Hall Ticket Number :										

R-11 / R-13

Code: 1G581

IV B.Tech. II Semester Supplementary Examinations December 2017

Production & Operations Management

(Mechanical Engineering)

Max. Marks: 70 Time: 3 Hours

Answer any **five** questions

All Questions carry equal marks (**14 Marks each**)

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1. a) Define the term "Production Planning and Control". Explain functions of PPC. 10M

   b) Briefly Explain the steps in Product Design. 4M

2. a) What are the factors affecting Forecasting? 4M

   b) A firm believes that its annual profit depends on its expenditure for research. The information for the preceding six years is given below. Estimate the profit when the expenditure is 6 units.

Year	Expenditure for Research (X)	Annual Profit (Y)
1	2	20
2	3	25
3	5	34
4	4	30
5	11	40
6	5	31
7	6	?

10M

3. a) What are the factors affecting facilities Location? 4M

   b) What are the types of Layouts? Explain them with suitable examples. 10M

4. a) What do you mean by Aggregate Planning? 4M

   b) List and explain various Pure Strategies & Mixed Strategies. 10M

5. a) List and explain different types of Costs in Inventory System? 6M

   b) Discuss in detail about ABC and VED Analysis. 8M

6. a) Consider the following two Machines and Six Job flow shop scheduling problem. Using Johnsons algorithm obtain the optimal sequence which will minimize the make span.

Job	Machine -1	Machine - 2
1	5	4
2	2	3
3	13	14
4	10	1
5	8	9
6	12	11

10M

   b) What is Job Shop Scheduling problem? Distinguish it from Flow Shop Scheduling problem. 4M

7. a) What is Material requirement Planning (MRP)? State its Benefits and Limitations 8M

   b) Briefly explain the purpose and concept of Line of Balance. 6M

8. a) Explain the basic principles of JIT Manufacturing System. 8M

   b) Discuss the steps in implementing Lean Manufacturing. 6M

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Hall Ticket Number :										

R-11 / R-13

Code: 1G587

IV B.Tech. II Semester Supplementary Examinations December 2017

Supply Chain Management

(Mechanical Engineering)

Max. Marks: 70 Time: 3 Hours

Answer any **five** questions
All Questions carry equal marks (**14 Marks each**)

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1.	a)	Explain about various stages of SCM?	7M
	b)	Write about competitive and supply chain strategies?	7M
2.	a)	Classify the different types of supply chain networks?	7M
	b)	Demonstrate the frame work for design decisions?	7M
3.	a)	Outline the models for facilities location?	7M
	b)	Demonstrate capacity allocation with the help of a case study?	7M
4.	a)	How inventory is managed in the Multi-echoleon technique?	7M
	b)	Elaborate about optimum level of product availability	7M
5.	a)	Detail about role of sourcing in SCM?	7M
	b)	State about the design collaborations?	7M
6.	a)	Enlighten the factors affecting the transportation decision?	7M
	b)	Discuss the role of revenue management in supply chain?	7M
7.	a)	Write about the Bullwhip effect?	7M
	b)	Discuss the obstacles to coordination in a supply chain?	7M
8.	a)	Enlighten the role of IT in supply chain management?	7M
	b)	Explain about the role of E-business in a supply chain?	7M

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Hall Ticket Number :										

R11/R13

Code: 1G585

IV B.Tech. II Semester Supplementary Examinations December 2017

Non Conventional Sources of Energy

(Mechanical Engineering)

Max. Marks: 70 Time: 3 Hours

Answer any ***five*** questions

All Questions carry equal marks (**14 Marks** each)

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1. a) Explain the construction and operation of any two instruments used for measuring solar radiation.
   b) Explain the environmental impact of solar power in detail.

2. a) Explain the various configurations for concentrating collectors.
   b) Explain thermal analysis of flat plate collector with necessary equations.

3. Write short notes on the following:
   a) Solar pond.
   b) Solar distillation and drying.

4. a) Discuss about the performance curves of wind turbines.
   b) Explain the vertical axis wind mills in detail.

5. a) What are the various advantages of anaerobic digestion?
   b) Draw the combustion characteristics of biogas and explain.

6. a) Discuss about the potential of geothermal energy in India.
   b) Classify the resources of geothermal energy.

7. a) With neat sketch explain the Anderson cycle of OTEC.
   b) Discuss about various configurations of turbines used for tidal energy conversion.

8. a) Explain the principle of MHD generation.
   b) Explain the need for direct energy conversion and also explain the limitations of DEC.

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