H.T No: | | | | | | | | | | | R18 | Course Code: A30157

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Ground Improvement Techniques

(Civil Engineering)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	Explain in detail the role of ground improvement in foundation engineering.	2 M
2.	Define Ground improvement.	2 M
3.	List different types of compaction techniques	2 M
4.	Differentiate between compaction and consolidation.	2 M
5.	State the purpose of dewatering at construction sites.	2 M
6.	What is Hydraulic stabilization?	2 M
7.	Write a short note on soil bitumen stabilization.	2 M
8.	Write short notes on Pre-grout investigation	2 M
9.	List the types of ground anchors.	2 M
10.	What are the components of reinforced earth?	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain in detail the role of ground improvement in foundation engineering.	10M
	OR	
11. B).	Explain about the current and future developments of ground improvement techniques	10M
12. A).	Describe the dynamic compaction method for ground improvement.	10M
	OR	
12. B).	Describe the method of densification by Blasting? Explain its effectiveness.	10M
13. A).	What are types of well points systems? How could it work for the purpose of dewatering? Explain with neat sketches.	10M
	OR	
13. B).	What are vertical drains with preloading? Mention the design features of vertical drains	10M
14. A).	What is grouting? Explain in detail the engineering benefits of grouting.	10M
	OR	
14. B).	Describe the jet grouting technique of improving the soil with the neat sketches.	10M
15. A).	Explain about different types of soil reinforcement materials along with their characteristics.	10M
	OR	
15. B).	Explain the design principles of reinforced earth walls.	10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30246

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Electrical Energy Conservation & Auditing

(Electrical & Electronics Engineering)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What are the primary energy resources?	2 M
2.	What is the importance of energy conservation?	2 M
3.	Define the term power factor.	2 M
4.	What do you understand by evaporation?	2 M
5.	How many types of energy audit?	2 M
6.	List out relevant instruments to carry out energy audit.	2 M
7.	What are the losses in induction motors?	2 M
8.	What do you mean by PF capacitors?	2 M
9.	What are the effects of poor power factor on energy efficiency?	2 M
10.	List significant features of soft starter.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain the energy conservation Act 2001 and its features.	10M
	OR	
11. B).	Explain the energy conservation and its importance.	10M
12. A).	What are the modes of transfer of heat, explain the different types of Electric heating methods and method to measure its importance?	10M
	OR	
12. B).	Write short notes on i) Electricity tariff ii) Improvement of power factor.	10M
13. A).	What do you mean by energy conservation? Explain step by step procedure of energy audit.	10M
	OR	
13. B).	Explain the material and energy balance diagram.	10M
14. A).	Explain the energy saving opportunities with energy efficient motors?	10M
	OR	
14. B).	Briefly explain the losses in induction motor in detail.	10M
15. A).	Illustrate with neat sketch the working of automatic power factor controller as a energy conservation device.	10M
	OR	
15. B).	Write short notes on i) Energy efficient transformers ii) Electronic ballast.	10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: A30366**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Tool Design

(Mechanical Engineering)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	Name the types of coated cutting tools.	2 M
2.	List the advantages and applications of single point cutting tools.	2 M
3.	List out the elements in multi-point cutting tool.	2 M
4.	Compare the single and multi-point cutting tools.	2 M
5.	Write the merits and demerits of Taps and Dies.	2 M
6.	List out the applications of Reamers.	2 M
7.	Write the basic elements in press tools.	2 M
8.	Define blanking and piercing.	2 M
9.	Write the advantages and disadvantages of jigs and fixtures.	2 M
10.	List out the various types of jigs.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Classify the different types of coated cutting tools with their properties.	10M
	OR	
11. B).	Explain the various Non-metallic tooling materials.	10M
12. A).	Explain any three types of milling cutters with neat sketches.	10M
	OR	
12. B).	Explain the design procedure of pull type broaches and list out its silent features.	10M
13. A).	Draw a neat sketch of twist drill geometry and explain the different elements of it.	10M
	OR	
13. B).	Explain the common procedures involved in the design of Taps.	10M
14. A).	Explain the general design procedure for a die set in press tools with neat sketch.	10M
	OR	
14. B).	Explain the design considerations of plastic tools and briefly explain the types of plastic tool equipment's.	10M
15. A).	Describe 3-2-1 method of location and mention its importance in the design of Jigs & fixtures.	10M
	OR	
15. B).	With the help of neat sketches explain the various clamping devices in use.	10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30453

