

Dronacharya College of engineering
Department of mechanical engineering
Question Bank

Section A

1. Define industrial engineering, its objectives and field in which there requires its influence?
2. What is work study? Describe the importance of work study in production process. What are the types of work study?
3. Describe in details the principle of motion economy?
4. Define Method study? What are the steps involved in method study?
5. What are the symbols used in method study? What are various types of chart? Describe in detail flow process chart for any assembly?
6. Define Therbligs. Explain different types of therbligs with its symbols.
7. Define work measurement. What are various methods of time study? Explain PMTS in detail and how it is used to determine standard time?
8. Define productivity. What are the factors that affect productivity? What are the various methods of measuring it? Also the strategies for improving it.
9. What are various methods of job evaluation and merit rating? Explain the incentive payment schemes.

Section B

1. Define fixed, variable, direct, indirect and overhead cost?
2. Explain in detail Break even analysis show by graph also?
3. What are the various methods of job costing?
4. Why material management is important in manufacturing industries?

5. Describe in detail various inventory models, show graphs also. Define EOQ & EBQ, reorder point safety stock and reorder level.
6. What are the different types of costs that are used in inventory models? Show by graph. Derive expression for EOQ.
7. What is sensitivity analysis? Why it is carried out?
8. What are the various selective inventory control methods? Explain each in details with an example.
9. There are two products A and B with the following characteristics product demand (in units), order cost (in Rs./order), holding cost (in Rs./unit/years)

A	100	100	4
B	400	100	1

Find the ratio of the economic order quantities (EOQ) of product A and B.

Section C

- 1) Define Quality and its importance. What is the various approach of quality assurance?
- 2) Define SQC and TQM. Draw OC curve with explanation of each point.
- 3) What are the different methods of forecasting in detail?
- 4) What is the objective and variables of PPC? Define MPS.
- 5) Define aggregate planning. What are the steps involved in aggregate planning, show its flow chart. Relate it with other decision areas.
- 6) What are the various means of measuring PPC? Define JIT with an example.
- 7) Using the exponential smoothing method of forecasting, what will be the forecast for the fourth week if the actual and forecasted demand for the third week is 480 and 500 respectively and $\alpha = 0.2$?
- 8) What are moving average and exponential smoothing models for forecasting? A dealership for Honda city cars sells a particular model of the car in various months of the year. Using the moving average method, find the exponential smoothing forecast for the month of October 2010. Take exponential smoothing constant as 0.2:

Jan. 2010	80 cars
Feb. 2010	65 cars

March 2010 90 cars
 April 2010 70 cars
 May 2010 80 cars
 June 2010 100 cars
 July 2010 85 cars
 Aug. 2010 65 cars
 Sept. 2010 75 cars

- 9) A company intends to use exponential smoothing technique for making a forecast for one of its products. The previous year's forecast has been 78 units and the actual demand for the corresponding period turned out to be 73 units. If the value of the smoothing constant α is 0.2, find the forecast for the next period.
- 10) Processing time for six jobs in two machines (in minutes) is given below. Use Johnson's rule to schedule these jobs.

Job	J1	J2	J3	J4	J5	J6
M1	4	6	7	8	9	1
M2	5	8	1	3	6	10

Section D

1. Define MIS, its importance. How MIS helps in decision making.
2. Explain in detail product life cycle.
3. What are 3S's. Explain each in detail.
4. Define value engineering and analysis.
5. Define ergonomics. What is the role of ergonomics in product design?
6. What are the various approaches of product design and development?