**QUESTIONS AND ANSWERS ON**

**BLOOD MANAGEMENT**

**1.List all donors along with the blood units they have donated?**

select d.FirstName,d.LastName,b.DonorID,b.BloodType,b.IsAvailable from donors d

join bloodunits b

on b.DonorID=d.DonorID;

**2.Find the recipients who have received blood transfusions, including the blood unit details?**

select r.FirstName,r.LastName,b.BloodType,t.TransfusionDate from recipients r

join transfusions t on r.RecipientID=t.RecipientID

join bloodunits b on b.UnitID=t.UnitID;

**3.For each donor, what is the rank of their donation based on the collection date?**

select DonorID,UnitID,CollectionDate,

rank() over(partition by DonorID order by CollectionDate desc) as Donation\_Rank

from bloodunits;

**4. What is the cumulative count of blood units donated by each donor over time?**

select DonorID,UnitID,CollectionDate,

count(UnitID) over(partition by DonorID) as Cumulative\_donations

from bloodunits;

**5. Find the donors with the most recent donation date, partitioned by blood type?**

select DonorID,FirstName,FirstName,LastDonationDate,

row\_number() over(partition by DonorID order by LastDonationDate desc) AS RDR

from donors;

**6. Determine the difference in days between each donation and the next donation by the same donor?**

SELECT DonorID, UnitID, CollectionDate,

LEAD(CollectionDate) OVER( partition by DonorID order by ExpirationDate) AS D\_B

FROM bloodunits;

**7.Rank the recipients based on the number of transfusions they have received?**

SELECT RecipientID,

COUNT(TransfusionID) OVER(partition by RecipientID) AS NO\_0F\_TRANSTIONS,

RANK() OVER(ORDER BY COUNT(TransfusionID)DESC ) AS RR

FROM transfusions

group by RecipientID;

**8.For each blood unit, determine whether it has expired, and list the result as "Expired" or "Not Expired"?**

select UnitID,DonorID,

CASE

WHEN ExpirationDate<curdate() THEN "EXPIRED"

ELSE "NOT\_EXPIRED"

END AS RESULTS

FROM bloodunits;

**9.Identify donors who have donated in the last three months, categorizing them as "Recent Donor" or "Non-Recent Donor"?**

SELECT DonorID, FirstName, LastName, LastDonationDate,

CASE

WHEN LastDonationDate >=CURDATE() - INTERVAL 3 MONTH THEN "RECENT\_DONAR"

ELSE

"NOT\_RECENT \_DONOR"

END AS DONAR

FROM donors;

**10.Display all blood units along with a label indicating whether the blood type is "Common" (O+, A+) or "Rare" (all others)?**

SELECT DonorID,BloodType,

CASE

WHEN BloodType IN("O+", "A+") THEN "COMMON"

ELSE "RARE"

END AS "BLOOD\_LABEL"

FROM bloodunits;

**11.Show a list of recipients and categorize their age group as "Child" (under 18), "Adult" (18-60), or "Senior" (over 60)?**

SELECT RecipientID,FirstName,LastName,

CASE

WHEN TIMESTAMPDIFF(YEAR, DateOfBirth, CURDATE()) < 18 THEN 'Child'

WHEN TIMESTAMPDIFF(YEAR, DateOfBirth, CURDATE()) BETWEEN 18 AND 60 THEN 'Adult'

ELSE 'Senior'

END AS AgeGroup

FROM Recipients;

**12.For each transfusion, indicate whether the blood unit was still valid on the transfusion date ("Valid" or "Invalid")?**

SELECT TransfusionID,UnitID,

CASE

WHEN TransfusionID <= curdate() THEN "VALID"

ELSE "NOT\_VALID"

END AS VALIDITY

FROM transfusions;