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Wireless Communication Networks

(Electronics & Communication Engineering)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What is the concept of frequency reuse?	2 M
2.	Why is a hexagonal shape used in cellular system design?	2 M
3.	Define Brewster angle.	2 M
4.	List some indoor propagation models.	2 M
5.	Differentiate time selective and frequency selective channel.	2 M
6.	Define coherence time and coherence bandwidth.	2 M
7.	Name the three techniques used to improve signal quality.	2 M
8.	What are the nonlinear equalization methods used?	2 M
9.	What is HIPERLAN?	2 M
10.	Differentiate WiFi and WiMAX.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Extend the concept of co-channel interference. What are the factors affecting it, and how can it be minimized in system design?	10M
	OR	
11. B).	With a neat diagram, Discuss the role of sectoring and cell splitting in improving the performance of a cellular system. Compare their advantages and disadvantages.?	10M
12. A).	Compare and contrast different large-scale path loss models such as Okumura Model, Hata Model, and Log-Distance Path Loss Model.	10M
	OR	
12. B).	Derive the Free Space Path Loss (FSPL) equation and explain the meaning of each term. Mention the conditions under which this model is valid.	10M
13. A).	How does Doppler shift contribute to small-scale fading? Provide real-world examples.	10M
	OR	
13. B).	Explain on path loss estimation techniques using path loss models. Briefly explain the factors that influence small scale fading.	10M
14. A).	Derive the LMS algorithm for an adaptive equalizer	10M
	OR	
14. B).	Explain in detail about RAKE Receiver with neat diagram.	10M
15. A).	Explain in detail about the IEEE 802.11 protocol and bridging the other with other networks.	10M
	OR	
15. B).	Outline the WLAN protocol architecture and discuss each block	10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30456

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular Examinations April-2025

Course Name: Artificial Neural Networks

(Electronics & Communication Engineering)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What is an activation function in a neural network?	2 M
2.	List the types of learning processes used in neural networks.	2 M
3.	Define a single layer perceptron.	2 M
4.	Write the steps of the Back propagation algorithm.	2 M
5.	What is the interpolation problem in the context of RBF networks?	2 M
6.	Mention limitations of the back propagation learning algorithm.	2 M
7.	Define Hebb's learning rule in one sentence.	2 M
8.	What is Learning Vector Quantization (LVQ)?	2 M
9.	What is an attractor in neurodynamics?	2 M
10.	Mention one key difference between Hopfield and Hamming networks	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Compare and contrast the functionality of biological and artificial neurons.	10M
	OR	
11. B).	Implement a simple ADALINE model to solve a binary classification problem.	10M
12. A).	Interpret the relationship between perceptron output and linear decision boundaries.	10M
	OR	
12. B).	Explain how MLPs solve the XOR problem.	10M
13. A).	Explain the theorem on the separability of patterns and its relevance to RBF networks.	10M
	OR	
13. B).	Solve curve-fitting problem using an RBF-based model.	10M
14. A).	Analyze the architecture and functioning of a Bidirectional Associative Memory (BAM) network. How does it differ from a feed forward network?	10M
	OR	
14. B).	Describe the working of the SOM algorithm. How does it perform topological mapping of input data?	10M
15. A).	Describe the concept of neurodynamical models with an example.	10M
	OR	
15. B).	Explain in detail about Hopfield networks.	10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30543

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Natural Language Processing

(Common for CSE & AID)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What are the various applications of NLP?	2 M
2.	Define morphological analysis with an example.	2 M
3.	What does POS tagging entail in NLP?	2 M
4.	What is ambiguity in parsing?	2 M
5.	Define Word Sense Disambiguation.	2 M
6.	Explain Semantic Parsing briefly.	2 M
7.	Give an example of AMR using a directed graph.	2 M
8.	Write the Semantic Role Labeling.	2 M
9.	How do cohesion and coherence contrast with each other?	2 M
10.	What is Baye's rule?	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Illustrate the different steps involved in Natural Language Processing (NLP).	10M
	OR	
11. B).	Explain about sentence boundary detection and topic boundary detection.	10M
12. A).	Discuss syntax analysis using dependency graph with an example.	10M
	OR	
12. B).	Discuss the models for Ambiguity resolution in parsing.	10M
13. A).	Explain about the concept of Word sense Disambiguation in NLP with a suitable example.	10M
	OR	
13. B).	Elaborate on the Simplified Lesk Algorithm with suitable examples.	10M
14. A).	Explain the approaches to Meaning Representation Systems.	10M
	OR	
14. B).	Distinguish between Propbank and Framenet with suitable examples.	10M
15. A).	Discuss about cross lingual and multilingual models architectures.	10M
	OR	
15. B).	Elaborate on the language models employed within NLP.	10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: A30544**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Internet of Things

