Code No.: **50142**

MR15

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 SUPPLEMENTARY EXAMINATIONS, JUNE - 2019

Subject: **Construction Engineering & Management**

Branch: **CE**

Time: 3 hours **Max. Marks: 60**

PART – A

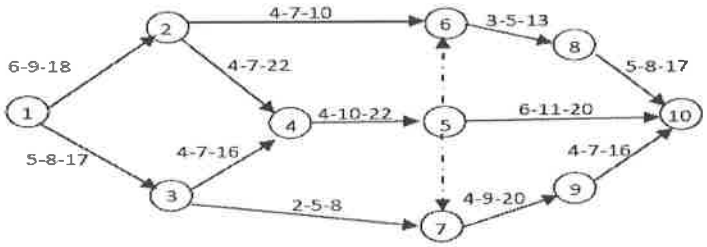
Answer **ALL** questions of the following **5x2Marks=10 Marks**

1. List out various causes of disputes in construction industry
2. What is meant by Mechanized Construction
3. Define construction management?
4. List out the types of estimations?
5. Define project planning?

PART-B

Answer any **FIVE** Questions of the following **5x10 Marks= 50Marks**

1. Write a brief note on Roles & Responsibilities of each person involved in any Construction project.
2. a) State the merits and demerits of a functional organization.
   b) Write about principles of Organization.
3. a) Write a short note on Administrative setup in State Government Engineering Department
   b) Describe Construction closure in brief. What are the various works to be carried out by contractor after the construction closure?
4. a) Explain precautions taken during recording measurements in M-Book.
   b) Explain the suitability, merits and demerits of the following type of contracts
      i) Negotiated Contracts.
5. a) What are Bar charts or Bar Diagrams? Explain with any one example.
   b) Briefly describe the concept of network diagram in project scheduling.
6. a) A network for construction project is shown below. The three estimates for each activity are given along each activity arrow. Construct a network and find
   A) Critical path (B) Variance and (C) Project duration at 95% probability (where Z=1.65)



   b) Determine the optimum cost and duration for the project network. The data for each activity of network are given in the following table. Indirect cost is Rs. 4000/- per week.

Activity	Normal Time (Weeks)	Cost (Rs.)	Crash Time (Weeks)	Cost (Rs.)
1-2	6	7000	3	14500
1-3	8	4000	5	8500
2-3	4	6000	1	9000
2-4	5	8000	3	15000
3-4	5	5000	3	11000

   i) Draw the network of the project ii) Find the normal duration and cost of the project
   iii) Find the optimum duration and cost of the project
7. Write short notes on any two of the following:
   a) Explain steps involved in closing the contract b) Explain about earnest money deposit and security deposit. c) Explain the concept of work breakdown structure.
8. Explain about claim notification and claim substantiation.

Code No.: **52528**

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IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, JUNE - 2019

Subject: **Introduction to Mineral Processing**

Branch: **CE**

Time: 3 hours **Max. Marks: 60**

PART – A

Answer **ALL** questions of the following **5x2Marks=10 Marks**

1. What is the use of liberation size in grinding?
2. Explain the free settling with suitable sketch.
3. What is the principal of high tension separation?
4. Define ferro-magnetic materials with suitable example.
5. What are anionic cationic and non ionic collectors give an example each?

PART-B

Answer any **FIVE** Questions of the following **5x10 Marks= 50Marks**

1. a) Describe the constructional features and principle of operation of gyratory crusher with a neat diagram. (4+4+2M)
   b) Describe the constructional features and principle of operation of rod mill with a neat diagram.
   c) Compare ball and rod mills and their operations.
2. a) What are the types of jaw crushers? Explain Blake jaw crusher.
   b) Explain the work principal and operation of shaking table.
3. a) Explain the Denver flotation cell with neat diagram.
   b) What is the mechanism of frothing action?
4. a) What is pining effect in electrostatic separation?
   b) Explain the operation of dielectric separation.
5. Mention different types of magnetic separator used in processing plant and explain any one type of magnetic separator with neat sketch.
6. Write short notes on any two of the following
   (a) Principle of hydraulic Classifier.
   (b) Comminution and stages in comminution.
   (c) Flotation reagents.
7. Analyse the circumstances where free and hindered settling conditions are applicable? Explain various forces acting on a solid particle in liquid.
8. A. What is the principle that Dorr Rake Classifier works?
   B. Explain with neat sketch. What are the advantages of this kind of classifer?

Code No.: **50B22**

MR15

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IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, JUNE - 2019

Subject: **NDT and Vacuum Technology**

Branch: **CE**

Time: 3 hours **Max. Marks: 60**

PART – A

Answer **ALL** questions of the following **5x2Marks=10 Marks**

1. Distinguish Fully Destructive and Non Destructive testing.
2. Distinguish Liquid penetration and Dye penetration testing methods.
3. Define the terms Mass flow and Conductance.
4. What is the working principle of Thermocouple gauge?
5. Define Pumping Speed.

