Code No.: 303D4

MR13

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Maisammaguda, Dhulapally,(Post Via kompally), Secunderabad-500 100.

IV B.TECH II SEM REGULAR END EXAMINATIONS, MARCH - 2017

SUBJECT: **Plant Layout & Material Handling**

Branch: **ME**

Time: **3 Hours** Max Marks: **75 M**

PART-A

I Answer All Questions **5 X 1M = 5 Marks**

1. List out different types of plant layout?
2. What is meant by fixed position layout?
3. What are the main objectives of material handling system?
4. List out different types of conveyors used in the industry?
5. Write any two factors influencing the material handling cost?

II Answer All Questions **10x2M=20 Marks**

1. What are the advantages of product layout over process layout?
2. What are the main objectives of plant layout and list out any two advantages of using this industries?
3. What is the difference between group layout and fixed position layout?
4. Write the algorithm for ALDEP?
5. Describe the principle of jibcrane with neat sketch?
6. Explain the use of material handling equipments in manufacturing industries?
7. What is meant by industrial truck and write its use?
8. What is meant by positioning equipment?
9. List out the method stominimize the cost of material handling?
10. What are the safe factors that require for material handling?

PART- B

Answer all questions **5X10M=50 Marks**

Q1. What is plant layout? Briefly explain any two types of layouts?

(OR)

Q2. Explain the design procedure of product layout and mention any four advantages of it?

Q3. Explain the CORELAP and CRAFT algorithm?

(OR)

Q4. Explain the reasons of using fixed position layout over group layout? List of any four advantages of fixed position layout?

Q5.a)Explain the relationship of material handling to plant layout?

b)List out any four functions of material handling systems?

(OR)

Q6. Briefly explain the classification of material handling equipment and explain any two of them?

Q7. What is meant by transport equipment? Explain any two types of transport equipment?

(OR)

Q8. Explain the following terms in detail?

a) Warehouse. b) Pallets. c) Racks

Q9. Briefly explain about ergonomics of material handling equipment?

(OR)

Q10. Explain the safety and maintenance of material handling equipment?

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IV B.Tech II sem Regular End Examinations, MARCH – 2017

SUBJECT: **Production Planning & Control**

Branch: **ME**

Time: **3 Hours** Max Marks: **75 M**

PART-A

I Answer All Questions **5 X 1M = 5 Marks**

1. Define production planning & control.
2. Define forecasting.
3. What is Just in Time (JIT)?
4. What is Bill of Materials?
5. Define line balancing.

II Answer All Questions **10x2M=20 Marks**

1. Write about objectives of production planning & control.
2. Discuss the types of production.
3. Explain the importance of forecasting for any organisation.
4. Explain Delphi method.
5. Write about the various costs involved in Inventory control.
6. Compare and contrast ABC & VED Analysis.
7. Define Routing.
8. Define scheduling.
9. What is aggregate planning?
10. Discuss the dispatching procedure.

PART- B

Answer all questions **5X10M=50 Marks**

Q1. a) Explain the importance of PPC department in a typical production system of a large scale industry.

b) Write about the Elements of production control with line diagram.

(OR)

Q2. Define the need & role of internal organization of PPC department and Compare job production and Batch production systems.

Q3. A manufacturing company has monthly demand for one of its products as follows:

Month	Feb	March	April	May	June	July	August	Sept
Demand	520	490	550	580	600	420	510	610

i) Develop a three period moving average forecast

ii) ii) Develop three period weighted moving average forecast with weights of 0.50, 0.30 and 0.20 for the most recent demand values.

(OR)

Q4. Distinguish between the qualitative and quantitative methods of sales forecasting techniques.

Q5. a) Explain about fixed order quantity system and fixed order period system.

b) Explain the different functions of inventory.

(OR)

Q6. a) Discuss the basic principles of JIT manufacturing system.

b) Explain the techniques of Line of Balancing process.

Q7. a) Compare and contrast different scheduling policies.

b) David is an independent computer software consultant. After completing his most recent project, he had five jobs awaiting completion. Following are the estimated work times required to complete each job and due dates requested by customers.

Job	Processing Time	Due Date(days from Present)
A	12	52
B	16	37
C	8	28
D	20	57
E	6	31

Construct job sequences using the Shortest Processing Time rule, Earliest Due Date rule and Compute the average flow time.

(OR)

Q8. a) What are the important factors that affecting routing procedure.

b) Explain the importance of bill of materials in production control. How does it help in line assembly production?

Q9. a) Explain various types of expediting procedures.

b) What is difference between an aggregate plan and a master production schedule?

(OR)

Q10 a) Describe advantages & disadvantages of dispatching jobs all at once and operation by operation.

b) Explain about the types of follow up in detail?

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IV B.Tech II sem Regular End Examinations, APRIL - 2017

SUBJECT: **RENEWABLE ENERGY SOURCES**

Branch: **ME**

Time: **3 Hours** Max Marks: **75 M**

PART- A

I. Answer All Questions **5 x 1M= 5 MARKS**

1. What is solar radiation data?
2. What is flat plate collector?
3. What do you mean by pitch angle?
4. Define geothermal sources.
5. What is carnot cycle?

II. Answer All Questions **10 x 2M= 20 MARKS**

1. Distinguish between diffused radiation and beam radiation
2. What are the instruments used to measure solar sun shine?
3. What are the main components of the solar collectors, explain the function of each.
4. Write a short note on latent heat storage system.
5. What are the factors effecting biogas generation.
6. Write the classification of wind turbines.
7. Explain the brief principle OTEC Energy utilization.
8. Explain about mini-hydel power plants in ocean energy.
9. Explain limitations of Carnot cycle.
10. Write note on peltier effect.

PART – B

ANSWER ALL QUESTIONS **5x10 = 50 MARKS**

Q1. a) Define solar constant. What are the reasons for variation in solar radiation reaching the earth and that received outside the earth atmosphere?
b) Briely Explain advantages & disadvantages of Solar Energy.

(OR)

Q2. Explain in detail different type of solar radiation measuring devices.

Q3. i. Explain the working principle of PV System with neat diagram.
ii. Write note on suns declination and Hour angle

(OR)

Q4. Explain the working of solar distillation with a neat sketch.

Q5. Explain briefly about Biomass energy sources.

(OR)

Q6. i. Explain floating drum type biogas plant. **ii.** Explain pyrolysis

Q7. Derive an expression for power generated by a tidal system.

(OR)

Q8. Explain how power can be generated using single basic arrangements in detail.

Q9. Explain the working of a thermo electric generator with a neat sketch.

(OR)

Q10. Explain how power can be generated from tidal energy using single basin arrangements in detail.