"?>
<rdf:RDF xmlns:rdf="http://www.w3.org/1999/02/22-rdf-syntax-ns#"
  xmlns:foaf="http://xmlns.com/foaf/spec/"
  xmlns:bb="http://data.bibbase.org/ontology/">
  <rdf:Description rdf:about="http://.../author/renee-j-miller/">
  <rdf:type rdf:resource="http://xmlns.com/foaf/spec/#term_Person"/>
  <foaf:name xml:lang="en">Renée J. Miller</foaf:name>
  <foaf:based_near rdf:resource="http://dbpedia.org/resource/Toronto"/>
  </rdf:Description>
</rdf:RDF>
```

2. Given the following code snippet, explain to inform Bob, a newbie who wants to learn web-programming concepts. Explaining the reason why, tell him why you think it is JQUERY or an AJAX code. (4 Marks)

```
1 function getXHR() {
2   req = false;
3   if (window.XMLHttpRequest) {
4     req = new XMLHttpRequest();
5   } else {
6     if (ActiveXObject) {
7       msVersions = [ "MSXML2.XMLHttp5.0", "MSXML2.XMLHttp4.0"
8                     "MSXML2.XMLHttp3.0", "MSXML2.XMLHttp",
9                     "Microsoft.XMLHttp" ];
10      for (var i=0; i<msVersions.length; i++) {
11        try {
12          req = new ActiveXObject(msVersions[i]);
13          return req;
14        } catch (e) {}
15      }
16    }
17  }
18  return req;
19 }
```

\*\*\*\*\* End of the Paper \*\*\*\*\*