**QN 1 A. Un normalised table**

**1ST NORMAL FORM**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Patient**  **number** | **First Name** | **Last Name** | **Ward**  **Number** | **Ward**  **Name** | **BED**  **NUMBER** | **Drug**  **Number** | **Name** | **Description** | **Dosage** | **Method**  **Of Admin** | **Units per**  **day** | **Start**  **date** | **Finish**  **date** |  |  |  |  |  |  |  |  |  |  |  |  |
| P10034 | Robert | MacDonald | Ward 11 | Orthopaedic | 84 | 10223 | Morphine | Pain Killer | 10mg/ml | Oral | 50 | 24/03/13 | 24/4/14 |  |  |  |  |  |  |  |  |  |  |  |  |
| P10034 | Robert | MacDonald | Ward 11 | Orthopaedic | 84 | 10334 | Tetracyclene | Antibiotic | 0.5mg/ml | IV | 10 | 24/03/13 | 17/04/13 |  |  |  |  |  |  |  |  |  |  |  |  |
| P10034 | Robert | MacDonald | Ward 11 | Orthopaedic | 84 | 10223 | Morphine | Pain Killer | 10mg/ml | Oral | 10 | 25/04/14 | 02/05/15 |  |  |  |  |  |  |  |  |  |  |  |  |

**2ND NORMAL FORM**

**(identify the primary key and get the functional dependencies)**

**(Primary keys “patients’ number and drug number combined”)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Patient**  **number** | **Full**  **Name** | **Ward**  **Number** | **Ward**  **Name** | **Ward**  **Name** | **Bed**  **Number** | **Drug**  **Number** | **Name** | **Description** | **Dosage** | **Method**  **Of Admin** | **Units per**  **day** | **Start**  **date** | **Finish**  **date** |
| P10034 | Robert MacDonald | Ward 11 | Orthopaedic | Orthopaedic | 84 | 10223  10334  10223 | Morphine  Tetracyclene  Morphine | Pain Killer  Antibiotic  Pain Killer | 10mg/ml  0.5mg/ml  10mg/ml | Oral  IV  Oral | 50  10  10 | 24/03/13  24/03/13  25/04/14 | 24/4/14  17/04/13  02/05/15 |

Fully functional dependant on patients number

Patients number

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **First Name** | **Last Name** | **Ward**  **Name** | **Ward**  **Number** | **BED**  **NUMBER** |
| Robert | MacDonald | Orthopaedic | Ward 11 | 84 |

Not fully functional dependant on Patients Number

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Drug**  **Number** | **Name** | **Description** | **Dosage** | **Method**  **Of Admin** | **Units per**  **day** | **Start**  **date** | **Finish**  **date** |
| 10223  10223 | Morphine  Tetracyclene  Morphine | Pain Killer  Antibiotic  Pain Killer | 10mg/ml  0.5mg/ml  10mg/ml | Oral  IV  Oral | 50  10  10 | 24/03/13  24/03/13  25/04/14 | 24/4/14  17/04/13  02/05/15 |

Drug Number

Fully functional dependencies on Drug Number

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Drug**  **Number** | **Name** | **Description** | **Dosage** | **Method**  **Of Admin** | **Units per**  **day** |
| 10223  10223 | Morphine  Tetracyclene  Morphine | Pain Killer  Antibiotic  Pain Killer | 10mg/ml  0.5mg/ml  10mg/ml | Oral  IV  Oral | 50  10  10 |

Not fully dependant on Drug number

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **First Name** | **Last Name** | **Ward**  **Name** | **Ward**  **Number** | **BED**  **NUMBER** | **Start**  **date** | **Finish**  **date** |
| Robert | MacDonald | Orthopaedic | Ward 11 | 84 | 24/03/13 | 24/4/14 |
| Robert | MacDonald | Orthopaedic | Ward 11 | 84 | 24/03/13 | 17/04/13 |
| Robert | MacDonald | Orthopaedic | Ward 11 | 84 | 25/04/14 | 02/05/15 |

**3RD NORMAL FORM**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **BED**  **NUMBER** | **Ward**  **Number** | **Ward**  **Name** | **Method**  **Of Admin** | **Units per**  **day** | **Start**  **date** | **Finish**  **date** |
| 84 | Ward 11 | Orthopaedic | Oral | 50 | 24/03/13 | 24/4/14 |
| 84 | Ward 11 | Orthopaedic | IV | 10 | 24/03/13 | 17/04/13 |
| 84 | Ward 11 | Orthopaedic | Oral | 10 | 25/04/14 | 02/05/15 |

B)

**QUESTION TWO**

First Normal form

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Manager ID | Manager Name | Area | Employee ID | Employee Name | Sector ID | Sector Name |
| 1 | Adam. A | East | 1 | David. D | 4 | Finance |
| 1 | Adam. A | East | 2 | Eugene. E | 3 | IT |
| 2 | Betty. B | West | 3 | George. G | 2 | Security |
| 2 | Betty. B | West | 4 | Henry. H | 1 | Administration |
| 2 | Betty. B | West | 5 | Ingrid. I | 4 | Finance |
| 3 | Carl. C | North | 6 | James. J | 1 | Administration |
| 3 | Carl. C | North | 7 | Katy. K | 4 | Finance |

2nd Normal form

(primary key is employee ID)

Full functional dependency on employee ID