

To create the tables for the given relational model, along with the requested constraints, and then add the additional columns to the PRODUCT and ORDERS tables, you can follow these SQL commands:

-- Creating the CUSTOMER table

```
CREATE TABLE CUSTOMER (  
    CustomerID NUMBER PRIMARY KEY,  
    FirstName VARCHAR2(50) NOT NULL,  
    LastName VARCHAR2(50) NOT NULL,  
    Address VARCHAR2(100),  
    PhoneNumber VARCHAR2(15)  
);
```

-- Creating the PRODUCT table

```
CREATE TABLE PRODUCT (  
    ProductID NUMBER PRIMARY KEY,  
    ProductName VARCHAR2(50) NOT NULL,  
    Price NUMBER(10, 2) NOT NULL  
);
```

-- Creating the SUPPLIER table

```
CREATE TABLE SUPPLIER (  
    SupplierID NUMBER PRIMARY KEY,  
    SupplierName VARCHAR2(50) NOT NULL,  
    ContactName VARCHAR2(50),  
    Address VARCHAR2(100),  
    PhoneNumber VARCHAR2(15)
```

);

-- Creating the ORDERS table

```
CREATE TABLE ORDERS (  
    OrderID NUMBER PRIMARY KEY,  
    CustomerID NUMBER NOT NULL,  
    OrderAmount NUMBER(10, 2) NOT NULL,  
    FOREIGN KEY (CustomerID) REFERENCES CUSTOMER(CustomerID)  
);
```

-- Creating the ORDER_DETAILS table

```
CREATE TABLE ORDER_DETAILS (  
    OrderID NUMBER,  
    ProductID NUMBER,  
    Quantity NUMBER NOT NULL,  
    PRIMARY KEY (OrderID, ProductID),  
    FOREIGN KEY (OrderID) REFERENCES ORDERS(OrderID),  
    FOREIGN KEY (ProductID) REFERENCES PRODUCT(ProductID)  
);
```

-- Creating the PRODUCT_SUPPLIER table

```
CREATE TABLE PRODUCT_SUPPLIER (  
    ProductID NUMBER,  
    SupplierID NUMBER,  
    PRIMARY KEY (ProductID, SupplierID),  
    FOREIGN KEY (ProductID) REFERENCES PRODUCT(ProductID),
```

```
FOREIGN KEY (SupplierID) REFERENCES SUPPLIER(SupplierID)  
);
```

-- Adding a Category column to the PRODUCT table

```
ALTER TABLE PRODUCT  
ADD Category VARCHAR2(20);
```

-- Adding an OrderDate column with a default value to the ORDERS table

```
ALTER TABLE ORDERS  
ADD OrderDate DATE DEFAULT SYSDATE;
```

Explanation

- Each table is created based on the specified attributes and constraints, with primary keys defined for each table.
- Foreign keys are used to ensure referential integrity between the tables.
- The ALTER TABLE commands are used to add the Category column to the PRODUCT table and the OrderDate column to the ORDERS table with SYSDATE as the default value.
- This will ensure the structure meets the relational model requirements provided.

