



COMP 20213 – DATABASE ADMINISTRATION
AY 2023-2024
1st Semester – Mid-Term Examination

ANSWER KEYS:

1. C	6. D	11.	16. A	21. B		31. A.
2. D	7. B	12. A	17. B	22. B		32. D
3. B	8. A	13. C	18. D	23. D		33. B
4. C	9. C	14. D	19. D			34. C
5. B.	10. D	15. A	20. D			35. D

11. Give THREE (3) responsibilities/functions of a Database Administrator (DBA)
Choose any 3 from below:

1. Analyzing and designing the database
2. Selecting DBMS and other related software tools
3. Installing and upgrading the DBMS
4. Tuning database performance
5. Improving database query performance
6. Managing data security, privacy, and integrity
7. Performing data backup and recovery

24 Write the code if required output is the employee name and the names of the trainings he has taken (4 points).

```
SELECT empname, trainingname      1
FROM employee e JOIN trainingtaken ta 1
    ON e.empno = ta.empno          1
JOIN training tr                    1
    ON ta.traincode = tr.traincode
```

25. Write an SQL query that returns the department names along with the average training score of employees in each department. (5 pts).

```
SELECT departmentname, AVG(score)  1
FROM employee e JOIN trainingtaken ta 1
    ON e.empno = ta.empno          1
JOIN department d                    1
    ON d.deptcode = e.deptcode
GROUP BY d.departmentname          1
```

26. Compute the total salary for each department. Display the department code and the sum of salary. (2 pts.).

```
SELECT deptcode , SUM(salary)      1
FROM employee
GROUP BY deptcode                  1
```

27. Compute the average training score for each employee. Display the employee id and his average score only if his average is greater than 75. (3 pts.).

```
SELECT empno, AVG(score)           1
FROM trainingtaken
GROUP BY empno                     1
HAVING AVG(score) > 75              1
```

28. Count how many trainings were taken by each employee. Display the employee number and the count (2 pts.).

```
SELECT empno, COUNT(*)      1
FROM trainingtaken
GROUP BY empno              1
```

29. Count how many employees took trainings from 2021 to 2023. If an employee took several training within the timeframe, count him only once. (3 pts.).

```
SELECT COUNT(DISTINCT empno)  2
FROM trainingtaken
WHERE YEAR(datetaken) BETWEEN 2021 AND 2023    1
```

30. Display the count of employees who are managers (MGR) . (2pts).

```
SELECT COUNT(*)              1
FROM employee
WHERE joblevel = 'MGR'      1
```

EmpNo	EmpName	JobLevel	HireDate	DeptCode	Salary
1	Stuart Little	SE	2020-10-16	ISD	50000
2	Peggy Sue	MGR	2021-08-01	OPN	100000
3	Winnie Pooh	AM	2022-12-01	SAL	80000
4	Jenny Lane	AM	2022-12-01	FIN	60000
5	Leila Tima	MGR	2019-05-16	SAL	120000

Table: TrainingTaken

EmpNo	TrainCode	Score	DateTaken
1	PY101	80	2021-01-15
1	SAD101	90	2021-03-06
2	OPN100	95	2022-02-05
2	MF101	95	2022-05-03
3	MKT1	85	2023-01-10
4	FIN1	100	2023-01-10
4	FIN2	90	2023-02-15
4	FIN3	95	2023-03-10

Table : Trainings

TrainCode	Training Name	NoOfHrs
PY101	Fundamentals of Python	16
SAD101	Systems Analysis & Design	16
OPN100	Basics of Operations	4
MF101	Mainframe Computer	4
MKT1	Marketing 101	8
FIN1	Fundamentals of Finance	2
FIN2	Finance in Business	8
FIN3	Investment Finance	8

Table: Department

Department	DepartmentName	MgrCode
ISD	Information Systems Dept	2
OPN	Operations Dept	2
SAL	Sales Dept	5
FIN	Finance Dept	5

For questions 31 to 35, use this table below

Table: COLLECTION

BookNo	Title	Author	Price	Copyright	SubjectCode
1001	Database Management Systems	Pratt/Adamskj	500.50	2010	DBMS
1002	Database Systems	Connoly	600.00	2011	DBMS
1003	Systems Architecture	Burd	1000.00	2009	ComputerArch
1004	JAVA An Introduction to Computer Science and Programming	Savitch	800.00	2009	Prog
1005	Along These Lines	Biays	400.00	2008	TechDoc
1006	The Purpose Driven Life	Warren	250.00	2010	Insp