



**NATIONAL OPEN UNIVERSITY OF NIGERIA**  
14/16, Ahmadu Bello Way, Victoria Island

**SCHOOL OF SCIENCE AND TECHNOLOGY**  
**October, 2013 Examination**

**Course code: DAM 344**

**Course title: Semantic Data Modelling**

**Credit unit: 2 credit units**

**Time: 2 ½ Hours**

**Instruction: Answer any four (5) questions. Each question carries 14marks.**

1. Discuss an implementation of Business Semantics for Application integration in a Company.  
(14marks)
2. a) Highlight the additional more complex restrictions on data states that cannot be specified in a data model itself. (8marks)  
b) Briefly describe the 2 types of data modeling as determined by Whitten (2004). (6marks)
3. An organization just realized that its data model is constraining its business, rather than supporting it. This is due to the poor quality of the data models implemented in its systems and interfaces. The organization contracts you to explain to them several resultant effects of this problem. (14marks)
4. a) In not more than 15 lines, briefly describe the workings of the World Wide Web. (10marks)  
b) List 4 knowledge transfer processes in a web-based environment, for which WBT-Master provides tools. (4marks)
5. a) Briefly highlight the difference between hypertext and hypermedia. (10marks)  
b) What is data modeling? (4marks)
6. a) Highlight 3 advantages of the HC-Data model over the HM-Data model. (6marks)  
b) With the aid of a diagram, define semantic data modeling. (8marks)
7. Give short notes on Object method and Category method with appropriate examples. (10marks)

b) Define briefly the following

i) Derived attributes  
(4marks)

ii) Associative entity