(Common for CSE & IT)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	Define IoT? List out the characteristics of IoT.	2 M
2.	Explain the logical design of IoT in brief.	2 M
3.	What are the main challenges in wireless medium access for IoT networks?	2 M
4.	Define node discovery in the context of IoT networks.	2 M
5.	How does security play a critical role in IoT systems?	2 M
6.	Mention two major development challenges in IoT.	2 M
7.	What are the security concerns associated with IoT devices in home automation?	2 M
8.	Explain the impact of IoT on smart city initiatives.	2 M
9.	Define an embedded system with an example in the context of IoT.	2 M
10.	List any two real-time applications developed using IoT tools.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Discuss the functional blocks of IoT and their roles. Explain various communication models used in IoT with examples.	10M
	OR	
11. B).	What is Software-Defined Networking (SDN)? How does it improve IoT-based communication?	10M
12. A).	Discuss various MAC protocols and their suitability for IoT applications. How does MAC and routing protocols impact the performance of an IoT network?	10M
	OR	
12. B).	How does data aggregation improve network efficiency in IoT? Explain with a use case.	10M
13. A).	What are the major design challenges in IoT? How do they impact system efficiency and the real-time data processing managed in IoT applications?	10M
	OR	
13. B).	Describe the various primary security challenges in IoT? Explain with examples.	10M
14. A).	Discuss how do IoT technologies impact industrial automation in terms of productivity, maintenance, and efficiency?"	10M
	OR	
14. B).	Explain the domain-specific applications of a typical IoT-based home automation system.	10M
15. A).	Discuss the features of Python that support IoT application development. Provide examples of Python libraries used in IoT.	10M
	OR	
15. B).	Compare different embedded system platforms used in IoT in terms of hardware capabilities and programming support.	10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: A36624**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Artificial Intelligence in Healthcare

(CSM)

Date: 23.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A
Answer all TEN questions
Each question carries TWO marks. **10x2=20M**

1.	What is medical imaging?	2 M
2.	Define angiography.	2 M
3.	What is data augmentation, and why is it important in medical imaging?	2 M
4.	What is unsupervised learning, and how is it used in medical imaging?	2 M
5.	How do expert systems differ from deep learning in medical image analysis?	2 M
6.	How does deep learning improve medical image analysis compared to traditional methods?	2 M
7.	How does radiomics relate to big data in medical imaging?	2 M
8.	Mention two advantages of using radiomics in medical imaging.	2 M
9.	How is clinical validation important for SaMD?	2 M
10.	What is the significance of clinical validation in imaging biomarkers?	2 M

PART-B
Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Compare and contrast CT and MRI in terms of working principles, advantages, disadvantages, and clinical applications.	10M
	OR	
11. B).	Explain the role of ultrasound in medical imaging. Discuss its principle, Doppler ultrasound, and its applications in different medical fields.	10M
12. A).	Explain the importance of hyperparameter tuning in training neural networks for medical image analysis. Discuss key hyperparameters and their impact.	10M
	OR	
12. B).	Explain the challenges of training deep learning models on medical images. How can data imbalance and limited labeled data be handled?	10M
13. A).	Explain the evolution of AI in medical imaging from expert systems to deep learning. Discuss key advancements and their impact.	10M
	OR	
13. B).	Explain the concept of image registration. How does AI enhance image registration techniques in medical imaging?	10M
14. A).	Describe the workflow of radiomics analysis. Discuss key steps such as image acquisition, feature extraction, and model development.	10M

(P.T.O.,)

OR

14. B). Discuss the role of radiomics in cancer detection and prognosis. How can it help in predicting tumor behavior and treatment outcomes? 10M

15. A). What are the key factors affecting the performance of SaMD? Explain their impact on accuracy and reliability. 10M

