Operations Management (MSL304)
Minor-II, Semester-I: AY-2016-17

Date: 4th February, 2013
Batch: B.Tech

Time: 1 hour
Max. Marks: 15

PART A

Consider following MRP table:

(LT=2 and SS=0)	1	2	3	4	5	6	7	8
Gross Requirements	90		20	40		60		60
Scheduled Receipts	40							
Projected on-hand inventory (50)								
Planned Receipts								
Planned order releases								

1. If POQ is kept 2, then what are receipt quantities and respective periods?
2. What is the on hand inventory in 3rd, 4th and 5th period considering POQ=2?
3. If lot-for lot rule is followed, how many times order is released and in which periods?
4. If fixed lot-size policy of 150 is adopted, what is on-hand inventory in 5th, 6th and 7th period?
5. If fixed lot-size policy of 150 is adopted, in which period order is received.
6. If on-hand inventory is increased from 50 to 170, then how many orders need to be released?

PART B

Co=Rs. 80/order, C_c= Rs 1/unit per week, Current inventory on hand = 10 units

Week	1	2	3	4	5	6	7	8
Demand	70	40	25	5	100	20	60	10
Ordering pattern								

7. What would be the ordering pattern using EOQ?
8. What would be the ordering pattern using POQ?
9. What would be the ordering pattern using PPB?
10. Which ordering pattern (based on EOQ, POQ & PPB) is the best?(Apply carrying cost at the end inventory)

PART C

Bahadurgarh, a chemical manufacturing site, is said to be one of the most polluted locations in the NCR. Cleanup of chemical waste storage basins will involve two operations. *Operation 1*: Drain and dredge basin. *Operation 2*: Incinerate materials. NCR management estimates that each operation will require the following amounts of time (in days):

Sites	A	B	C	D	E	F	G	H	I	J
Dredge	3	4	3	6	1	3	2	1	8	4
Incinerate	1	4	2	1	2	6	4	1	2	8

Management's objective is to minimize the makespan. All sites for storage basins are available for processing.

11. Find an optimal sequence that minimizes the makespan.
12. What is the minimum time to finish all operations?
13. What is the schedule of site F?
14. What is the schedule of site I?
15. What is the schedule of site D?

**********End of the paper**********