Seat No.: Enrolment No	
------------------------	--

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

ME - SEMESTER- II(New course) • EXAMINATION (Remedial) - WINTER- 2015

Subject Code: 2724610 Date:14 /12/2015

**Subject Name: Production Management System** 

Time: 2:30 pm to 5:00 pm Total Marks: 70

**Instructions:** 

- 1. Attempt all questions.
- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- Q.1 (a) Describe the process of using KANBAN card using schematic diagram.

07 07

- **(b)** Differentiate the operations of Pull and Push system using 4 different products as an example.
- Q.2 (a) Define different manufacturing systems and brief their characteristics.

07

**(b)** Calculate the normal and Standard time for the job listed below.

**07** 

Job Element	Observation			
Job Element	1	2	3	4
1	1.5	1.5	1.4	1.3
2	2.6	2.7	2.4	2.6
3	3.3	3.2	3.4	3.4
4	1.2	1.2	1.1	1.2
5	0.51	0.51	0.52	0.49

Element 2 and 4 are machine element and the operator is rated at 110% and allowances are 15 % of normal time.

## OR

**(b)** Prepare a left hand óright hand chart for assembly of a pen. Component of pen are 1. Pen cylinder, 2. Cap, 3. Refill.

05

07

Q.3 (a) Differentiate between value engineering and value analysis.

(b) A manufacturing company processes 6 different jobs on two respectively.

09

(b) A manufacturing company processes 6 different jobs on two machines A and B. number of units of each job and its processing times on A and B are given in the following table. Find the optimum sequence, the total minimum elapsed time and idle time for each machine.

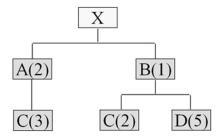
Ich number	No. of units of	Processing time		
Job number	each job	Machine A	Machine B	
1	3	5	8	
2	4	16	7	
3	2	6	11	
4	5	3	5	
5	2	9	7.5	
6	3	6	14	

OR

Q.3 (a) Discuss salient features of MRP-II.

05 09

**(b)** Determine the material required for a assembly X. Requirements include 95 units (80 firm orders and 15 forecast) of X in week 10.



ltem	On-Hand	Lead Time (Weeks)
Х	50	2
Α	75	3
В	25	1
C	10	2
D	20	2

Q.4	(a)	Explain õPredetermine Motion Time System (PMTS)ö	07
	<b>(b)</b>	Discuss the work place design as per the motion economy.	07
		OR	
<b>Q.4</b>	(a)	Enlist the salient features of JIT.	07
	(b)	Enlist the various methods of Merit rating.	07
Q.5	(a)	Enlist the inputs required for MRP and explain them in brief.	07
	(b)	Discuss the role of Production Planning and control in industries.	<b>07</b>
	` '	ŎR	
Q.5	(a)	Explain following terms	<b>07</b>
	` ′	1. Cost-function	
		2. Worth	
		3. Function	
	(b)	Enlist the various methodologies for Job evolution and explain them based on their merits and demerits.	07