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

Question Paper Code : 41554

B.E./B.Tech. DEGREE EXAMINATIONS, NOVEMBER/DECEMBER 2024.

Seventh Semester

Civil Engineering

OIM 353 – 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 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. List the various functions of production planning and control (PPC).

2. Define the terms planning and controlling.

3. Distinguish micro motion and memo motion study.

4. Write a short note in work measurement.

5. Differentiate production planning and production control.

6. What are the different processes involved in process planning?

7. State gantt chart.

8. List some of the commonly used forms in dispatching.

9. What is two bin system?

10. What are the functions of inventory?

PART B — (5 × 13 = 65 marks)

11. (a) Describe the procedural steps in product design and product development.

Or

(b) Discuss in detail about the Break Even Analysis.

12. (a) Explain about work measurement in detail with suitable example.

Or

(b) Discuss the objectives, concept, and procedure, of micromotion study with its advantages.

13. (a) Summarize the prerequisite information required for process planning, along with the steps involved in the process planning workflow.

Or

(b) Define product planning. Provide a detailed explanation of the steps involved in the product planning process.

14. (a) What is known as perpetual scheduling? Give an extensive overview of the procedures required in developing a perpetual schedule.

Or

(b) Briefly discuss on :

(i) Periodic batch control (6)

(ii) Line of balance method (7)

15. (a) Describe the importance of process planning in relation to production control, and discuss the key activities involved in process planning.

Or

(b) Examine Just-in-Time (JIT) and describe how it could assist to improve the productivity in manufacturing processes.

PART C — (1 × 15 = 15 marks)

16. (a) How would you define machine balancing, and how does effective balancing impact the number of machines required? Provide an explanation and illustrate with an example.

Or

(b) Create a detailed process planning sheet and route sheet for a manufacturing industry, using an appropriate example to illustrate each component.

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