Seat No.: Enrolm	ent No
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Subject Code: 171501

## **GUJARAT TECHNOLOGICAL UNIVERSITY**

## **BE - SEMESTER-VII EXAMINATION - WINTER 2015**

Date: 12/12/2015

$\mathbf{T}$	•	et Name: Opera 10:30am to 1:0		ning	and	Con	trol		Tot	tal Marks: 70	
		<ol> <li>Attempt all que</li> <li>Make suitable a</li> <li>Figures to the ri</li> </ol>	ssumptions w			essary	y <b>.</b>				
Q.1	(a) (b)	<u> </u>							07 07		
Q.2	(a) (b)	Describe route sheet preparation by quoting a case study.  Write note on: Master production scheduling and its role in operations planning and control.							07 g 07		
					0	R					
	<b>(b)</b>	Write note: Line	of balance te	chniqı							07
Q.3	(a) (b)	Discuss the needs of forecasting the demand of a product.  Discuss various factors influencing process planning.							07 07		
					0	R					
Q.3	(a) (b)	Write note: Critical ratio scheduling.							07 n 07		
Q.4	<ul> <li>(a) Discuss the process of line balancing.</li> <li>(b) What are the major restrictions in applying Johnson's rules? Use Johnson's rule to find out the best sequence and find total idle time from the following data:</li> </ul>							<b>07 07</b>			
		_	Job:	1	2	3	4	5	6		
			Milling:	2	4	1	3	6	2		
			Drilling:	1	3	5	2	7	3		
					C	R				-	
Q.4	(a)	Which OPC tec Whether the tech give suggestions	niques appli	ied w	-						

**(b)** What is 'Index'? Under which conditions the Index method of scheduling to be applied? Why?

M/s Kanak Machine Tools Ltd. Wishes to schedule existing orders on available machines using Indicator method. The following data available from their machine shop:

(1) Order No. 501 502 503 504 Demand quantity (units) 240 150 360 420

Available machine capacity (hrs): M/c A: 24

M/c B : 40 M/c C : 36

(2) Standard output per hour per machine:

	Production (units)				
Order number	M/c A	M/c B	M/c C		
501	6	6	10		
502	6	10	15		
503	20	8	15		
504	12	6	20		

How different orders are carried out on different machines? If company runs 8 hrs/shift, find shop efficiency.

- Q.5 (a) What should be the main functions of OPC department in following companies:
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- (1) Pharmaceutical
- (2) Cement
- (3) Medium Scale Engineering.
- **(b)** Explain the objectives of OPC in any organization.

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## OR

- **Q.5** (a) Discuss integration of OPC function with marketing function in any industry.
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- (b) Following is the quarterly sales figures of product having seasonal variations (In thousands):

Year	Quarter						
	1st	2nd	3rd	4th			
2011	90	73	82	94			
2012	88	77	83	95			
2013	96	69	80	93			
2014	105	79	88	90			

Using four period moving average methods determine seasonal adjusted index and forecast for the next year.

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