



BOWEN UNIVERSITY, IWO, NIGERIA
COLLEGE OF COMPUTING AND COMMUNICATION STUDIES
INFORMATION TECHNOLOGY PROGRAMME
B.SC. (HON) INFORMATION TECHNOLOGY
FIRST SEMESTER 2023/2024 EXAMINATION

COURSE CODE:	IFT 331	UNIT: 3UNITS	LEVEL: 300
COURSE TITLE:	DATABASE PROGRAMMING		
INSTRUCTION(S):	ANSWER QUESTION ONE AND ANY OTHER THREE		
TIME ALLOWED:	3HOURS		

Question One

- (a) Every organization has information that it must store and manage to meet its requirements. For example, a corporation must collect and maintain human resources records for its employees. In doing so, a database application is required. Describe Database Management System (DBMS) and state three (3) DBMS elements. **[8marks]**
- (b) A database application is a software program that interacts with a database to access and manipulate data. State and describe two (2) types of first generation of database management systems. **[6 marks]**
- (c) A relational database is a database that conforms to the relational model. State and Describe Three (3) major aspects of the relational model. **[8 marks]**
- (d) Briefly describe object-relational database management system (ORDBMS) **[3 marks]**

Question Two

- (a) A relational database management system (RDBMS) moves data into a database, stores the data, and retrieves it so that applications can manipulate it. State and describe two (2) operations that distinguishes between the RDBMS. **[6 marks]**
- (b) The current version of Oracle Database is the result of over 40 years of innovative development. Highlight ten (10) evolution of Oracle Database. **[5 marks]**
- (c) Describe Schema in relation to Oracle Database **[4 marks]**

Question Three

- (a) In three (3) paragraphs describe Structured Query Language in relation RDBMS **[6 marks]**
- (b) A SQL statement is a string of SQL text such as SELECT first_name, last_name FROM employees; State five (5) tasks that can be perform on SQL statement **[5 marks]**
- (c) State three (3) primary benefit of PL/SQL as a procedural extension to Oracle SQL **[4 marks]**

Question Four

- (a) An Oracle database server consists of a database and at least one database instance, commonly referred to as simply an instance. Differentiate between database and database instance. **[5 marks]**
- (b) Write short note on the following technical terms:
 - (i) Data blocks **[2.5 marks]**
 - (ii) Extents **[2.5 marks]**
 - (iii) Segments **[2.5 marks]**
 - (iv) Tablespaces **[2.5 marks]**

Question Five

- (a) The application architecture is the computing environment in which a database application connects to an Oracle database. State and Describe two (2) most common database architectures. **[6 marks]**
- (b) State and describe two (2) common ways to configure an oracle database to service client requests. **[6 marks]**
- (c) Describe Container in relation to Multitenant architecture. **[3 marks]**

Question Six

- (a) A common user is a user that owns object account that define the database. State four (4) characteristic of common users. **[4 marks]**
- (b) A local user is a database user that is not common and can operate only within a single PDB. State five (5) characteristic of local users. **[5 marks]**
- (c) Write short notes on the following technical terms:
 - (i) Columns **[1.5 marks]**
 - (ii) Virtual Columns **[1.5 marks]**
 - (iii) Invisible Columns **[1.5 marks]**
 - (iv) Rows **[1.5 marks]**