Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 17704

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Elective

Manufacturing Engineering

MF 7014 — MANUFACTURING MANAGEMENT

(Regulations 2013)

Time : Three hours

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention any two factors that will influence manufacturing plant locations in developing countries.

2. What do you mean by jumbled flow system?

3. Define ergonomics.

4. List any four work measurement techniques.

5. Identify four factors that influence a process plan.

6. What is the underlying difference between time series forecasting and regression or causal forecasting?

7. What does heuristic scheduling mean?

8. Define 'float'.

9. How would you define trade unions?

10. How is advertising different from sales promotion?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the different types of plant layouts with examples.

Or

(b) Discuss the principles of material handling and the factors influencing the selection of material handling system.

12. (a) How are the principles of motion economy classified? Explain each classification in detail.

Or

(b) Why is method study considered a good management tool? Discuss the tools and technique used in work measurement.

13. (a) Explain the steps to prepare detailed work sheets for manufacturing a given component using a suitable example.

Or

(b) A T-Shirt manufacturer wants to forecast cricket jersey production for the coming year. Cricket jersey sales is believed to be directly related to the number of wins by the local cricket team. The total annual average sales figures for the past eight years is given below:

Year	Wins	Jersey Sales
2009	4	5000
2010	6	7000
2011	5	6500
2012	7	9000
2013	8	9600
2014	7	9400
2015	6	7300

The local cricket team believes it will win at least 8 games next year. Develop a simple regression equation for this data to forecast jersey production/sales for next year.

14. (a) Describe priority rule based scheduling.

Or

(b) (i) Highlight the differences between PERT and CPM. (4)

(ii) Construct the project network for a project with the following activity.

Activity	A	B	C	D	E	F	G	H
Immediate processor	–	–	A	A, B	A, B	C	D, F	E, G

15. (a) Which distribution channels are best suited for FMCG products. Why?

Or

(b) Enumerate and briefly explain Fayol's 14 Principles of Management.

PART C — (1 × 15 = 15 marks)

16. (a) Delhivery, listed as one of the top 20 best startups in India in 2014, started in 2011 as a third-party, last-mile logistics delivery firm in Delhi to serve e-commerce companies like Flipkart. It routes packages (faster than conventional couriers) via different flights throughout the thy as well as uses multiple modes of transport. Whenever a package needs to be delivered, the backend system plots its fastest route automatically, including which flight it should take.

From being a mere delivery company, it started warehouses where companies can stock goods and where products would be tested, packaged and labeled before shipping. The company now has its main warehouses in Delhi, Bangalore, Mumbai, Hyderabad, Chennai and Kolkata.

(i) What was the logic behind setting up the warehouses in the locations selected? Is this expansion justified? (8)

(ii) What should be the future course for expansion in India and abroad? Why? (7)

Or

(b) When the Tata Nano, a stripped-down minicar priced at around Rs. 1,00,000, was introduced in 2009, it was marketed as a car that would transform the way aspiring consumers in India and other developing countries got around, It was reputed to be an engineering marvel with 34 patents for innovations. But the low-cost automotive revolution fizzled. Selling poorly at home and with exports drying up, the Nano was not making great profits for Tata Motors Ltd. despite being a good product.

Mention how poor marketing played a role in ruining Tata Nano sales. How should Tata Motors have marketed the minicar? (15)

Reg. No. :

Question Paper Code : 13676

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Elective

Manufacturing Engineering

MF 7014 — MANUFACTURING MANAGEMENT

(Regulation 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define plant layout.
2. List out the principles of Materials management.
3. Write the important steps in method study.
4. Write a short note on work measurement.
5. What are the types of forecasting?
6. What are the factors influencing the selection of forecasting methods.
7. Define Queuing analysis.
8. How are PERT models differing principally from CPM models?
9. What is popup advertisement in online marketing?
10. List out the four important functions of personal management.

PART B — (5 × 16 = 80 marks)

11. (a) Sketch and explain the principles of good plant layout.

Or

(b) Explain the factors affecting selection of materials handling system and types of materials handling system.

12. (a) With a suitable example write the concept of stop watch time study.

Or

(b) Discuss the steps in work measurement and its applications.

13. (a) (i) What are the salient features of common to all forecasting techniques? (8)

(ii) Describe any two forecasting methods suitable for luxury goods manufacturing industry. (8)

Or

(b) Elaborate on the steps in aggregate planning and capacity planning.