PART-B

Answer any **FIVE** Questions of the following **5x10 Marks= 50Marks**

1. Describe the construction and working of Thermocouple gauge
2. Describe in detail the construction and working of Rotary vane pump.
3. Write a note on: a) Cracking defect, b) Spalling defect [6M+4M]
4. Classify the methods of Non-destructive testing. Discuss in detail the Dye Penetration Method.
5. a) Distinguish Low level and Medium level vacuum. [6M]

   b) Identify one process each, which require low, medium, high & ultra–high levels of vacuum.[4M]
6. Explain the working principle of Hot cathode gauge and Penning gauge.
7. a) Explain working of Rotary vane pump. [8M]

   b) What is pumping speed? [2M]
8. Write short notes on any two of the following

   a) What are the three stages of Radiography testing? Explain any one stage.

   b) Analyze the significance of thermal conductivity in using Thermocouple gauge as pressure gauge.

   c) List out two reasons for the occurrence of Spalling defect.

Code No.: **50146**

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IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, JUNE-2019

Subject: **Ground Improvement Techniques**

Branch: **CE**

Time: 3 hours **Max. Marks: 60**

PART-A

Answer **ALL** questions of the following **5x2Marks=10 Marks**

1. What are the objectives of grouting?
2. How is dynamic compaction different from static compaction?
3. Write about the basic mechanism of reinforced Earth.
4. What are liners and barriers?
5. Explain deficiencies of cohesive soils.

PART-B

Answer any **FIVE** Questions of the following **5x10 Marks= 50Marks**

1. a) What is the role of grouting in ground improvement? Distinguish between suspension grouts and solution grout.
   b) Explain open sump Dewatering systems.
2. a) Describe the method of densification by Blasting? Explain its effectiveness.
   b) Discuss the principle of vertical drains in soil improvement.
3. a) Explain the advantages and disadvantages of woven and non-woven geotextiles.
   b) What are the properties of geogrids?
4. a) Explain any four engineering application of reinforced earth with sketches.
   b) Write the properties of soil preferred for reinforced earth wall construction
5. a) Describe soil-cement stabilization. What are the actions involved in soil – cement stabilization? Explain what are the factors affecting strength of soil cement mixes?
   b) Explain with neat figure of under reamed pile with standard dimensions?
6. Explain in detail about the dewatering techniques used in cohesive soils.
7. What is dynamic consolidation?
8. Explain with the help of a flow chart the various classifications of geosynthetics in detail.

Code No.:**50H15**

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IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, JUNE-2019

Subject: **ENTREPRENEURSHIP SKILLS**

Branch: **Common to CE, ME, ECE, EEE, CSE &MINING**

Time: 3 hours **Max. Marks: 60**

PART – A

Answer **ALL** questions of the following **5x2Marks=10 Marks**

1. What is the difference between entrepreneur and entrepreneurship?
2. List out the characteristics of a typical entrepreneur.
3. What is entrepreneurial motivation?
4. Give a note on IPR.
5. Briefly discuss about entrepreneurial imagination and creativity.

PART-B

Answer any **FIVE** Questions of the following **5x10 Marks= 50Marks**

1. Discuss the role of entrepreneurs in the development of Indian Economy.
2. Give a brief account of the challenges of new venture startups encountered by the potential entrepreneurs.
3. Elaborate on the nature of corporate entrepreneurship.
4. What are the entrepreneurial motivations that encourage the entrepreneurs to set up the enterprises?
5. Discuss the process of identification an entrepreneurial ventures.
6. Define entrepreneurship? What are the new trends you have noticed in entrepreneurship during 21st century?
7. a) What are the objectives of trademark? What benefits does a registered trademark offer to its owner?

   b) Creativity can be developed in a number of ways - explain.
8. Write short notes on any two of the following:

   a) Entrepreneurial stress.

   b) Difference between intrapreneur and entrepreneur.

   c) Role of imagination in entrepreneurship

Code No.: **50B21**

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IV B.TECH II SEMESTER SUPPLEMENTARY EXAMINATIONS, JUNE - 2019

Subject: **Nano Materials**

Branch: **Common to CE & ME**

Time: 3 hours **Max. Marks: 60**

PART – A

Answer **ALL** questions of the following **5x2Marks=10 Marks**

1. What is condensation?
2. What is chemical vapour deposition?
3. Write any two applications of X-ray diffraction.
4. What are the properties of graphene
5. What is Quantum dot?

PART-B

Answer any **FIVE** Questions of the following **5x10 Marks= 50Marks**

1. a) Describe laser pyrolysis method

   b) What is Ball milling synthesis method? Explain Ball milling in detail?

2. Explain in detail about Electro deposition synthesis method with a neat diagram
3. How are metal nanoparticles synthesized by chemical reduction method?
4. Explain the construction and working of scanning electron microscope (SEM) with schematic diagram. Mention any two applications.
5. Explain in detail how XRD analysis is important in nanomaterial characterization.
6. What are carbon nanotubes? Discuss briefly about CNT.
7. Explain Reduction of Nano materials by tri-sodium citrate method
8. Answer any two of the following

   a) What are the advantages and disadvantages of ball milling method?

   b) Hydrothermal routes

   c) Solution combustion synthesis