OR

15. B). How is clinical validation performed for imaging biomarkers and radiomics? Discuss its significance in AI applications. 10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: A30358**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Industrial Safety Engineering

(Common for CE,EEE,ECE,CSE,IT,CSC CSM & AIM)

Date: 25.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	Differentiate firefighting and fire prevention.	2 M
2.	Write salient features of Factory Act 1948 (any four).	2 M
3.	List any two primary functions of maintenance department.	2 M
4.	Define the maintenance cost and service life of equipment.	2 M
5.	What do you mean by splash lubrication?	2 M
6.	Briefly discuss wear and corrosion.	2 M
7.	What is the need of decision tree?	2 M
8.	What are the fault-finding activities?	2 M
9.	What is Preventive Maintenance?	2 M
10.	Why are maintenance inspections important?	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain the possible steps and measures to be taken by factory Management and Government with respect to industrial safety.	10M
	OR	
11. B).	What are the fire fighting and fire prevention methods? Elucidate.	10M
12. A).	What are the different types of maintenance? explain.	10M
	OR	
12. B).	Explain the methods of estimating the Maintenance Cost and its relation with replacement economy.	10M
13. A).	List the types of corrosion and Briefly explain how to prevent them.	10M
	OR	
13. B).	What causes wear? briefly explain the wear reduction methods.	10M
14. A).	i) What is fault tracing? Briefly explain its importance. ii) Define decision trees? Discuss, How are they used in Fault Finding?	5M 5M
	OR	
14. B).	Explain the different types of failures in machine tools and write their general causes.	10M
15. A).	Define 'Periodic Maintenance'. What is its primary goal? How do you evaluate a Periodic Maintenance Program? Explain with example.	10M
	OR	
15. B).	i) What do you mean by repair cycle concept and write its importance. ii) What are the advantages of Preventive Maintenance?	5M 5M

*****

H.T No: | | | | | | | | | | | **R18** | **Course Code: A30164**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Basics of Civil Engineering

(Common for EEE,ME,ECE,CSE,IT,CSC,CSM,CSD,AID & AIM)

Date: 25.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1. List any four types of buildings as per National Building Code. 2 M
2. Explain about simple building plan briefly. 2 M
3. Define surveying. 2 M
4. Name any four building area terms. 2 M
5. What is cement mortar and list any two places in building where it is used? 2 M
6. Why do we use HYSD bars are reinforcement in structural members? 2 M
7. Name any four types of brick masonry. 2 M
8. List out various types of roofs. 2 M
9. What is basic difference between Elevator and Escalator? 2 M
10. What is Intze tank? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). List the various components of a residential building and explain with a neat sketch. 10M

OR

11. B). Classify Industrial buildings and explain briefly about each with a neat sketch 10M

12. A). Analyze various building areas using a 2BHK plan of your own. 10M

OR

12. B). The following offsets are taken from a chain line to an irregular boundary towards right side of the chain line. Distinguish the area's using Trapezoidal and Simpson's rule. 10M

Chainage	0	25	50	75	100	125	150
Offset 'm'	3.6	5.0	6.5	5.5	7.3	6.0	4.0

13. A). Classify various types of cements and explain any two. 10M

OR

13. B). The following staff readings were observed successively with a dumpy level. The instrument has been shifted after the fourth, sixth and eighth readings: 1.895, 1.500, 1.865, 2.570, 2.990, 2.020, 2.410, 2.520, 2.960, 3.115. The first reading was with staff held on benchmark of RL 30.500m. Determine the RL of all points. 10M

14. A). What are the different types of paints that are used in buildings? 10M

OR

14. B). Explain any four various types of foundations with neat sketches. 10M

15. A). Explain about the Intelligent buildings. 10M

OR

15. B). Explain about the various materials that are used in sound-proofing of a building. 10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: A30162**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Green Buildings

(Common for EEE,ECE,CSE,CSC,CSM,CSD,AID & AIM)

Date: 25.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1. Recall the term green design. 2 M
2. Mention the benefits of green buildings. 2 M
3. What is the necessity of LEED certification. 2 M
4. Define water cycle. 2 M
5. Write the uses of temperature control. 2 M
6. How does humidity effects the human life? 2 M
7. List down the features of green building. 2 M
8. Write about the importance of energy conservation. 2 M
9. Distinguish between energy efficiency and energy conservation. 2 M
10. What is meant by Occupant-controlled naturally conditioned spaces? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Summarize in detail the general principles and strategies for sustainable for green buildings 10M

