Code No.: **40336** | **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 REGULAR END EXAMINATIONS, MARCH-2018

Branch: **ME**

Subject: **Production Planning & Control**

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

PART – A

I. Answer All Questions **5x1Mark=5 Marks**

1. Define production planning & control.
2. What type of forecasting method does expert opinion come under
3. What is Just in Time?
4. What is standard scheduling method
5. Write applications of computers in PPC

II. Answer All Questions **10x2Mark=20 Marks**

1. Write about objectives of production planning & control
2. Give two differences between mass and job production
3. What are the forecasting techniques used in PPC? Explain briefly
4. What is judgmental method
5. What are advantages of JIT?
6. What are the functions of inventories? Explain briefly
7. Write about difference between loading & scheduling
8. Explain index method in scheduling?
9. What is aggregate planning?
10. Explain the activities of dispatcher.

PART-B

Answer All Questions **5x10 Marks= 50Marks**

1. a) Explain the importance of PPC department in a typical production system.
   b) Write about the Elements of production control

OR

2. PPC functions are essential to produce right quality, right quantity at right time comment

3. A computer software firm has experienced the following demand for its "personal Finance" software package:

Period	1	2	3	4	5	6	7	8
Units	56	61	55	70	66	65	72	75

Develop an exponential smoothing forecast using α=0.4 and adjusted exponential smoothing using β=0.20.

OR

4. Develop a three period weighted moving average forecast with weights of 0.55, 0.33, 0.12 to the most recent demand valued of a company which has monthly demand for one of its products as follows:

Month	1	2	3	4	5	6	7	8
Demand	520	490	500	560	600	450	525	600

5. a) Explain about fixed order quantity system and fixed order period system.
   b) Explain the different functions of inventory

OR

6. a) What is JIT system and explain its implementation in the Japanese concept.
   b) Explain about inputs and outputs of MRP System.

7. 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 assembly production?

OR

8. a) Explain the procedure for "n" jobs through "m" machines with suitable examples.
   b) List out the number of scheduling rules used generally.

9. a) Explain the types of follow-up used in productive control.
   b) Explain the factors that effect the capacity planning

OR

10. What is the reason for existence of function in follow up.

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IV B.TECH II SEMESTER REGULAR END EXAMINATIONS, MARCH-2018

Branch: **ME**

Subject: **Plant Layout & Material Handling**

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

PART – A

I. Answer All Questions **5x1Mark=5 Marks**

1. What is Process layout?
2. What is meant by branch and bound method
3. List any two Non powered material handling equipment?
4. Explain : Hydraulic lift
5. Write any two factors influencing the material handling cost?

II. Answer All Questions **10x2Mark=20 Marks**

1. What is the significance of facility layout?
2. What do you meant by variable path equipments?
3. Enlist the advantages and disadvantages of fixed position layout.
4. What is the suitable layout for ship building? Justify.
5. What are the material handling principles?
6. Explain the use of material handling equipments in manufacturing industries?
7. Explain the classification of cranes?
8. Why bags are used? What are their different types
9. Discuss the role of safety in material handling system.
10. What are the safe factors that require for material handling?

PART-B

Answer All Questions **5x10 Marks= 50Marks**

1. Explain the classification of layout and state the advantages and disadvantages of product layout?

OR

2. Explain thedesign procedure of product layout and mention any fouradvantages of it
3. Give the classification of computer programs and explain CRAFT briefly?

OR

4. Explain briefly about group layout and write its advantages and applications?
5. What are the benefits in usage of material handling equipment? What are the factors to be considered while selecting the material handling equipment?

OR

6. Explain the stability of tower crane.
7. Describe briefly about different methods of material handling?

OR

8. Explain various material handling conveyors with examples?
9. Discuss various cost considerations involved in material handling?

OR

10. What are miscellaneous material handling equipment used in different applications of an organization? Explain about any three (3) such type of equipment in detail.

