**Part I**

1. True

2. True

3. True

4. False

5. True

6. True

7. False

8. True

9. True

10. False

**Part II**

1. D

2. E

**Part III**

**Question 1.**

DECLARE

CURSOR C IS

SELECT EMPNO, ENAME

FROM EMP ;

V\_C C%ROWTYPE;

BEGIN

OPEN C;

LOOP

FETCH C INTO V\_C;

DBMS\_OUTPUT.PUT\_LINE (''||C%ROWCOUNT||': EMP ID: '|| V\_C.EMPNO ||', NAME: ' || V\_C.ENAME) ; --When referring to specific column names, use V\_C

EXIT WHEN C%ROWCOUNT > 4;

END LOOP;

CLOSE C;

DBMS\_OUTPUT.PUT\_LINE('--------------');

END;

**Question 2.**

DECLARE

y NUMBER := 1;

BEGIN

For y in 2..5 LOOP

DBMS\_OUTPUT.PUT\_LINE ('For loop: y = ' || y);

--y := y + 1 ; Can’t reassign iteration variable within loop. Program runs and prints 2 to 5

END LOOP;

DBMS\_OUTPUT.PUT\_LINE ('WHILE LOOP');

END;

**Part IV**

**Question 1.**

DECLARE

CURSOR c IS

SELECT employee\_id, last\_name, first\_name, salary

FROM employees

ORDER by 4 desc ;

BEGIN

DBMS\_OUTPUT.PUT\_LINE ('ID Full name Salary' );

DBMS\_OUTPUT.PUT\_LINE ('---- ------------------ --------');

for indx in c LOOP

EXIT when c%NOTFOUND or c%ROWCOUNT = 6;

DBMS\_OUTPUT.PUT\_LINE ( RPAD (indx.employee\_id, 5) ||

RPAD ( indx.first\_name ||' '|| indx.last\_name, 20) || ' ' ||

TO\_CHAR (indx.salary, '$99,999') );

END LOOP;

END;

**Question 2.**

DECLARE

CURSOR cemp IS

SELECT EMPLOYEE\_ID, LAST\_NAME, DEPARTMENT\_ID, SALARY, COMMISSION\_PCT

FROM employees

FOR UPDATE OF SALARY;

eid EMPLOYEES.EMPLOYEE\_ID%TYPE;

lname EMPLOYEES.LAST\_NAME%TYPE;

did EMPLOYEES.DEPARTMENT\_ID%TYPE;

sal EMPLOYEES.SALARY%TYPE;

old\_comm employees.commission\_pct%TYPE;

new\_comm employees.commission\_pct%TYPE;

BEGIN

OPEN cemp;

LOOP

FETCH cemp into eid, lname, did, sal, old\_comm;

EXIT WHEN cemp%notfound;

if old\_comm > .28 and sal > 10000 then

new\_comm := old\_comm \* .9;

UPDATE EMPLOYEES

SET COMMISSION\_PCT = new\_comm

WHERE current of cemp;

DBMS\_OUTPUT.put\_line ('#' ||eid|| ' ' ||lname|| '(Department: '||did||') commision was lowered from ' ||old\_comm|| ' to ' ||new\_comm|| '. Salary remains at: $'||sal||'.');

end if;

END LOOP;

close cemp;

rollback;

END;

**Question 3.**

DECLARE

CURSOR cemp(dept\_no NUMBER) IS

SELECT EMPLOYEE\_ID, LAST\_NAME, SALARY, COMMISSION\_PCT

FROM employees

WHERE DEPARTMENT\_ID = dept\_no;

eid EMPLOYEES.EMPLOYEE\_ID%TYPE;

lname EMPLOYEES.LAST\_NAME%TYPE;

sal EMPLOYEES.SALARY%TYPE;

comm employees.commission\_pct%TYPE;

bonus EMPLOYEES.SALARY%TYPE;

BEGIN

OPEN cemp(30);

LOOP

FETCH cemp into eid, lname, sal, comm;

EXIT WHEN cemp%notfound;

if sal >= 10000 then bonus := 300;

elsif sal <10000 and sal >=3000 then bonus := 400;

elsif sal >= 2600 and sal < 3000 then bonus := 500;

elsif sal < 2600 then bonus := 600;

end if;

DBMS\_OUTPUT.put\_line ('#'||eid||' '||lname||' with salary of $'||sal||' got a bonus of: $'||bonus||'');

END LOOP;

close cemp;

END;

**Question 4.**

DECLARE

dept\_id departments.department\_id%TYPE;

mgr\_id departments.manager\_id%TYPE;

BEGIN

SELECT department\_ID, Manager\_ID

INTO dept\_id, mgr\_id

FROM departments

Where Department\_name = 'ABC';

-- change the value of IT to 'ABC'

DBMS\_OUTPUT.PUT\_LINE('The department ID is: ' || dept\_id ||'; Manager ID is: ' || mgr\_id);

EXCEPTION

When Others then

DBMS\_OUTPUT.PUT\_LINE('Error #'||SQLCODE||': '||SQLERRM()||'');

END;

**Question 5.**

Declare

lname employees.last\_name%TYPE := 'Khoo';

-- you can change this initial value as if that is the user input

fname employees.first\_name%TYPE ;

sal employees.salary%TYPE;

BEGIN

SELECT first\_name, salary INTO fname, sal

FROM employees

WHERE last\_name = lname; -- you may use &dummy\_name if you like

DBMS\_OUTPUT.PUT\_LINE ('that employee has first name ' || fname || '; Salary is: '|| TO\_CHAR(sal, '$99,999'));

EXCEPTION

WHEN TOO\_MANY\_ROWS THEN

DBMS\_OUTPUT.PUT\_LINE ('Last name: '||lname||' returned more than one row. SELECT INTO failed.');

WHEN NO\_DATA\_FOUND THen

DBMS\_OUTPUT.PUT\_LINE ('Last name: '||lname||' returned no records. Choose a valid last name.');

END;