OR

11. B). Discuss the bio-mimicry as a design tool for designing a effective green buildings in detail. 10M

12. A). Discuss in detail about the various evaluation systems of green buildings and also describe briefly on site management in green buildings. 10M

OR

12. B). Describe in detail about the LEED certification along with its limitations and merits. 10M

13. A). Discuss the alternative technologies used in green buildings in detail with their merits and demerits. 10M

OR

13. B). Enumerate in detail the techniques used to control the internal temperature in buildings and also explain the advantages of wind energy. 10M

14. A). Discuss the various measures to be ensured to improve the thermal comfort in residential buildings. 10M

OR

14. B). Explain the various methods adopted for insulation in green buildings in detail and also mention the various insulation materials. 10M

15. A). Discuss the green building design in detail for the sustainability of buildings. 10M

OR

15. B). Analyze the green building rating systems in India and also explain the various parameters of sustainability. 10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: C30166**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Business Ethics & Corporate Governance

(Common for CE,EEE,ME,ECE,CSE,IT,CSC,CSM,AID & AIM)

Date: 25.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1. Why is ethical behavior important for small businesses and startups? 2 M
2. List the stages of Moral Development. 2 M
3. Define Ethical Dilemmas with an Example. 2 M
4. Define Professional ethics and list its key components. 2 M
5. What is the concept of cyber-criminal? 2 M
6. Define Information warfare and write its scope in the context of modern conflicts. 2 M
7. Outline the significance of corporate Governance in the present competitive Business Scenario. 2 M
8. Summarize the key principles of effective corporate governance. 2 M
9. Why is effective information communication essential for corporate governance? 2 M
10. What is the purpose of internal control in the context of corporate governance? 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). How can businesses prioritize the needs and concerns of various stakeholders while maintaining ethical standards? 10M

OR

11. B). Explain the key concepts in Carol Gilligan's theory of moral development. 10M

12. A). Why Should companies provide ethics training for marketing professionals, and what should that training entail? 10M

OR

12. B). Explain the Ethics of finance and accounting professionals. 10M

13. A). Explain the concept of Intellectual Property in cyber space. 10M

OR

13. B). Discuss the ethical considerations surrounding "white hat" hacking or ethical hacking practices. 10M

14. A). What are the efforts initiated by India to ensure Corporate Governance in India? 10M

OR

14. B). Explain Various committees of the Board in detail. 10M

15. A). Discuss the OECD principles of corporate governance in detail. 10M

OR

15. B). How does effective corporate governance contribute to the stability and integrity of financial institutions? 10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: C30167**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Marketing Management

(Common for all Branches)

Date: 28.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What do you mean by customer loyalty?	2 M
2.	Describe the concept of marketing management.	2 M
3.	How do you connect the customers in new era?	2 M
4.	Describe the role of marketing research in marketing decisions.	2 M
5.	Illustrate the role of social media in marketing communication.	2 M
6.	Compare the role of sales promotion advertising in marketing communication.	2 M
7.	Describe the functions of retailers in delivering the value.	2 M
8.	Illustrate the term logistics in brief'.	2 M
9.	Examine the importance of sales management in brief.	2 M
10.	Illustrate the concepts of sales organization.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Define marketing management and examine the marketing strategies and plans with suitable examples.	10M
	OR	
11. B).	What are the marketing mix elements and examine the different strategies related marketing mix elements?	10M
12. A).	Examine the importance of analyzing the competitors and discuss the methods for evaluating the competitors.	10M
	OR	
12. B).	What do you mean by consumer behavior and explain the factors considered for assessing the consumer behavior?	10M
13. A).	Discover the innovative process for introducing new market offering in Indian market and brief on steps in developing right price for the new product.	10M
	OR	
13. B).	Define the integrated marketing communications and discuss the process for designing effective advertising with suitable example.	10M
14. A).	What major types of marketing intermediaries and decisions do these marketing intermediaries make? And brief on the major trends in retailing, wholesaling, and logistics?	10M

(P.T.O..)

