BHARATIYA VIDYA BHAVAN'S
SARDAR PATEL INSTITUTE OF TECHNOLOGY
MUNSHI NAGAR, ANDHERI (WEST), MUMBAI – 400 058, India
(Autonomous College Affiliated to University of Mumbai)

Created

Duration: 1 hour **UCID:** 2025510058
Marks: 25 Marks
General Instructions:
Viva will be taken at the time of practical as well as after the practical if required.
The figures to the right indicate full marks.
If you are using any additional information, state it clearly.
Once you finish with the code show it to the examiner for testing. Write your answer in Word file and upload it on Moodle.

Q. 1 A)	**Consider the University database given below. The primary keys are underlined and the data types are specified:** **Student** (snum:number,sname:string, major:string, level:string, age:number) **Class** (cname:string,meet_at:number, room:number,not null, fid:number) **Enrolled** (snum:number, cname:string) **Faculty** (fid,:numberfname:string,not null, deptid:number) a) Create the above tables by properly specifying the primary keys and the foreign keys and named constraints. b)Enter atleast five tuples for each relation. c) Write SQL query to find average age of each class. d) Write SQL query to display class details where faculty Anita is teaching. e) Write SQL query to drop all the constraints defined on Faculty relation.	**10**
B)	Write a PL/SQL Function to find factorial of a given number.	**10**
C)	Write a PL/SQL block to grant all the privileges to RMAN user on Student table.	**5**

A) a)
```
CREATE DATABASE fymca_tony;
USE fymca_tony;
CREATE TABLE student (
snum INT PRIMARY KEY,
sname VARCHAR (20),
major VARCHAR (20),
level VARCHAR (20),
age INT );

CREATE TABLE class (
cname VARCHAR (20),
meet_at TIME,
room INT NOT NULL,
fid INT);
```

```
INSERT INTO student VALUES
(1, 'Aditya', 'MCA', '1st year', 23),
(2, 'Akshay', 'MCA', '1st year', 22),
(3, 'Tony', 'MCA', '2nd year', 25),
(4, 'Karthik', 'MCA', '2nd year', 28),
(5, 'Vishal', 'MCA', '1st year', 22);

INSERT INTO class VALUES
('DBMS', '7:00', 403, 100),
('DS', '8:30', 403, 101),
('WT', '10:00', 402, 102),
('LA', '11:30', 403, 103),
('WS', '1:00', 403, 104);
```

CamScanner

```
CREATE TABLE enrolled (
  snum INT,
  cname VARCHAR(20));
```

```
INSERT INTO enrolled VALUES
(1,'MCA'), (2,'MCA'), (3,'MCA'),
(4,'MCA'), (5,'MCA');
```

```
CREATE TABLE faculty(
fid INT PRIMARY KEY,
fname VARCHAR(20) NOT NULL,
deptid INT);
```

```
INSERT INTO faculty VALUES
(100, 'Harshil', 200), (101, 'Pooja', 200), (102, 'Pallavi', 200),
(103, 'Aditi'), 200), (104, 'Anita', 200);
```

c) `SELECT avg(age) FROM student;`

d) `SELECT * FROM class WHERE fid IN ( SELECT fid FROM faculty WHERE fname = 'Anita'), LIMIT 1;`

e) `SELECT `factorial`(4);`

```
CREATE DEFINER = `root`@`localhost` FUNCTION `factorial` (n INT)
RETURNS int
DETERMINISTIC
BEGIN
DECLARE result INT DEFAULT 1;
DECLARE i INT;
IF n < 0 THEN
   RETURN NULL;
END IF;
SET i = 1;
WHILE i <= n DO
   SET result = result * i;
   SET i = i + 1;
   END WHILE;
RETURN RESULT;
END
```

c)

```
CALL grantpermission();
DROP USER 'RMAN'@'localhost';
CREATE DEFINER=`root`@`localhost`
PROCEDURE `grantpermission`()
BEGIN
CREATE USER 'RMAN'@'localhost'
IDENTIFIED BY 'rman';
CREATE DATABASE IF NOT
EXISTS fymca_tony;
GRANT ALL PRIVILEGES
ON fymca_tony.student TO
'RMAN'@'localhost';
FLUSH PRIVILEGES;
END
```

CamScanner