14. (a) List and explain the types of time estimate that are used in PERT. Explain the applications of standard normal statistic in PERT.

Or

(b) Consider the following data of a project :

Activities	Predecessor(s)	Duration (weeks)		
		a	m	b
A	-	1	2	3
B	-	2	3	4
C	A	6	7	8
D	B	1	2	3
E	A	1	4	7
F	C, D	1	5	9
G	C, D, E	1	2	3
H	F	1	2	9

Construct the project network, find the expected duration and critical path and find the expected project completion time.

15. (a) Discuss with some examples, the need and importance of interfacing the other functional areas with marketing functions and personal managements.

Or

(b) Explain Marketing research process in detail with suitable example.

Reg. No. : | | | | | | | | | | | |

Question Paper Code : 40692

M.E./M.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Elective

Manufacturing Engineering

MF 7014 – MANUFACTURING MANAGEMENT

(Regulations 2013)

Time : Three Hours | Maximum : 100 Marks

Answer ALL questions

PART – A (10×2=20 Marks)

1. Does plant location determine the efficiency of an organization ?
2. Explain briefly any one type of plant layout.
3. Explain 'ergonomics' and its importance to an organization.
4. What were the objectives of the stop watch time study ?
5. Explain the need for break-even analysis.
6. What is job shop production ?
7. Using PERT, what time would you record for an activity that has an optimistic time of 23 hours, a most likely time of 42 hours and a pessimistic time of 72 hours ? Show your workings.
8. Define sequencing.
9. What are the benefits of information communication channels in an organization ?
10. How can trade unions help in resolving conflicts ?

PART – B (5×13=65 Marks)

11. a) Explain the various factors affecting the selection of material handling systems.

(OR)

b) Present the various factors that determine plant location.

12. a) What is value analysis ? Explain in detail when and why a firm would perform a value analysis ?

(OR)

b) Are method study and time study the same ? What are the objectives of performing these studies ? Do you think studies will improve the productivity of the company ?

13. a) Define demand forecasting. Explain the various methods of forecasting with examples.

(OR)

b) What are the steps in process planning ? Why is process planning essential ?

14. a) What is scheduling ? What are the factors affecting scheduling ?

(OR)

b) What are the common problems encountered by project managers ? Can PERT and CPM be used to resolve them ?

15. a) What are the principles of management ? Explain.

(OR)

b) Explain the following :

- Sales promotion
- Distribution channels
- Recruitment
- Motivation.

PART – C

(1×15=15 Marks)

16. a) Calculate the following with the given details

Activity	Predecessor	Duration
A	–	1
B	A	3
C	A	4
D	A	3
E	D	2
F	B, C, E	4
G	D	9
H	D	5
I	H	2
J	F, G, I	2

- Draw the network diagram
- Critical path and Duration of the critical path
- Slack of all non critical activities.
- What happens if D is changed to 6 weeks and F is changed to 8 weeks.

(OR)

b) A new e-commerce company is planning to expand its operations from 10 cities to 500 cities. The company does not have any restrictions on financing the expansion. The thrust of the company is to enhance its service quality. State any 10 principles of manufacturing management that you would use to help the company achieve this.

———————

Reg. No. :

Question Paper Code : 60700

M.E. DEGREE EXAMINATION, MAY/JUNE 2017.

Elective

Manufacturing Engineering

MF 7014 — MANUFACTURING MANAGEMENT

(Regulations 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What is plant layout? What does the term 'plant' include?
2. State two factors that should be considered in designing material handling systems.
3. What is stop-watch time study?
4. How is the concept of ergonomics important in a manufacturing environment?
5. What is the need for break-even analysis?
6. When should the Time series method of forecasting be used?
7. Define the term 'float'.
8. State the need for queuing analysis.
9. State any two methods of motivation that can be used for shop-floor employees.
10. What are the functions of a trade union?

PART B — (5 × 13 = 65 marks)

11. (a) Explain any two material handling systems that are used in an assembly line with suitable examples and diagrams.

Or

(b) What are the factors that would affect the plant location of a labour-intensive manufacturing unit that requires employees with no basic skill set, but with minimum education upto class 10?

12. (a) What is a method study? When and in what circumstances are these studies essential? What are the steps in a method study?

