

**Navrachana University**  
**School of Business & Law – BBA Program**  
**End-Semester Examination March-2017**  
**Second Year (Semester-IV)**  
**Production & Operations Management – MG215**

Date: 08<sup>th</sup> May, 2017

Time: 2.0 Hours

Marks: 30

**Instructions:**

- All the questions are compulsory
- Closed book: No reference material is allowed
- All questions carry equal marks (6)

**Q.1** Jeannette's Cashmere Sweaters has authorized the following MPS for her exclusive line of cashmere sweaters. She wants to use the MPS record for promising future orders. Current order promises are included. The MPS order quantity is 60 units (She can produce in the lot of 60). Beginning inventory is 0. Complete the following MPS record:

Period	1	2	3	4	5	6	7	8	9	10	11	12
Demand Forecast	15	15	15	15	20	20	20	20	25	25	25	25
Customer Committed Orders	12	10	8	5	0	0	15	0	30	0	0	0

- a) Identify available to promise.
- b) Identify in which weeks MPS production is required.
- c) Identify projected on hand inventory.

**Q.2** The Taylor Machine Shop rebores engine blocks. Currently, five engine blocks are waiting for processing. At any time, the company has only one engine expert on duty who can do this type of work. The engine problems have been diagnosed, and the processing times for the jobs have been estimated. Expected completion times have been agreed upon with the shop's customers. The accompanying table shows the current situation. Because the Taylor Machine Shop is open from 8:00 A.M. until 5:00 P.M. each weekday, plus weekend hours as needed, the customer pickup times are measured in business hours from the current time. Determine the schedule for the engine expert by using (a) the EDD rule and (b) the SPT rule. For each rule, calculate the average flow time, average lateness. Which rule company should follow as per you?

Engine Block	Business Hours Since Order Arrived	Processing Time, Including Setup (hours)	Business Hours Until Due Date (customer pickup time)
Ranger	12	8	10
Explorer	10	6	12
Bronco	1	15	20
Econoline 150	3	3	18
Thunderbird	0	12	22

**Q.3** List down 7 quality control tools. Explain any 3 in detail.

Q.4 Write a short note on 5 step manufacturing process of Swiss pack Pvt. Ltd. (Note: Answer should not exceed more than two pages)?

Q.5 The Rocky Mountain Arsenal, formerly a chemical warfare manufacturing site, is said to be one of the most polluted locations in the United States. Cleanup of chemical waste storage basins will involve two operations.

Operation 1: Drain and dredge basin.

Operation 2: Incinerate materials.

Management estimates that each operation will require the following amounts of time (in days):

Storage Basin										
	A	B	C	D	E	F	G	H	I	J
Operation 1	3	4	3	6	1	3	2	1	8	4
Operation 2	1	4	2	1	2	6	4	1	2	8

Management's objective is to minimize the total time of the cleanup operations. All storage basins are available for processing right now. First, find a schedule that minimizes the total time. Also, identify the total time to clean up all the storage basins.

-----End of Question Paper-----