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Unit Code: FIT3171  
Applied Class No: 03

**Task 1**

a)

$R1 = (\pi \text{ item\_id } \mathbf{APPTSERVICE\_ITEM}) \bowtie (\pi \text{ item\_id, item\_desc } \mathbf{ITEM})$

$R = (\pi \text{ item\_id } \mathbf{ITEM}) - R1$

b)

$R1 = \sigma \text{ patient\_city} = \text{'Mooroolbark'} \mathbf{PATIENT}$

$R2 = \sigma \text{ appt\_datetime} = \text{'08 September 2023'} (R1 \bowtie \mathbf{APPOINTMENT})$

$R = \pi \text{ patient\_no, patient\_fname, patient\_lname, ec\_fname, ec\_lname, ec\_phone}$   
 $(\mathbf{EMERGENCY\_CONTACT} \bowtie R2)$

c)

$R1 = \mathbf{PATIENT} \bowtie \mathbf{APPOINTMENT}$

$R2 = R1 \bowtie \mathbf{PROVIDER}$

$R3 = R2 \bowtie \mathbf{SPECIALISATION}$

$R = \pi \text{ patient\_number, patient\_fname, patient\_lname, patient\_contactemail} (\sigma$   
 $\text{spec\_name} = \text{'ENDODONTICS'} R4)$