Or

(b) Do firms undertake work-based studies? Present examples of companies that have undertaken such work-based studies and the nature of improvement that has resulted due to such studies.

13. (a) What are the steps involved in preparing the detailed work sheets for manufacturing with a suitable example of moderate complexity.

Or

(b) What are the common methods of forecasting? Explain with examples.

14. (a) What is scheduling? What are the priority rules for scheduling? Explain Johnson's algorithm for job sequencing with examples.

Or

(b) Explain with examples the PERT and the CPM methods. What are pros and cons of these methods.

15. (a) Explain Henry Fayol's principles of management.

Or

(b) Explain the functions of personnel management in a manufacturing organization with suitable examples.

PART C — ($1 \times 15 = 15$ marks)

16. (a) You are the marketing manager of a company that manufactures high-end food processors. Your manufacturing facility is located in Chennai and received several awards for its innovative and state-of-the-art machineries. However, you feel that these awards do not result in increased sales. What are the steps that you take to boost the sales of your product? Which distribution channel/s would you employ? How would you use the credits of your organization in your marketing efforts?

Or

(b) A leading e-commerce giant is planning to set-up a new warehouse to handle operations for its Tamil Nadu operations. The company currently deals with imported clothing and is planning to expand into other products that can be imported. Present a suitable location for the same. Indicate the reasons that justify your choice.

———————

Reg. No. | | | | | | | | | | | | |

Question Paper Code : 83768

M.E. DEGREE EXAMINATION, MAY/JUNE 2016

Elective

Manufacturing Engineering

MF 7014 – MANUFACTURING MANAGEMENT

(Regulations 2013)

Time : Three Hours **Maximum : 100 Marks**

Answer ALL questions.

PART – A (10 × 2 = 20 Marks)

1. Define plant layout.

2. List out the principles of Materials management.

3. Define method study.

4. Mention any four advantages of ergonomic design of workplace.

5. What are the types of forecasting ?

6. How will you select a forecasting techniques ?

7. Define sequencing.

8. What is meant by Resource levelling ?

9. State the principles of management.

10. How are distribution channels classified ?

PART – B (5 × 16 = 80 Marks)

11. (a) Discuss the factors affecting the selection of plant location for an automobile industry.

OR

(b) With the use of sketches, explain the classification of material handling systems for handling discrete parts.

12. (a) In making a time study of a laboratory technician performing an analysis of processed food in a canning factory, the following times were noted for a particular operations :

Run	1	2	3	4	5	6	7	8	9	10	11	12
Operation time (sec.)	21	21	16	19	20	16	20	19	19	20	40	19
Run	13	14	15	16	17	18	19	20	21	22	23	24
Operation time (sec.)	21	18	23	19	15	18	18	19	21	20	20	19

If the technician's performance has been rated at 120 percent, and the company policy for allowance (personal, fatigue, etc.) stipulates 13 percent.

Determine the normal time and standard time.

Watch readings failing 50% above and 25% below the average may be considered as abnormal.

OR

(b) Explain in detail the Cycle graph and Chrono cycle graph.

13. (a) Prepare a process sheet for producing plug and socket as shown in figure Q 13(a). Indicate the suitable sequence of operations involved, machine tools and the cutting tools for each operation.

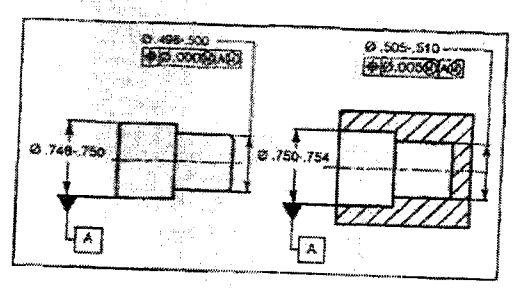

Figure Q13(a)

OR

(b) State the purpose of forecasting and discuss the various forecasting methods.

14. (a) Consider the following data of a project :

Activities	Predecessors	Duration (weeks)		
		a	m	b
A	–	1	2	3
B	–	2	2	8
C	A	6	7	8
D	B	1	2	3
E	A	1	4	7
F	C, D	1	5	9
G	C, D, E	1	2	3
H	F	1	2	9

Construct the project network, find the expected duration and critical path and find the expected project completion time.

