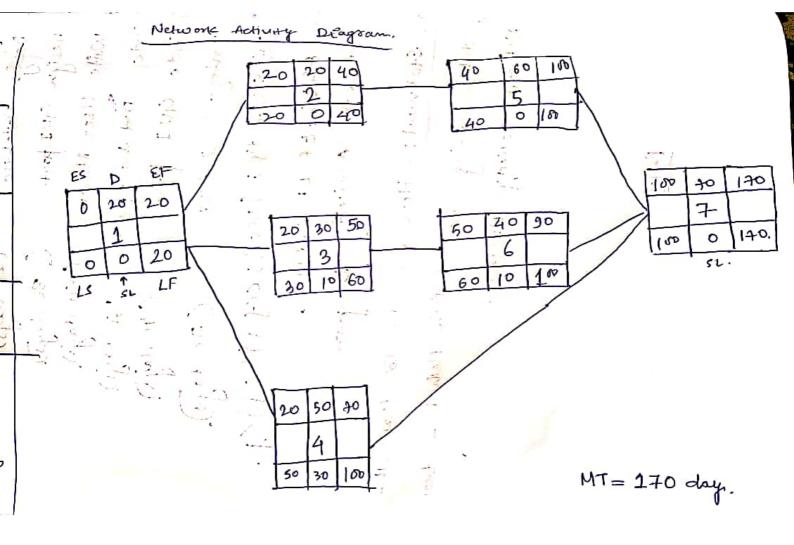2. A) Consider the following activity of a project.

a) Specification          (20 Days).
b) Design Database         (20 days).
c) Design GUI part         (30 days).
d) Write User Manual       (50 days).
e) Code Database part      (60 days).
f) Code GUI part           (40 days).
g) Integrate & test        (70 days).

$a < \{b, c, d\}$ ; $\{b, e\}$ ; $c < f$ ; $\{d, e, f\} < g$

find out ES, LS, EF, LF STAMT.

Draw Network Activity Diagram.

→ Problem Statement :- Here we have to draw the entry table using Critical Path Method & draw the Network Activity Diagram.

# Entry Table

| | Task Name | Duration | Start | Finish | Predecessor |
|---|---|---|---|---|---|
| 1 | Specification | 20 day | Wed 3/3/21 | Tue 3/30/21 | |
| 2 | Design Database | 20 days | Wed 3/31/21 | Tue 4/27/21 | 1 |
| 3 | Design GUI part | 30 days | Wed 3/31/21 | Tue 5/11/21 | 1 |
| 4 | Write User Manual | 50 days | Wed 3/31/21 | Tue 6/8/21 | 1 |
| 5 | Code Database part | 60 days | Wed 4/28/21 | Tue 9/20/21 | 2 |
| 6 | Code GUI part. | 40 days | Wed 5/12/21 | Tue 7/6/21 | 3 |
| 7 | Integrate & Test. | 70 days | Wed 7/21/21 | Tue 10/16/21 | 4,5,6 |

Network Activity Diagram.

| 20 | 20 | 40 |
|----|----|----|
|    | 2  |    |
| 20 | 0  | 40 |

| 40 | 60 | 100 |
|----|----|-----|
|    | 5  |     |
| 40 | 0  | 100 |

| ES | D | EF |
|----|---|----|
| 0  | 20 | 20 |
|    | 1  |    |
| 0  | 0  | 20 |
| LS | SL | LF |

| 20 | 30 | 50 |
|----|----|----|
|    | 3  |    |
| 30 | 10 | 60 |

| 50 | 40 | 90 |
|----|----|----|
|    | 6  |    |
| 60 | 10 | 100 |

| 100 | 70 | 170 |
|-----|----|-----|
|     | 7  |     |
| 100 | 0  | 170 |
|     | SL |     |

| 20 | 50 | 70 |
|----|----|-----|
|    | 4  |    |
| 50 | 30 | 100 |

MT = 170 day.

2. B.   Draw the Use Case diagram to get admission in an institute.



Admission System

Complete Applica$^n$ form

pay fees & submit form

evaluate grades

Course & Dept. Info.

document uploading

Document verific$^n$.

uploading Selected list.

Student / Applicant

Institute Admin

**Specification**
Start: 03-03-21  ID: 1
Finish: 10-03-21  Dur: 22 days
Res:

**Design Database**
Start: 10-03-21  ID: 2
Finish: 15-03-21  Dur: 23 days
Res:

**Code database part**
Start: 15-03-21  ID: 5
Finish: 15-04-21  Dur: 60 days
Res:

**Design GUI**
Start: 10-03-21  ID: 3
Finish: 25-03-21  Dur: 30 days
Res:

**Code GUI part**
Start: 25-03-21  ID: 6
Finish: 03-04-21  Dur: 42 days
Res:

**Write user manual**
Start: 10-03-21  ID: 4
Finish: 25-03-21  Dur: 30 days
Res:

**Integrate and test**
Start: 05-04-21  ID: 7
Finish: 29-04-21  Dur: 22 days
Res:

| , 2020 | | Qtr 4, 2020 | | | Qtr 1, 2021 | | | Qtr 2, 2021 | | | Qtr 3, 2021 | | | Qtr 4, 2021 | | | Qtr 1, 2022 | | | Qtr |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr |

**Specification**

| | |
|---|---|
| Start: 3/3/21 | ID: 1 |
| Finish: 3/30/21 | Dur: 20 days |
| Res: | |

**Design database**

| | |
|---|---|
| Start: 3/31/21 | ID: 2 |
| Finish: 4/27/21 | Dur: 20 days? |
| Res: | |

**Code database part**

| | |
|---|---|
| Start: 4/28/21 | ID: 5 |
| Finish: 7/20/21 | Dur: 60 days? |
| Res: | |

**Design GUI part**

| | |
|---|---|
| Start: 3/31/21 | ID: 3 |
| Finish: 5/11/21 | Dur: 30 days? |
| Res: | |

**Code GUI part**

| | |
|---|---|
| Start: 5/12/21 | ID: 6 |
| Finish: 7/6/21 | Dur: 40 days? |
| Res: | |

**Write user manual**

| | |
|---|---|
| Start: 3/31/21 | ID: 4 |
| Finish: 6/8/21 | Dur: 50 days? |
| Res: | |

**Integrate and test**

| | |
|---|---|
| Start: 7/21/21 | ID: 7 |
| Finish: 10/26/21 | Dur: 70 days? |
| Res: | |

Admission system

Student/applicant

institute admin

- complete application form
- pay application fees and submit form
- evaluate grades and admission criteria
- course and department information
- document uploading
- application and document verification
- uploading the selected list