

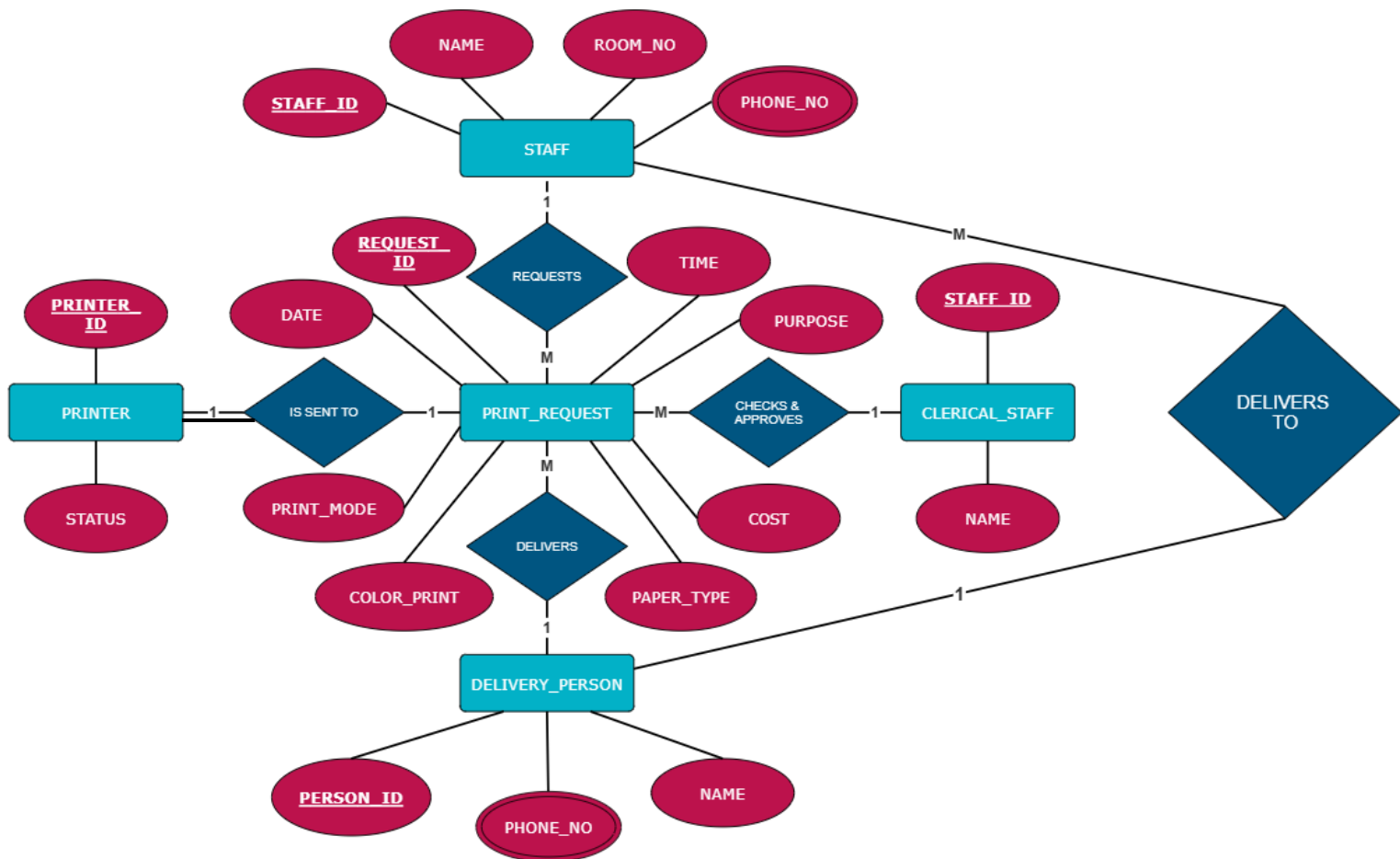
## 22AIE303 – PROJECT PHASE 2

### RELATIONAL MAPPING

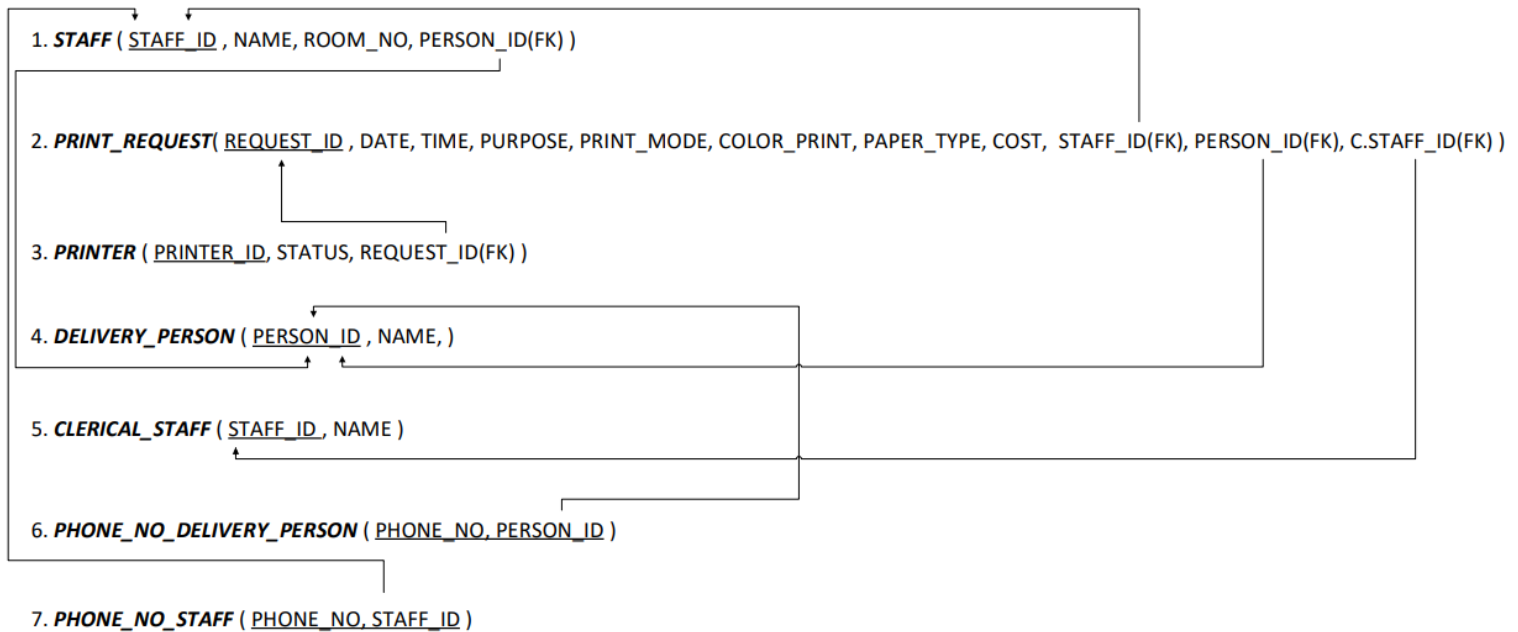
#### GROUP 5

Name	Roll number
Aparna Balaji	AM.EN.U4AIE22005
Anuvind M P	AM.EN.U4AIE22010
R S Harish Kumar	AM.EN.U4AIE22042
Siddharth Menon	AM.EN.U4AIE22048

#### ER-DIAGRAM :



## RELATIONAL MAPPING :



## CREATE TABLE QUERIES :

```
CREATE TABLE staff(  
    staff_id int PRIMARY KEY,  
    staff_name varchar(20),  
    room_no int,  
    person_id int REFERENCES  
    delivery_person(person_id)  
);
```

Data Output

Messages

Notifications

≡+

▼

▼

SQL

staff\_id

[PK] integer

staff\_name

character varying (20)

room\_no

integer

person\_id

integer

```
CREATE TABLE print_request(
    request_id int PRIMARY KEY,
    req_date date,
    req_time time,
    purpose varchar(50),
    print_mode varchar(20),
    color_print boolean,
    paper_type varchar(10),
    cost numeric(10,2),
    staff_id int REFERENCES staff(staff_id),
    person_id int REFERENCES
delivery_person(person_id),
    cstaff_id int REFERENCES
clerical_staff(cstaff_id)
);
```

Data Output	Messages	Notifications
request_id [PK] integer	req_date date	req_time time without time zone
purpose character varying (50)	print_mode character varying (20)	color_print boolean
paper_type character varying (10)	cost numeric (10,2)	staff_id integer
person_id integer	cstaff_id integer	

```
CREATE TABLE printer(
    printer_id int PRIMARY KEY,
    status varchar(20),
    request_id int REFERENCES
print_request(request_id)
);
```