OR

(b) Consider the following two machines and six jobs flow shop scheduling problem. Using Johnson's algorithm, obtain optimal sequence which will minimize the matespan.

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

15. (a) Discuss with some examples, the need and importance of interfacing the other functional areas with marketing functions and personal managements.

OR

(b) Explain Marketing research process in detail with suitable example.

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 17704

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2016.

Elective

Manufacturing Engineering

MF 7014 — MANUFACTURING MANAGEMENT

(Regulations 2013)

Time : Three hours

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Mention any two factors that will influence manufacturing plant locations in developing countries.

2. What do you mean by jumbled flow system?

3. Define ergonomics.

4. List any four work measurement techniques.

5. Identify four factors that influence a process plan.

6. What is the underlying difference between time series forecasting and regression or causal forecasting?

7. What does heuristic scheduling mean?

8. Define 'float'.

9. How would you define trade unions?

10. How is advertising different from sales promotion?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the different types of plant layouts with examples.

Or

(b) Discuss the principles of material handling and the factors influencing the selection of material handling system.

12. (a) How are the principles of motion economy classified? Explain each classification in detail.

Or

(b) Why is method study considered a good management tool? Discuss the tools and technique used in work measurement.

13. (a) Explain the steps to prepare detailed work sheets for manufacturing a given component using a suitable example.

Or

(b) A T-Shirt manufacturer wants to forecast cricket jersey production for the coming year. Cricket jersey sales is believed to be directly related to the number of wins by the local cricket team. The total annual average sales figures for the past eight years is given below:

Year	Wins	Jersey Sales
2009	4	5000
2010	6	7000
2011	5	6500
2012	7	9000
2013	8	9600
2014	7	9400
2015	6	7300

The local cricket team believes it will win at least 8 games next year. Develop a simple regression equation for this data to forecast jersey production/sales for next year.

14. (a) Describe priority rule based scheduling.

Or

(b) (i) Highlight the differences between PERT and CPM. (4)

(ii) Construct the project network for a project with the following activity.

Activity	A	B	C	D	E	F	G	H
Immediate processor	–	–	A	A, B	A, B	C	D, F	E, G

15. (a) Which distribution channels are best suited for FMCG products. Why?

Or

(b) Enumerate and briefly explain Fayol's 14 Principles of Management.

PART C — (1 × 15 = 15 marks)

16. (a) Delhivery, listed as one of the top 20 best startups in India in 2014, started in 2011 as a third-party, last-mile logistics delivery firm in Delhi to serve e-commerce companies like Flipkart. It routes packages (faster than conventional couriers) via different flights throughout the thy as well as uses multiple modes of transport. Whenever a package needs to be delivered, the backend system plots its fastest route automatically, including which flight it should take.

From being a mere delivery company, it started warehouses where companies can stock goods and where products would be tested, packaged and labeled before shipping. The company now has its main warehouses in Delhi, Bangalore, Mumbai, Hyderabad, Chennai and Kolkata.

(i) What was the logic behind setting up the warehouses in the locations selected? Is this expansion justified? (8)

(ii) What should be the future course for expansion in India and abroad? Why? (7)

Or

(b) When the Tata Nano, a stripped-down minicar priced at around Rs. 1,00,000, was introduced in 2009, it was marketed as a car that would transform the way aspiring consumers in India and other developing countries got around, It was reputed to be an engineering marvel with 34 patents for innovations. But the low-cost automotive revolution fizzled. Selling poorly at home and with exports drying up, the Nano was not making great profits for Tata Motors Ltd. despite being a good product.

Mention how poor marketing played a role in ruining Tata Nano sales. How should Tata Motors have marketed the minicar? (15)

Reg. No. : | | | | | | | | | | | | |

Question Paper Code : 63768

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2015.

Elective

Manufacturing Engineering

MF 7014 — MANUFACTURING MANAGEMENT

(Regulation 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. State the importance of the selection of plant location.
2. Name any four bulk material handling systems for process industries.
3. Define method study.
4. Mention any four advantages of ergonomic design of workplace.
5. State the objective of process planning.
6. Define forecasting.
7. List any four applications which require scheduling.
8. Differentiate between total float and free float.
9. Define the tem motivation.
10. How are distribution channels classified?