OR

14. B). What are the integrated marketing channels in marketing management? And how do you manage marketing channels in marketing? 10M

15. A). Describe the nature of sales management and explain the procedure for setting the basic sales objectives in brief. 10M

OR

15. B). Identify the types of sales organization structures suitable for Indian marketing firms and brief on the current trends in sales management. 10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30378

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Waste to Energy

(Common for all Branches)

Date: 28.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What is a gasifier, and how does it convert biomass into syngas?	2 M
2.	What are the main types of digesters used in biogas production?	2 M
3.	How does the temperature affect the yield of products in biomass pyrolysis?	2 M
4.	What is the role of biomass feedstock in pyrolysis, and how does it influence product composition?	2 M
5.	What is a fluidized bed gasifier, and how does it operate?	2 M
6.	What is the role of the fluidizing gas in a fluidized bed gasifier?	2 M
7.	What is an inclined grate combustor, and how does it differ from other types of combustors?	2 M
8.	What role does the air supply play in the operation of an inclined grate combustor?	2 M
9.	What is thermochemical conversion, and how does it differ from biological conversion of biomass?	2 M
10.	What is the role of heat in thermochemical conversion processes?	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain the different types of industrial waste and provide examples for each type.	10M
	OR	
11. B).	Explain the working principle of an incinerator and the stages involved in the incineration process.	10M
12. A).	Analyze the environmental impacts of charcoal production on deforestation and carbon emissions.	10M
	OR	
12. B).	Explain the process of pyrolysis and how it is used to produce pyrolytic oils and gases from biomass.	10M
13. A).	Explain the basic working principles of downdraft and updraft gasifiers, highlighting the key differences in their design and operation.	10M
	OR	
13. B).	Describe how the gasification temperature affects both the equilibrium and kinetic aspects of gasifier operation.	10M
14. A).	Explain the working principle of a fixed bed combustor and its various stages of operation.	10M

(P.T.O..)

OR

14. B). Discuss the factors that influence the combustion efficiency of biomass and how they impact performance. 10M

15. A). Discuss the design features of a biogas plant that ensure the prevention of leakage and ensure gas safety. 10M

OR

15. B). Explain the concept of urban waste-to-energy conversion and its significance in managing municipal solid waste in Indian cities. 10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30166

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Environmental Protection and Management

(Common for all Branches)

Date: 28.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1. Define the concept of environmental stewardship. 2 M
2. Explain the systems approach to corporate environmental management. 2 M
3. What are environmental quality objectives? 2 M
4. Discuss the rationale behind effluent and stream standards. 2 M
5. Define the term "initial environmental review." 2 M
6. Explain the concept of continual improvement in an EMS. 2 M
7. What is the purpose of an environmental audit as per ISO 19011? 2 M
8. Define environmental performance indicators. 2 M
9. What are hazardous wastes, and how are they classified? 2 M
10. List the industries where EMS applications are crucial. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). What are the unique characteristics of environmental problems that complicate environmental management? 10M

OR

11. B). Define the role of national policies in pollution control and resource conservation. 10M

12. A). Discuss the importance of environmental performance evaluation using indicators and benchmarking. 10M

OR

12. B). Explain the difference between pollution control and pollution prevention in the context of environmental management. 10M

13. A). Explain how continual improvement works within the framework of an EMS. 10M

OR

13. B). Describe the role of environmental policy in achieving effective EMS implementation. 10M

14. A). What is the role of an environmental audit in environmental management? 10M

OR

14. B). Define compliance audits and provide an example of how they are used in industries. 10M

15. A). How would you implement waste minimization strategies in a paper industry setting to reduce environmental impact? 10M

OR

15. B). How can pollution prevention and control techniques be applied in the textile industry to reduce chemical waste? 10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A30545/ A36715

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April-2025

Course Name: Block Chain Technologies

(Common for CSE Honor & CSD)

Date: 30.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1. Describe what a block represents in a blockchain. 2 M
2. How do smart contracts automate processes in blockchain? 2 M
3. What is Proof of Elapsed Time and its role in consensus mechanisms. 2 M
4. Define double spending in the context of digital currencies. 2 M
5. What are the potential benefits of Blockchain-enabled Trade in international business. 2 M
6. What is the purpose of KYC in financial transactions. 2 M
7. How can blockchain technology be applied to enhance supply chain transparency in the business sector? 2 M
8. Give an example of a potential financial services application that could benefit from blockchain technology. 2 M
9. Identify two common limitations of blockchain technology. 2 M
10. Name two rule from the ten rules to never break on the blockchain. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Demonstrate how Hash Pointers are utilized in building a Merkel tree within a Blockchain structure. 10M

