

ENM 300 Summer Practice II (Manufacturing Practice)

This summer practice should be prepared in a report format including the following questions.

1. What are the general information about the company? (Company name and date of foundation, place (full address), company type, products, the sector in which the company is located, its place in the national economy and its relations with the related sectors, organizational scheme of the company, basic authority and responsibilities of each unit).
2. Review the company's procurement process. Examine the relations with its competitors.
3. Evaluate the location of the company in terms of plant location selection.
4. Evaluate the in-house layout of the company in terms of facility layout, draw the layout plan. What type of facility layout is available?
5. Is there a material handling system in use? Describe.
6. What are the strategic plans of the company? Explain with the reasons.
7. Explain how the company's demand forecasts are realized.
8. How are the assignments of resources (personnel, budget, area, materials, etc.) made for production planning activities? Describe the process planning activities in the company. Create a process flow diagram for a product.
9. Describe what the company's capacity planning strategies are. Is the company working at full capacity? Otherwise, discuss the reasons.
10. How is the master production schedule created? Describe the master production planning process.
11. Describe short-run scheduling studies.

12. Which production system is included in the company's production system? Make your explanation according to product request, machine equipment, production quantities, product types and repeated operations.
13. What are the main inventories held in the company? Provide information about the company's inventory management policies and practices. Discuss storage systems and policies.
14. Describe the maintenance activities (preventive maintenance, maintenance due to fault) in the plant.
15. Provide information about work study activities in company.
16. Is there a standard timing in company? If so, explain how they are calculated.
17. Provide the standard times for at least two products or intermediate products.
18. Discuss the company's software and hardware infrastructure in detail. Provide information about enterprise-wide software.
19. Review the cost analysis system of the company. Perform an exemplary cost analysis study incorporating break-even analysis. Is the company calculating unit prices for the product? Provide information on how it is calculated. Specify the targeted and actual production quantities and unit prices for the last three years, interpret. Interpret annual fluctuations in the quantity and prices. Calculate the added-value for a given year.
20. Are operations research methods used in company? Explain. Prepare a three month production plan for at least one product by using any operations research method.
21. Analyze the process by establishing a simulation model of any process that you are handling.
22. Review the information flow process between the subsystems of the company, and explain.
23. Explain internal and external logistics activities.

24. Give information about quality planning and control activities and statistical quality control activities in company. Do a sample study.
25. Is there a job evaluation study done in the company? If so, investigate how results are applied.
26. Review at least three of the following ergonomic points on the organization or in a specific section of the organization, discuss results.
- a. Factors such as lighting, ventilation, heating, noise and humidity,
 - b. Working positions which occurs while standing, sitting, performing service operation,
 - c. Fatigue and tension due to production rate
 - d. The characteristics of the work being done (monotony, creativity, continuity, physical and mental requirements, etc.),
 - e. The choice of workers,
 - f. Regulation of working and rest periods,
 - g. Age, experience and influence of workers in the shift,
 - h. Encouragement studies.
- Are there any occupational diseases in company which have been caused by working for a long time in harmful environment (like excessive noise work environment caused deafness, lung diseases caused by dusts or toxic gases or poisonings)? What are the precautions to be taken against such situations? Specify.
27. In facility, are work accident statistics kept? Investigate the effects of ergonomic design faults on health and safety of workers.
28. Are Information Technology activities being used in company and how do these decisions affect management decisions and planning? What is the contribution of technology used in company to the production?

CONCLUSION

At the end of the report, add the section "*CONCLUSION and EVALUATION*" with the following comments:

- Is the way and the method you followed in the summer practice enough in terms of scope and general approach? If not enough, indicate the faults. Write if you have suggestions for a better method.
- What other kinds of information do you think you need in order to better understand the production systems in your future industrial engineering work?
- Based on your summer practice experience, discuss the differences between industrial engineering and other engineering branches in production systems in terms of authority and responsibilities.
- If there is an industrial engineer working at the company, write your opinion about the works they have done.
- Discuss the attitudes and behaviors of senior management unit with respect to industrial engineering studies.