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**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

TEST - 1

Even Semester: 2018-19

Course Code: MEC 304

Course Name: Production Planning & Control

Programme & Sem: B.Tech (DE) & VIII Sem (Group-I)

Date: 06 March 2019

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. (3Qx4M=12)

1. Differentiate between Production Planning and production Control
2. List out the limitation and advantages of Break-even point.
3. What is standardisation? List out the objectives of standardisation.

Part B

Answer **both** the Questions. **Each** question carries **eight** marks. (2Qx8M=16)

4. Differentiate between job shop production, batch production and Continuous production systems in manufacturing system.
5. What are the uses of multiple activity chart? Explain the multiple activity chart with one operator operating two machine.

Part C

Answer the Question. Question carries **twelve** marks. (1Qx12M=12)

6. The following data are given for a company estimated output= Rs. 80,000 units, fixed cost= Rs. 4, 00,000, variable cost = Rs.10 per unit selling price =Rs.20 per unit. Find out the Break-even point analytically and graphically.



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**PRESIDENCY UNIVERSITY
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SCHOOL OF ENGINEERING

TEST - 2

Even Semester: 2018-19

Course Code: MEC 304

Course Name: Production Planning and Control

Program & Sem: B.Tech & VIII Sem (DE) Group-I

Date: 16 April 2019

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. (3Qx4M=12)

1. List out the objectives of work measurement
2. Write a short note on fly back method and continuous method of time study equipment
3. Differentiate between Process planning and Production planning

Part B

Answer **both** the Questions. **Each** question carries **eight** marks. (2Qx8M=16)

4. Describe the different phase of value analysis in production planning and control
5. Explain the responsibilities of process planning engineering in an organization

Part C

Answer the Question. The question carries **twelve** marks. (1Qx12M=12)

6. A Product is manufactured at the rate of 2500 per day. Set up cost of the machine are Rs. 3000 and storage costs are found to be 4.5×10^{-3} unit/day. Labour, material and overhead charges are Rs.95, Rs.65 and Rs.120 respectively. Find the minimum cost batch size and cost of production run, if the product is sold at the rate of 500 pieces/day and the rate of interest charges are 16%. Assume 300 working days in a year.

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**PRESIDENCY UNIVERSITY,
BENGALURU**

SCHOOL OF ENGINEERING

END TERM FINAL EXAMINATION

Odd Semester: 2018-19

Date: 23 May 2019

Course Code: MEC 304

Time: 3 Hours

Course Name: Production Planning and Control

Max Marks: 80

Branch & Sem: Mechanical and VIII Sem

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** questions carries **one** mark.

(20Qx1M=20)

1.
 - I. High variety low volume production is produced in -----production system
(A) Mass (B) Continuous (C) Batch (D) Job Shop
 - II. Work sampling study is measured in -----
(A) Centi-minutes (B) Minutes (C) Seconds (D) Micro Seconds
 - III. Micro motion study is a technique for -----activity
(A) Sequencing (B) Scheduling (C) Recording and Timing (D) both (a) and (b)
 - IV. Gantt Chart mainly used for
(A) Operation (B) Scheduling (C) Designing (D) analysis
 - V. Multiple activity chart is used when
(A) a person and a machine (B) a person and several machines
(C) a any combination of people and machines (D) All of the above
 - VI. -----production system manufactures medium quantity with medium variety of product.
(A) Batch (B) Mass (C) Flow (D) Job
 - VII. String Diagram is used when the paths are
(A) Repetitive (B) Fixed (C) Neither Fixed or Repetitive (D) None
 - VIII. Flow diagrams are used for
(A) To remove unwanted material movement (B) To avoid traffic congestion
(C) To avoid back tracking (D) All the above
 - IX. Value Analysis Engineering is done for
(A) Only new Product (B) both new and existing product
(C) only existing Product (D) none of the above
 - X. Value Engineering is done for
(A) Only new Product (B) both new and existing product
(C) only existing Product (D) none of the above
 - XI. Machine loading chart display the available capacity of
(A) Man (B) Man and Machine (C) Power requirement (D) Machine
 - XII. ERP stands for

