Code No.: **403D4** **MR14**

MALLA REDDY ENGINEERING COLLEGE (AUTONOMOUS)

(Affiliated to JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD)
Gundlapochampally (H), Maisammaguda (V), Medchal (M), Medchal-Malkajgiri (Dist), Hyderabad

IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018

Subject: **Plant Layout & Material Handling**

Branch: **ME**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. Differentiate; transport vs transfer
2. List out various computer algorithms of plant layout?
3. List any two powered material handling equipment?
4. Write about the material handling?
5. What are the environmental factors considered while designing of material handling

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. What is process layout? Write its advantages?
2. List out any four fixed path equipments.
3. What is the difference between group layout and fixed position layout?
4. What do you know about combination layout?
5. Explain the importance of material handling system.
6. Explain the various applications of trucks used in industry?
7. Write about function oriented system?
8. What are the classification of aerial rope ways?
9. Write the algorithm for ALDEP?
10. What are the types of blow bins

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. Explain the evaluation, specification and implementation of the layout?

OR

2. What is plant layout? Briefly explain any two types of layouts?
3. Explain the quadratic assignment model?

OR

4. Elaborate the algorithm of CRAFT.
5. Explain the relationship of material handling with plant layout.

OR

6. Explain with a neat sketch good plant layout minimizes material handling
7. What is 'Palletization' and 'Containerization'? Explain the concept of a unit load?

OR

8. Explain the different methods used to handle material effectively?
9. Explain the safety parameters concerned with conveyor belt material handling System?

OR

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

Code No.: **403D2** **MR14**

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IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018

Subject: **Total Quality Management**

Branch: **ME**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. Define Quality focus
2. Define quality as per Deming.
3. List down any two of the analysis techniques for quality cost?
4. What is routine maintenance?
5. List down types of FMEA

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. Enumerate four important dimensions of quality
2. What is the need of TQM?
3. Differentiate between goods and services.
4. What are the three steps approaches in juran's trilogy?
5. Define quality cost index?
6. What are cost of appraisal?
7. What are the objectives of TPM?
8. List the advantages of applying six sigma principle
9. Define house of quality
10. Explain part development process in QFD.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. Discuss the working and advantages of quality circles in an organization.

OR

2. Describe the six basic concepts of TQM.
3. Explain Taguchi loss function and evaluation method of loss developed by him.

OR

4. Explain in detail the Juran's quality planning road map.
5. Explain the dimensions of the quality with suitable examples as case study.

OR

6. a) What is meant by strategic planning? Narrate the seven steps procedure of strategic planning cycle.
   b) Discuss the various characteristics of a quality Leaders.
7. Explain in detail about Total Productive Maintenance.

OR

8. Six sigma concept can be applied to non-manufacturing processes. Do you agree with this statement? Justify your answer with a suitable example?
9. Explain the house of quality in QFD? what are the advantages and disadvantages of QFD? how will you implement QFD in an organization?

OR

10. Prepare a FMEA work sheet for an induction motor's shaft failure.

Code No.: **40336** **MR14**

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IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018

Subject: **Production Planning & Control**

Branch: **ME**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. Give at least two examples of mass production?
2. Mention the variables in forecasting?
3. Define EOQ.
4. What are the contents of route sheet?
5. Define dispatching?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. What are the various functions of PPC?
2. Discuss the different phases of PPC
3. What are qualitative methods of forecasting?
4. What is the time period for long term forecasting
5. Write about the various costs involved in Inventory control.
6. Distinguish between MRP and ERP.
7. Define Routing.
8. Distinguish between routing and loading
9. What is chase planning?
10. Differentiate between dispatching and follow up.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a) What is internal organization of department? Explain with flow chart.
   b) Discuss the place of PPC department in the organization setup.

OR

2. Sketch the conventional organization chart for manufacturing firm

3. a) What are the requirements of a good forecasting method?
   b) What are the steps in forecasting process?

OR

4. Explain briefly the effects of smoothing constant on the quality of forecast

5. a) What are the objectives of inventory management?

   b) A certain item costs Rs. 235 per ton. The monthly requirements are 5 tons and each time the stock is replenished there is a set-up cost of Rs. 1000. The cost of carrying inventory has been estimated at 10% of the value of the stock per year. What is the optimum order quantity?

OR

6. An item is produced at a rate of 100 units per day and the demand occurs at the rate of 75 units per day. If the set up cost is Rs90 per set up, holding cost is Rs0.10 per unit per day find the economic batch size per run and total cost per annum.

7. Explain the Johnson's rule for two stage and three stages production.

OR

8. What is the sequential sampling? Give its merits and demerits along with its procedure.

9. What is aggregate planning? What are its objectives? What is the need for aggregate planning and explain various steps in aggregate planning?

OR

10. Explain the different types of follow-up used in productive control.

Code No.: **403E1** **MR14**

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IV B.TECH II SEMESTER ADVANCE SUPPLEMENTARY EXAMINATIONS, JUNE-2018

Subject: **Renewable Energy Sources**

Branch: **ME**

Time: 3 hours **Max. Marks: 75**

PART – A

I. Answer ALL questions of the following **5x1Mark=5 Marks**

1. What is meant by renewable energy source?
2. What is a selective surface?
3. Write any three horizontal axis wind turbines.
4. What is tidal energy?
5. What is Peltier effect?

II. Answer ALL questions of the following **10x2Mark=20 Marks**

1. What is the difference between renewable and non-renewable energy resources?
2. What are the different forms of solar energy?
3. What are the main components of the solar collectors, explain the function of each.
4. Write the Classification of concentrating collectors.
5. Explain the formation of local and global winds.
6. What are the factors effecting biogas generation.
7. Explain the brief principle OTEC Energy utilization.
8. Explain different types of wells.
9. Write short notes on Phase Change Materials.
10. Explain see beck effect.

PART-B

Answer ALL questions of the following **5x10 Marks= 50Marks**

1. a) What is the difference between a Pyrheliometer and a Pyranometer? Describe the principle and operation of any one type of Pyrheliometer.
   b) Write notes on solar radiation data.

OR

2. a) Derive an expression for solar day length.
   b) Describe about Solar Geometry.
3. Explain the working of solar distillation with a neat sketch.

OR

4. Explain Parabolic Dish and Power tower concentrating collectors with neat sketch.
5. a) With the help of a neat diagram, explain the working of Fixed dome type biogas plant.
   b) Write notes on use of biogas in internal combustion engines.

OR

6. Write short note on a) Janata bio gas plant b) Deen bandu bio gas plant
7. Explain the technologies available for OTEC and list out the major Problems and operational experience.

OR

8. Write short notes on hot-dry rock geothermal resources.
9. a) Explain the working of a Fuel Cell by a schematic diagram.
   b) With a neat sketch, explain the working of EGD generator.

OR

10. Explain the working of ion exchange membrane cell.