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IV B.TECH II SEMESTER REGULAR END EXAMINATIONS, MARCH-2018

Branch: **ME**

Subject: **Total Quality Management**

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

PART – A

I. Answer All Questions **5x1Mark=5 Marks**

1. List any two dimensions of Quality.
2. What is the abbreviation of PDSA?
3. Write the names of two analysis techniques for quality cost
4. Kaizen Gemba means
5. What does FMEA stand for?

II. Answer All Questions **10x2Mark=20 Marks**

1. Write the main types of benchmarking
2. What are the functions of quality circle?
3. Explain the concept of adopt the new philosophy.
4. What is Juran Trilogy?
5. Define cost of quality
6. Define quality policy
7. Indicate any two strengths and weakness of bench marking techniques.
8. What is the need for six sigma state?
9. What is meant by QFD process
10. What is the importance of FMEA?

PART-B

Answer All Questions **5x10 Marks= 50Marks**

1. What are the benefits of quality circle?

OR

2. Elaborate on TQM frame work and importance of each element.
3. List and explain Juran's 10 steps for quality improvement.

OR

4. Explain the contribution of Juran to the quality movement
5. Discuss the various characteristics of a quality leader.

OR

6. Explain step by step procedure in strategic quality planning?
7. Explain the concept and process of benchmarking in detail

OR

8. Explain in detail about Kaizen quality improvement philosophy
9. Draw the basic structure of house of quality and explain each sections.

OR

10. Discuss the four phases of QFD.

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IV B.TECH II SEMESTER REGULAR END EXAMINATIONS, MARCH-2018

Branch: **ME**

Subject: **Renewable Energy Sources**

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

PART – A

I. Answer All Questions **5x1Mark=5 Marks**

1. What is solar radiation data?
2. What do you mean by pitch angle?
3. Write the percentage composition of biogas.
4. Justify in one sentence that hydro power (hydel electricity) is a renewable source of energy.
5. What is the maximum temperature produced during MHD process?

II. Answer All Questions **10x2Mark=20 Marks**

1. Distinguish between diffused radiation and beam radiation.
2. State any two differences between extraterrestrial and terrestrial solar radiation.
3. Enumerate the different main applications of solar energy.
4. What are the different types of concentrating collectors?
5. Define Lift and Drag forces for an aero foil surface.
6. Name the different phases of anaerobic digestion.
7. List any four applications of geothermal energy.
8. Draw the sketch of super heat hybrid system (geothermal conversion).
9. The temperature of the hot reservoir and sink for a thermoelectric power generator are 600 K and 300 K respectively. Determine the Carnot efficiency.
10. Write down the energy conversion equation for the hydrogen fuel cell.

PART-B

Answer All Questions **5x10 Marks= 50Marks**

1. a) What are the reasons for variation of solar radiation reaching the earth surface than received at the outside of the atmosphere?
   b) Calculate the day length on a horizontal surface at New Delhi (Latitude = $28^0\ 35'$ N) on Dec. 1, 2016.

OR

2. a) Calculate the angle of incidence on a horizontal surface at Kolkata (Longitude = 88.33^0E, Latitude = 22.5^0N) at 14 hours (LST) on 21 March in a leap year.
   b) With a neat sketch explain the working of a Sun-shine Recorder.

3. a) What are the main components of a Flat plate collector? Explain the function of each component.
   b) Why orientation is needed in concentrating type collectors?

OR

4. a) Explain with a neat sketch the solar hot water supply system.
   b) Explain the principle and operation of solar photovoltaic power generation.

5. a) Draw the neat diagram of Darrieus wind mill and explain its working.
   b) Wind at 1 atm. Pressure and 15^0 C has velocity of 15 m/s. Calculate the total power density and maximum obtainable power density in the wind stream.

OR

6. Derive the equation for Betz coefficient.

7. a) Classify the Liquid dominated geothermal plants and explain the working of a Single Flash System.
   b) Discuss the advantages and disadvantages of geothermal plants.

OR

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

9. a) Describe the principle of working of a fuel cell with reference to $H_2 - O_2$ cell.
   b) Write notes on applications of fuel cell.

OR

10. Explain about various fuel cells and its application.