Data Output	Messages	Notifications
printer_id [PK] integer	status character varying (20)	request_id integer

```
CREATE TABLE delivery_person(
    person_id int PRIMARY KEY,
    person_name varchar(20)
);
```

Data Output	Messages	Notifications
person_id [PK] integer	person_name character varying (20)	

```
CREATE TABLE clerical_staff(
    cstaff_id int PRIMARY KEY,
    cstaff_name varchar(20)
);
```

Data Output	Messages	Notifications
cstaff_id [PK] integer	cstaff_name character varying (20)	

```
CREATE TABLE person_number(
    person_id int REFERENCES
delivery_person(person_id),
    person_no int,
    PRIMARY KEY(person_id, person_no)
);
```

Data Output	Messages	Notifications
<div> <div>≡</div> <div>+</div> <div>📄</div> <div>▼</div> <div>📋</div> <div>▼</div> <div>🗑️</div> <div>🗄️</div> <div>⬇️</div> <div>📈</div> <div>SQL</div> </div>	<div>person_id</div> <div>[PK] integer</div> <div>✎</div>	<div>person_no</div> <div>[PK] integer</div> <div>✎</div>

```
CREATE TABLE staff_number(
    staff_id int REFERENCES staff(staff_id),
    staff_no int,
    PRIMARY KEY(staff_id, staff_no)
);
```

Data Output	Messages	Notifications
<div> <div>≡</div> <div>+</div> <div>📄</div> <div>▼</div> <div>📋</div> <div>▼</div> <div>🗑️</div> <div>🗄️</div> <div>⬇️</div> <div>📈</div> <div>SQL</div> </div>	<div>staff_id</div> <div>[PK] integer</div> <div>✎</div>	<div>staff_no</div> <div>[PK] integer</div> <div>✎</div>

## RELATIONSHIPS AND CARDINALITIES :

### 1. Relationships:

- **Requests:** Links Staff with Print\_Request, indicating which staff member made a request.
- **Is\_Sent\_To:** Links Print\_Request to Printer, indicating which printer is assigned to process the request.
- **Delivers:** Links Print\_Request to Delivery\_Person, indicating the delivery assignment for each request.
- **Checks & Approves:** Links Clerical\_Staff to Print\_Request, indicating the approval process for requests.
- **Delivers\_To:** Links Delivery\_Person to Staff to show delivery completion.

### 2. Cardinalities:

- **One** Staff can make **many** Print\_Requests.
- **One** Print\_Request is sent to a **single** Printer.

- **One** Delivery\_Person can deliver **many** print jobs, and **one** print request is delivered by a **single** person.
  - **One** Clerical\_Staff can approve **many** requests.
- 

## RELATIONAL SCHEMA DESCRIPTION :

### 1. Staff Table:

- **Schema:** STAFF(STAFF\_ID(PK), NAME, ROOM\_NO)
- **Description:** Contains details of employees requesting print jobs. The STAFF\_ID is the primary key and links to Print\_Request and Clerical\_Staff.

### 2. Print\_Request Table:

- **Schema:** PRINT\_REQUEST(REQUEST\_ID(PK), DATE, TIME, PURPOSE, PRINT\_MODE, COLOR\_PRINT, PAPER\_TYPE, COST, STAFF\_ID(FK), PRINTER\_ID(FK), PERSON\_ID(FK))
- **Description:** Stores information about print requests. It has foreign keys linking to the Staff, Printer, and Delivery\_Person tables.

### 3. Printer Table:

- **Schema:** PRINTER(PRINTER\_ID(PK), STATUS)
- **Description:** Contains details about printers. It has a foreign key REQUEST\_ID linking to the Print\_Request table.

### 4. Delivery\_Person Table:

- **Schema:** DELIVERY\_PERSON(PERSON\_ID(PK), NAME)
- **Description:** Represents delivery personnel assigned to print jobs.

### 5. Clerical\_Staff Table:

- **Schema:** CLERICAL\_STAFF(STAFF\_ID(PK), NAME)
- **Description:** Stores information about staff members responsible for approving print requests. It shares STAFF\_ID as a primary key.

### 6. Phone\_No\_Delivery\_Person Table:

- **Schema:** PHONE\_NO\_DELIVERY\_PERSON(PHONE\_NO, PERSON\_ID(FK))
- **Description:** Manages contact numbers for delivery personnel.

### 7. Phone\_No\_Staff Table:

- **Schema:** PHONE\_NO\_STAFF(PHONE\_NO, STAFF\_ID(FK))

- Description: Stores contact numbers for staff members.