



MODULE NAME:	MODULE CODE:
ADVANCED DATABASES	ADDB7311

ASSESSMENT TYPE:	EXAMINATION (PAPER ONLY)
TOTAL MARK ALLOCATION:	50 MARKS
TOTAL HOURS:	1 HOUR (+5 minutes reading time)
INSTRUCTIONS: <ol style="list-style-type: none"> 1. Please adhere to all instructions in the assessment booklet. 2. Independent work is required. 3. Five minutes per hour of the assessment to a maximum of 15 minutes is dedicated to reading time before the start of the assessment. You may make notes on your question paper, but not in your answer sheet. Calculators may not be used during reading time. 4. You may not leave the assessment venue during reading time, or during the first hour or during the last 15 minutes of the assessment. 5. Ensure that your name is on all pieces of paper or books that you will be submitting. Submit all the pages of this assessment's question paper as well as your answer script. 6. Answer all the questions on the answer sheets or in answer booklets provided. The phrase 'END OF PAPER' will appear after the final set question of this assessment. 7. Remember to work at a steady pace so that you are able to complete the assessment within the allocated time. Use the mark allocation as a guideline as to how much time to spend on each section. 	
Additional instructions: <ol style="list-style-type: none"> 1. This is a CLOSED BOOK assessment. 2. Calculators are not allowed. 3. Answer <u>all</u> questions. 4. This is the closed book section of the assessment. Once you have completed the closed book section of the assessment, submit it and collect the open book section, together with the allowed sources of information. 	

Question 1 (Marks: 5)

PL/SQL is designed to work directly with the database to display and manipulate data. Explain the three steps Oracle has provided to generate output to the screen.

Question 2 (Marks: 5)

There are several benefits to using external procedures in Oracle. Discuss any two of these benefits.

Question 3 (Marks: 10)

PL/SQL provides many features that allow one to write effective code to manipulate your database. Briefly explain the following features:

1. Block Structure; (3)
2. Procedural Language Capabilities; (3)
3. Portability; (2)
4. Tight Integration. (2)

Question 4 (Marks: 5)

Oracle 11g is used by various levels of users. The user types are end-user, database developer and database administrator. Briefly provide a description of each user.

Mark Allocation

Requirement	Mark	Examiner
End-User	1	
Database Developer	2	
Database Administrator	2	
Total	5	

Question 5**(Marks: 10)**

The optional clauses of the select statement, if used, must be used in a specific order. Discuss the purpose of the optional clauses in the order they appear.

Requirement	Mark	Examiner
Optional Clauses	8	
Order is correct	2	
Total	10	

Question 6**(Marks: 15)**

Consider the following PL/SQL query:

```

setting serveroutput on
declare variables
  b_name book.book_name%Type;
  s_date book_sales.sales_date%Type;
  s_qty  book_sales.quantity%Type;
cursors info is
  select b.book_name, bs.sales_date, bs.quantity
  from Book b, Book_Sales bs
  where b.isbn = bs.isbn
  having bs.quantity < (select avg(quantity) from book_sales)
  group by b.book_name, bs.sales_date, bs.quantity
  order by bs.Sales_Date;
begin
for rec in information
looping
  b_name:= rec.book_name;
  s_date:= rec.sales_date;
  s_qty = rec.quantity;

  dbms_output.put_line('CUSTOMER: ' || b_name);
  dbms_output.put_line('SALES DATE: ' || s_date);

```

```

dbms_output.put_line('QUANTITY: ' || s_qty);
dbms_output.put_line('-----');
exit loop;
end;

```

Q.6.1 The code above has seven errors. Identify the errors and rewrite the code so that it would produce a valid output.

Requirement	Mark	Examiner
Identify and correct seven errors	14	
All correct	1	
Total	15	

END OF PAPER