OR

11. B). Explain the advantages and disadvantages of using Public and Private Blockchains for different applications. 10M

12. A). Explain Briefly about Bitcoin Blockchain. 10M

OR

12. B). Compare and contrast Proof of Stake, Proof of Burn, and Proof of Elapsed Time as alternative consensus mechanisms. 10M

13. A). Evaluate the challenges and opportunities of utilizing Blockchain for Cross-border Payments in comparison to traditional payment systems. 10M

OR

13. B). Discuss the role of Blockchain technology in ensuring Food Security and traceability in the food supply chain. 10M

14. A). Describe legal and regulatory barriers that impact the adoption of Blockchain in the financial industry. 10M

OR

14. B). Explain the behavioral and educational challenges associated with implementing Blockchain solutions within financial services. 10M

(P.T.O..)

15. A). Discuss the process of Transaction Validation in Hyperledger Fabric and how consensus is achieved in the network. 10M

OR

15. B). Describe Membership and Access Control mechanisms within Hyperledger Fabric and their significance in maintaining network security. 10M

*****

H.T No: | | | | | | | | | | | **R18** | Course Code: A30545

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular Examinations April-2025

Course Name: Block Chain Technologies

(Artificial Intelligence & Machine Learning)

Date: 30.04.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	What are the key components of a blockchain?	2 M
2.	What is meant by crowd funding?	2 M
3.	How do different blockchain protocols?	2 M
4.	What is the extensibility of block chain concepts?	2 M
5.	Describe digital art.	2 M
6.	What is the role of Block chain in Genomics?	2 M
7.	Define Block chain science.	2 M
8.	Explain the concept of Token in Block chain systems	2 M
9.	What is tokenizing?	2 M
10.	Define public adoption.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain in detail about block chain and crypto currency.	10M
	OR	
11. B).	What is a consensus mechanism and how do mechanisms like proof of work (PoW) and Proof of Stake (POS) differ.	10M
12. A).	What is the environmental impact of blockchain, especially in energy-intensive protocols like Bitcoin?	10M
	OR	
12. B).	Explain about digital identity verification in detail.	10M
13. A).	Explain how Bit coin MOOCs contribute to Block chain education.	10M
	OR	
13. B).	Describe the working and significance of grid coin.	10M
14. A).	How does tokenizing improves the efficiency of digital transactions.	10M
	OR	
14. B).	Discuss the role of coindrop for public adoption and currency multiplying.	10M
15. A).	Discuss the implications of government regulation in a block chain-based economy.	10M
	OR	
15. B).	How do business model challenges effect the scalability of block chain technology?	10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A36642

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April/May-2025

Course Name: Robotics Process Automation

(Minor in AIML)

Date: 02.05.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	List out the ways to create Bots.	2 M
2.	Define RPA.	2 M
3.	What are the components of a Dashboard?	2 M
4.	What is the use of the Features panel?	2 M
5.	What do you know about Bot insight?	2 M
6.	Mention the use of an Audit Log.	2 M
7.	What is the use of XML Command?	2 M
8.	Explain the functionality of the Loop Command.	2 M
9.	What is the role of a Workflow Designer?	2 M
10.	List the types of Errors in Automation workflow.	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain the use of Robotics Process Automation in detail with an example use case.	10M
	OR	
11. B).	Describe the role of the Automation Anywhere Enterprise Platform.	10M
12. A).	Explain the components of the Web Control Room in the Automation Anywhere platform.	10M
	OR	
12. B).	Explain the functionalities of the Features Panel in the Web Control Room of the Automation Anywhere platform.	10M
13. A).	Explain various licenses available in Automation Anywhere.	10M
	OR	
13. B).	Explain the role of the SLA calculator in detail.	10M
14. A).	Differentiate Web and Smart recorders. Explain the usage of Excel Command.	10M
	OR	
14. B).	What is a Screen Recorder? Explain its significance in detail.	10M
15. A).	How does RPA handle Errors in Automation workflow?	10M
	OR	
15. B).	List and explain the functionalities of various commands used in Automation Anywhere.	10M

*****

H.T No: | | | | | | | | | | | **R18** **Course Code: A36724**

CMR COLLEGE OF ENGINEERING & TECHNOLOGY
(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April/May-2025

