ROLL NO:

# PRESIDENCY UNIVERSITY, BENGALURU

## SCHOOL OF ENGINEERING

### TEST 2

**Odd Semester**: 2018-19
**Course Code**: MEC 304
**Course Name**: Production Planning And Control
**Branch & Sem**: MEC (Discipline Elective) & VII Sem Group -I

**Date**: 28 November 2018
**Time**: 1 Hour
**Max Marks**: 40
**Weightage**: 20%

**Instructions:**

*(i) Read the question properly and answer accordingly.*
*(ii) Question paper consists of 3 parts.*
*(iii) Scientific and Non-programmable calculators are permitted.*

### Part A

Answer **all** the Questions. **Each** question carries **four** marks. (3x4=12)

1. What is Micromotion study? What is the purpose of Micromotion study.
2. List the various techniques used for work measurement and its application
3. Distinguish between value analysis and value engineering.

### Part B

Answer **both** the Questions. **Each** question carries **eight** marks. (2x8=16)

4. An industrial job involves six elements with the following observed time and performance ratings.

| Elements | Observed time (min) | Performance rating (%) |
|---|---|---|
| 1 | 0.32 | 85 |
| 2 | 0.11 | 95 |
| 3 | 0.62 | 90 |
| 4 | 0.14 | 100 |
| 5 | 0.22 | 95 |
| 6 | 1.10 | 80 |

Calculate: i) Normal time for each element, and ii) standard time per piece. Assume rest and personal allowance as 9% and contingency allowance as 2% of the basic.

5. List the factors affecting process planning with reference to production control. Discuss the activities involved in process planning.

### Part C

Answer the Question. Question carries **twelve** marks. (1x12=12)

6. What is meant by production planning? With flow diagram explain various steps involved in the production planning process

| Roll No. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|

# PRESIDENCY UNIVERSITY
# BENGALURU

## SCHOOL OF ENGINEERING

### END TERM FINAL EXAMINATION

**Odd Semester**: 2018-19 | **Date**: 28 December 2018

**Course Code**: MEC 304 | **Time**: 2 Hours

**Course Name**: Production Planning and Control | **Max Marks**: 80

**Programme & Sem**: MECH & VII Sem (Discipline Elective) | **Weightage**: 40%

**Instructions:**

*(i) Question paper consists of 3 parts.*

*(ii) Draw the sketches/diagrams/flowchart wherever necessary*

## Part A

Answer **all** the Questions. **Each** question carries **five** marks. (4Qx5M=20)

1. What is production scheduling? List out the functions of production scheduling
2. List out the data required for production scheduling
3. Differentiate between fixed order quantity (Q) and fixed time period (P) models
4. Write a short note on Manufacturing resource planning (MRP-II) with reference to Production Planning and Control

## Part B

Answer **all** the Questions. **Each** question carries **eight** marks. (5Qx8M=40)

5. What is perpetual scheduling? Explain the steps in making the perpetual schedule.
6. What is Economic Order Quantity (EOQ)? What are the assumption made while deriving the EOQ formula? Draw the graph showing total cost curve, Inventory carrying cost curve and ordering cost curve.
7. The annual demand for an item is 4000 units, the unit cost is Rs.7 and the inventory carrying charges are estimated as 25% per annum. If the cost of one procurement is Rs.155, determine
   i) Economic order quantity
   ii) Number of orders per year
   iii) Time between two consecutive orders, and
   iv) Optimal cost

8. What is Enterprise Resource Planning (ERP)? List out he different models and features of ERP system.
9. List and explain the "seven waste" that becomes the target of elimination in a Just In Time (JIT) process

## Part C

Answer **both** the Question. **Each** question carries **ten** marks. (2Qx10M=20)

10. What is Gantt chart? Explain their types in detail.
11. Five jobs are to be processed on three machines. The processing time in hours are given below. Find the optimal sequence of jobs so that total elapsed time (i.e total flow time) is minimized

| Job | J1 | J2 | J3 | J4 | J5 |
|---|---|---|---|---|---|
| A | 5 | 7 | 6 | 9 | 5 |
| B | 2 | 1 | 4 | 5 | 3 |
| C | 3 | 7 | 5 | 6 | 7 |