

GUJARAT TECHNOLOGICAL UNIVERSITY**BE SEM-VII Examination-Nov/Dec.-2011****Subject code: 171501****Date: 19/11/2011****Subject Name: Operations Planning & Control****Time: 10.30 am-01.00 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) Discuss a composite production system. Justify OPC as core to productivity of business. **07**
- (b) What are different types of production ? Discuss their basic characteristics and role of OPC in each type. **07**

- Q.2** (a) Explain capacity planning and discuss its importance. **07**
- (b) What is 'Process planning' ? Explain process planning procedure. **07**

OR

- (b) What is 'Break even analysis' ? Discuss its usefulness and limitations. **07**

- Q.3** (a) What is 'Route sheet' ? State how it differs from 'Operation sheet' of an engineering component. Also explain its significance for Production planning & control. **07**
- (b) What do you understand by the term 'Economic mfg. quantity' (EMQ) ? Derive the formula of EMQ. **07**

OR

- Q.3** (a) Classify sales forecasting techniques. Explain method of regression analysis. **07**
- (b) The sales pattern of a firm manufacturing different types of castings used in automobiles is as follows :

Year	2004	2005	2006	2007	2008	2009	2010
Sales (Rs.In Crore)	16	18	21	24	22	25	28

Compute 3 yearly moving trend and find out sales forecast for the year 2011.

- Q.4** (a) What is scheduling ? Explain Index method of scheduling. **07**
- (b) Use Johnson's method to find out the best sequence of operations and total idle time for following data : **07**

Job		1	2	3	4	5	6
Processing time (hrs.)	Lathe	3	6	4	10	11	7
	Shaping	4	8	3	9	6	5

OR

- Q.4** (a) Discuss master production scheduling with aggregate planning as its input predecessor. **07**
- Q.4** (b) Discuss pure strategies of aggregate planning with example. Explain why mixed strategies are preferred. **07**

- Q.5** (a) Discuss MRP and its four fundamental inputs. **07**
(b) Write short note on : Dispatching and follow up functions of PPC. **07**

OR

- Q.5** (a) Write short note on : Line of balance technique. **07**
(b) The sequence of manufacturing a product is as follows; **07**
Find out minimum no. of work stations and line efficiency:

Operation	A	B	C	D	E	F	G	H
Time (In Min.)	3	7	8	4	2	5	23	8