Course Name: Data Science Applications

(Minor in DS)

Date: 02.05.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1.	Define Classification.	2 M
2.	What is Clustering technique?	2 M
3.	What is warehouse management?	2 M
4.	Expand ARIMA model.	2 M
5.	Applications of Data science in Education.	2 M
6.	What is tweeter data?	2 M
7.	What is web scrapping?	2 M
8.	What is healthcare data?	2 M
9.	List Optimization tools in python.	2 M
10.	What is AMPL?	2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A).	Explain the Data Science Process in detail.	10M
	OR	
11. B).	Analyze the methodologies employed in recommender systems. Discuss collaborative filtering and content-based approaches.	10M
12. A).	Explain briefly about stock market index movement forecasting.	10M
	OR	
12. B).	Discuss Demand forecasting and stock optimization in Supply chain management Processes.	10M
13. A).	Examine the role of data science in transforming education systems. Discuss how data analytics can enhance student learning outcomes, improve teaching methodologies.	10M
	OR	
13. B).	Explain the analytics tools for social media data.	10M
14. A).	Analyze on credibility assessment of social media data.	10M
	OR	
14. B).	Explain Bidirectional encoder representation transformers (BERT).	10M
15. A).	Discuss taxonomy of Optimization tools in python.	10M
	OR	
15. B).	Explain product allocation problem with example.	10M

*****

H.T No: | | | | | | | | | | | **R18** Course Code: A36224

CMR COLLEGE OF ENGINEERING & TECHNOLOGY

(UGC AUTONOMOUS)

B.Tech VIII Semester Regular/Supplementary Examinations April/May-2025

Course Name: OS Security

(Common for CSC & Minor in CS)

Date: 05.05.2025 AN **Time: 3 hours** **Max.Marks: 70**

(Note: Assume suitable data if necessary)

PART-A

Answer all TEN questions

Each question carries TWO marks. **10x2=20M**

1. When do we use Lampson's Access Matrix? 2 M
2. Outline the implications of privilege escalation for system security. 2 M
3. Why Multics? and list two fundamental principles underlying its design. 2 M
4. Compare Multics security features from those of other secure operating systems. 2 M
5. List out the fundamental principles necessary to achieve security in the UNIX operating system. 2 M
6. How covert channels can be exploited to bypass traditional access controls and exfiltrate sensitive information? 2 M
7. Explain Gemini Secure OS and list two features that distinguish it from traditional operating systems. 2 M
8. Summarize the characteristics of secure communications and their importance in protecting sensitive data from unauthorized access. 2 M
9. Define a role-based access control policy for a Solaris system with trusted extensions, specifying roles, permissions, and access control rules. 2 M
10. Interpret the security implications of integrating trusted extensions into legacy Solaris systems. 2 M

PART-B

Answer the following. Each question carries TEN Marks. **5x10=50M**

11.A). Explain a comprehensive Threat Model for a specific industry sector, such as healthcare or finance, considering the unique security challenges faced by organizations in that sector. 10M

OR

11. B). Summarize the role of access control mechanisms in preventing data breaches and unauthorized access to sensitive information. 10M

12. A). Analyze the impact of Multics security architecture on system performance and usability, considering trade-offs between security and functionality. 10M

OR

12. B). Develop a vulnerability assessment framework for assessing the security posture of a Multics-based system, identifying potential vulnerabilities, and proposing mitigation strategies. 10M

13. A). Examine the effectiveness of UNIX security mechanisms in protecting against common security threats, such as privilege escalation and denial-of-service attacks. 10M

(P.T.O..)

OR

13. B). Identify various security vulnerabilities associated with trusted computing platforms and propose countermeasures to mitigate these vulnerabilities. 10M

14. A). Develop a prototype of a security kernel based on microkernel architecture, implementing features such as process isolation and memory protection. 10M

OR

14. B). Analyze the impact of domain and type enforcement mechanisms on system usability and user productivity, considering feedback from system administrators and end-users. 10M

15. A). Recommend a training program for system administrators on the use and administration of Solaris Extensions Trusted Extensions, covering topics such as policy configuration and incident response. 10M

OR

15. B). Prioritize a policy framework for managing access control in a Solaris environment with trusted extensions, incorporating principles of least privilege and separation of duties. 10M

*****