PART B — (5 × 16 = 80 marks)

11. (a) Discuss the factors affecting the selection of plant location for an automobile industry. (16)

Or

(b) With the use of sketches, explain the classification of material handling systems for handling discrete parts. (16)

12. (a) Describe the step by step procedure in method study with an illustration. (16)

Or

(b) (i) State the principle and describe the procedure of work sampling and mention its advantages and limitations. (10)

(ii) Describe the process of implementation of value analysis with an illustration. (6)

13. (a) Prepare a process sheet for producing plug and socket as shown in figure 1. Indicate the suitable sequence of operations involved, machine tools and the cutting tools for each operation. (16)

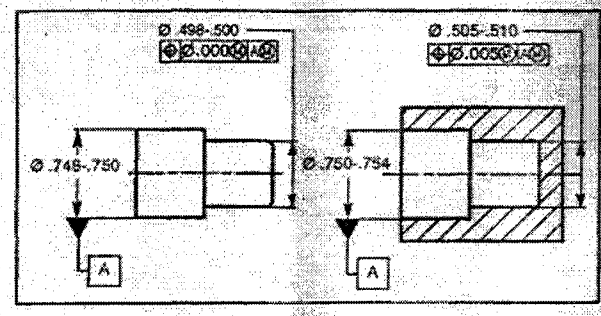

Figure. 1

Or

(b) State the purpose of forecasting and discuss the various forecasting methods.

14. (a) Use graphical method to minimize the time needed to process the following jobs on the machine shown (i.e. for each machine find the job which should be scheduled first). Also, calculate the total time elapsed to complete both jobs. (16)

Job 1		Job 2	
Sequence	Time (hours)	Sequence	Time (hours)
A	5	B	7
B	6	C	6
C	4	A	5
D	8	D	4
E	4	E	8

Or

(b) A project consists of 9 activities and the three time estimates are given below. (16)

Activities		Activity Duration in days		
i	j	Optimistic	Most likely	Pessimistic
1	2	3	6	15
2	3	6	12	30
3	5	5	11	17
7	8	4	19	28
5	8	1	4	7
6	7	3	9	27
4	5	3	6	15
1	6	2	5	14
2	4	2	5	8

(i) Draw a network diagram

(ii) Find the critical path after estimating the earliest and latest event times for all nodes.

(iii) Find the probability of completing the project before 31 weeks?

(iv) What is the chance of project duration exceeding 46 weeks?

15. (a) (i) Explain the functions of personnel management. (8)

(ii) State the objectives of training and explain the procedural steps involved in training. (8)

Or

(b) Describe any three sales promotion methods with suitable examples. (16)

Reg. No. :

Question Paper Code : 13676

M.E. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2014.

Elective

Manufacturing Engineering

MF 7014 — MANUFACTURING MANAGEMENT

(Regulation 2013)

Time : Three hours Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define plant layout.
2. List out the principles of Materials management.
3. Write the important steps in method study.
4. Write a short note on work measurement.
5. What are the types of forecasting?
6. What are the factors influencing the selection of forecasting methods.
7. Define Queuing analysis.
8. How are PERT models differing principally from CPM models?
9. What is popup advertisement in online marketing?
10. List out the four important functions of personal management.

PART B — (5 × 16 = 80 marks)

11. (a) Sketch and explain the principles of good plant layout.

Or

(b) Explain the factors affecting selection of materials handling system and types of materials handling system.

12. (a) With a suitable example write the concept of stop watch time study.

Or

(b) Discuss the steps in work measurement and its applications.

13. (a) (i) What are the salient features of common to all forecasting techniques? (8)

(ii) Describe any two forecasting methods suitable for luxury goods manufacturing industry. (8)

Or

(b) Elaborate on the steps in aggregate planning and capacity planning.

14. (a) List and explain the types of time estimate that are used in PERT. Explain the applications of standard normal statistic in PERT.

Or

(b) Consider the following data of a project :

Activities	Predecessor(s)	Duration (weeks)		
		a	m	b
A		1	2	3
B		2	3	4
C	A	6	7	8
D	B	1	2	3
E	A	1	4	7
F	C, D	1	5	9
G	C, D, E	1	2	3
H	F	1	2	9

Construct the project network, find the expected duration and critical path and find the expected project completion time.

15. (a) Discuss with some examples, the need and importance of interfacing the other functional areas with marketing functions and personal management.

Or

(b) Explain Marketing research process in detail with suitable example.