- (A) Enterprises Resource Planning Process (B) Enterprises Resource
(C) Enterprises Resource Progress (D) Enterprises Re-Planning
- XIII. In Pull system material is removed from inventory when.....for manufacturing
(A) Required (B) Not required (C) Demand is not created (D) Irrespective of demand
- XIV. In -----order quantity is constant for all the orders
(A)Fixed order quantity (B) Fixed time period
(C) Fixed order quality (D) Fixed order price
- XV. Johnson rule is used to obtain
(A) Scheduling (B) Sequencing (C) Timing of machine (D) Both (b) and (c)
- XVI. Manufacturing waste will be generated more in
(A) Push System (B) Pull System (C) Both system (D) none
- XVII. P-System is also known as
(A) One bin system (B) Hybrid system
(C) Fixed order quantity system (D) Fixed order period system.
- XVIII. In-----Scheduling copy of order is placed in an open file which moves with the job going to different facilities
(A) Gantt Chart (B) Sequence (C) Perpetual (D) Job shop
- XIX. Finished goods inventory will be low in -----
(A) Mass Production (B) Batch Production
(C) Continuous Production (D) Job Production
- XX. Just in Time (JIT) does not believe in
(A) Quality (B) Over Production (C) Human Relation (D) all of the above

Part B

Answer **any five** Questions. **Each** question carries **six** marks. (5Qx6M=30)

- Differentiate between Production Planning and Production control.
- What is standardization? List out the objectives of standardization in product development.
- List out assumption made for stock control with buffer stock. Explain the concept of the same with neat diagram.
- With neat diagram explain the Flow Diagram with sequence of activity.
- What are the functions of master production scheduling? Explain in brief.
- What is Just in time (JIT)? Explain the concepts of JIT in detail.
- Write a short note on Manufacturing resource planning (MRP-II) with reference to Production planning and control

Part C

Answer **any three** Questions. **Each** question carries **Ten** marks. (3Qx10M=30)

- 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.
- What is Break even analysis (BEA)? With a neat sketch explain the concept BEA with its advantages and limitations.

11. A Product is manufactured at the rate of 2000 per day. Set up cost of the machine are Rs. 1800 and storage costs are found to be 3.5×10^{-3} unit/day. Labour, material and overhead charges are Rs.75, Rs.45 and Rs.110 respectively. Find the minimum cost batch size and cost of production run, if the product is sold at the rate of 400 pieces/day and the rate of interest charges are 15%. Assume 300 working days in a year.
12. Four jobs are to be processed on five 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. Also find the idle time of each machine.

Job	Machine 1	Machine 2	Machine 3	Machine 4	Machine5
A	7	5	2	3	9
B	6	6	4	5	10
C	5	4	5	6	8
D	8	3	3	2	6



Roll No.

**PRESIDENCY UNIVERSITY
BENGALURU**

SCHOOL OF ENGINEERING

SUMMER TERM/MAKE UP END TERM EXAMINATION

Semester: Summer Term 2019

Date: 26 July 2019

Course Code: MEC 304

Time: 2 Hours

Course Name: Production Planning and Control

Max Marks: 80

Program & Sem: B.Tech & VII Sem (2015 Batch)

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. List out the objectives of production scheduling
2. Briefly explain the scheduling tools/techniques used in production scheduling
3. Write a short note on Manufacturing Resource Planning –II(MRP-II).
4. What are the benefits of inventory control system?

Part B

Answer **all** the Questions. **Each** question carries **eight** marks.

(5Qx8M=40)

5. 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.
6. The annual demand for an item is 3500 units. The unit cost is Rs.6 and the inventory carrying charges are estimated as 25% per annum. If the cost of one procurement is Rs.160, determine
i) Economic order quantity ii) Number of orders per year iii) Time between two consecutive orders iv) Optimal cost
7. Differentiate between A type B type and C type inventory system.
8. Discuss various elements of Just in time (JIT) that must be addresses for successful JIT implementation

9. What is master production scheduling? Explain the master production scheduling process with the flow diagram

Part C

Answer **both** the Questions. **Each** question carries **ten** marks.

(2Qx10M=20)

10. What are the features of enterprise resource planning (ERP). Describe the steps for implementation ERP.
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