**Exercise 1:-**

a)Two job orders can be created by considering the CTP and Capacity.

b)5 Job Orders,each having a quantity of 500 is created.

**Exercise 2:-**

a)Percentage yield=100-Scrap percentage

=100-65

=35%

b)Quantity I have to manufacture=>0.35x QTY=50

QTY=50/0.35

=142.8=143

c)Quantity being scraped=0.65x143=92.95=93

**Exercise 3:-**

a)It takes 9hrs to complete 50 finished goods.

b)It takes 4 days to complete 100 QTY.

c) The Job order can be released to shop floor to start manufacturing after production planning and scheduling is done.

d)Job Order QTY=>0.9xQTY=100

QTY=100/0.9=111.11=112

**Exercise-4:**

Manufacturing can be completed by 8pm.

**Exercise 4:-**

a)CTP=10th September 2020

b)No you can’t complete it by 6th September 2020.

You can improve purchase buffer,shipping buffer,release offset to make it on time.

**Exercise-5**

* In any manufacturing environment there are few Critical Constraint Resources (CCR) which are the main work centers constraints
* The throughput of the manufacturing operation depends on the performance of these critical work centers:
  + Idle time on a CCR work center results in reduction in the total throughput
  + Use the constrained resource to support customer demand rather than excessive inventory
  + Idle time on a non CCR **doesn’t** affect the total throughput
  + Use Constraint Buffers to avoid starvation of critical work centers

A simple flow shop example:

Critical Resource

**Exercise 6:-**

0.7xQTY=1000

QTY=10000/0.7=1428.57=1429

Operation QTY for operation 10=1429

Operation QTY for operation 20=1429

Operation QTY for operation 30=1429

**Exercise 7:-**

a) Material Qty =Oprtn Qty \* Unit Qty

=(100/0.9)\*8

=888.88=889

b)Operation Qty of Operation 10=112

Operation Qty of Operation 20=112