

University of Pune
 Department of Management Sciences (PUMBA)
 Executive MBA Programme
 Internal Examination
 405 (D): World Class Manufacturing

20 Marks.

1 Hrs.

All questions carry equal marks (10 marks each)
 Answer any two questions

- Q.1 Read the following statements and write down which of the seven wastes (Transport, Inventory, Motion, Waiting, Overproduction, Over processing, Defect) is being described in the table given below 10

Sr. No.	Statement	Type of Waste
1	A 30 page report when a short 2 page executive summary would have done	
2	Having to write out for further information because an application form is incomplete	
3	Having both electronic records and paper records	
4	Getting the wrong address on an envelope	
5	Getting the wrong limb amputated	
6	Excessive packaging on a music CD	
7	Having 3 spreadsheets to record the same information	
8	Receiving the wrong mail	
9	Receiving 3 bits of identical junk mail	
10	Moving files across several floors	
11	Putting sticky tape over a seal on an envelope	
12	Extra keyboard strokes (not using shortcuts)	
13	Having to reach down to pick up a file (MOTION)	
14	Holding 10 years worth of bar code labels	
15	Receiving 200 pieces of work from the previous process when your capacity is 30 per day	
16	Hunting around the office for a case file	
17	Stocking every colour of paper imaginable	
18	Coffee but no milk in your hotel room	
19	Having to deliver files to a different city	
20	Making a few extra photo copies	

Q. 2 i) Draw the following VSM symbols and explain their meaning in one sentence [0.5 + 0.5]

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- a) Manual Information Flow
- b) Electronic information flow
- c) Outside sources
- d) Push flow
- e) Inventory
- f) Process box
- g) Operator
- h) Supermarket
- i) Pull flow
- j) Kanban pos

Q.3 A The following table shows the various activities involved in setup activity on a 10 ton press.

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Activity	Time (min)	Performed by
1. Check in at operation, go to die storage	5	Setup person
2. Transfer new die	8	Setup person
3. Remove old die	10	Setup person
4. Return old die to storage	10	Setup person
5. Get new material	15	Operator
6. Attach new die	12	Setup person
7. Adjust machine	20	Setup person

- a) Classify the activities as internal and external [1]
- b) If all activities are performed externally
 - 1. Determine the elapsed setup time [1]
 - 2. Suppose step 5 takes 2 minutes and step 6 takes 15 minutes, how long should the setup procedure take? [1]
- c) If SMED principle is followed
 - 1. Determine the elapsed setup time [1]
 - 2. Suppose step 5 takes 2 minutes and step 6 takes 15 minutes, how long should the setup procedure take? [1]

B Classify the following set-up activities into internal and external

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- a) Removing work from the machine
- b) Removing tools dies etc.
- c) Cleaning down the work surfaces
- d) Fixing new tools in place
- e) Fixing the new work piece in place
- f) Trial run and adjusting the machine
- g) Getting instructions for the next job
- h) Getting material for the next job from stores
- i) Getting tools for the next job from tool stores
- j) Returning tools from the last job to tool stores
- k) Arranging for lifting equipment to be available when required
- l) Arranging for a setter to be available when required