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:
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:
1. *This is a CLOSED BOOK assessment.*
2. *Calculators are not allowed.*
3. *Answer all 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.*

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Question 1   (Marks: 6)

The Database Administrator plays the most important and critical role in database management. Explain any three critical tasks performed by the Database Administrator.

Question 2   (Marks: 6)

Discuss what triggers are and how they can be used to raise an alert or perform data manipulation.

Question 3   (Marks: 10)

Explain five benefits of using Subprograms in Oracle databases.

Question 4   (Marks: 6)

Data stored in a database can be classified into various data types based on its attributes. Discuss any three basic character or number data types.

Question 5   (Marks: 8)

Oracle databases have various program categories that enable you to operate a database. Discuss any four of these program categories.

Question 6   (Marks: 14)

Consider the following PL/SQL query:

```
create or replaced
function BOOK_AUTHOR(author_sname in varchar2)
 return varchar2
   IS
   name_of_book varchar2(50);
   cursor c1 is
   select book_name from BOOK b, AUTHOR a, BOOK_SALES bs
   where a.author_id = bs.author_id and b.isbn = bs.isbn
   and a.author_sname like a_sname;
starting
```

```
open c2;
fetch c1 into the_book;

if c1%notfound then
    name_of_book := 'No author book information found';
end if;
return name_of_book;
close c1;
errors
when others then
    raise_application_error(-20001,'An error was encountered - '||SQLCODE||' -ERROR-
'||SQLERRM);
end;

select AUTHOR_BOOK('Smith')
from dual;
```

| Q.6.1 | The code above has seven errors. Identify the errors and rewrite the code so that it would produce a valid output. | (14) |

END OF PAPER