

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Question Paper Code : 11895

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2026

Seventh/Ninth Semester

Civil Engineering

OIM353 – PRODUCTION PLANNING AND CONTROL

(Common to : Aeronautical Engineering/Aerospace Engineering/
Automobile Engineering/Biomedical Engineering/Computer Science and Design/
Computer Science and Engineering/Computer Science and Engineering
(Artificial Intelligence and Machine Learning)/Computer Science and Engineering
(Cyber Security)/Computer and Communication Engineering/Electrical and
Electronics Engineering/Electronics and Communication Engineering/
Electronics and Instrumentation Engineering/Electronics and Telecommunication
Engineering/Environmental Engineering/Geoinformatics Engineering/Industrial
Engineering/Industrial Engineering and Management/Instrumentation and Control
Engineering/Manufacturing Engineering/Marine Engineering/Materials Science and
Engineering/Mechanical Engineering/Mechanical Engineering (Sandwich)/
Mechanical and Automation Engineering/Mechatronics Engineering/
Medical Electronics/Petrochemical Engineering/Production Engineering/
Robotics and Automation/Safety and Fire Engineering/Agricultural Engineering/
Artificial Intelligence and Data Science/Bio Technology/Biotechnology and
Biochemical Engineering/Chemical Engineering/Chemical and Electrochemical
Engineering/Computer Science and Business Systems/Fashion Technology/
Food Technology/Handloom and Textile Technology/Information Technology/
Petrochemical Technology/Petroleum Engineering/Pharmaceutical Technology/
Plastic Technology/Textile Chemistry/Textile Technology)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Production Planning and Control.
2. Name the three basic types of production systems.
3. Define memo motion study.
4. Define time study.

5. Define value analysis.
6. What is meant by machine capacity?
7. Write a short note on dispatching.
8. State Master Production Schedule.
9. Define ordering cycle system.
10. How does uncertainty in demand affect inventory levels?

PART B — (5 × 13 = 65 marks)

11. (a) Explain the key objectives and benefits of implementing a systematic production planning and control function in a manufacturing organization.

Or

- (b) Discuss the various aspects that must be considered during product development, such as marketing, functional, operational, and aesthetic aspects.
12. (a) Describe the various techniques and charts used for recording processes during method study.

Or

- (b) (i) Explain the concept of work sampling. (6)
(ii) Describe the steps involved in a work sampling study and list its primary advantages and disadvantages. (7)
13. (a) (i) Explain the scope of product planning. (6)
(ii) Discuss the potential problems a company might face due to a lack of systematic product planning. (7)

Or

- (b) Explain the concept of determining machine capacity and achieving balance in a production line. Why are these crucial for efficient operations?
14. (a) Explain the construction and application of a Gantt chart for loading and scheduling with its main advantages and limitations.

Or

- (b) Explain the concept of Material Requirement Planning (MRP). Briefly describe its main inputs and outputs.

15. (a) Explain the various reasons for holding stock in a company and describe how demand patterns influence inventory management strategies.

Or

- (b) (i) Describe the concept of an Enterprise Resource Planning (ERP) system. (6)
- (ii) Explain its major components and how it integrates various departments of an organization. (7)

PART C — (1 × 15 = 15 marks)

16. (a) Evaluate value analysis not just as a cost-cutting tool, but as a strategic function. Argue whether its application is more beneficial for existing products or when it is integrated at the very beginning of the product planning cycle.

Or

- (b) Compare and contrast JIT and MRP II as comprehensive manufacturing philosophies. Argue for or against the feasibility of implementing a hybrid system leverages the strengths of both in a single company.
-

