O.P.Code: 20CS0516	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

COMPILER DESIGN

(Common to CSE & CSIT)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Define compiler.	CO1	L1	2M
	b	Explain the phases of a compiler with a neat diagram.	CO2	L2	10M
		OR			
2	a	Describe bootstrapping.	CO1	L2	8M
	b	Illustrate the application of compiler technology.	CO1	L3	4M
		UNIT-II			
3	a	Define Ambiguity.	CO1	L1	2M
	b	Interpret how to eliminate ambiguity for the given ambiguous grammar.	CO1	L3	10M
		OR			
4	a	Discuss the types of errors.	CO2	L2	6M
	b	Explain Error recovery in predictive parsing with an example.	CO2	L2	6M
		UNIT-III			
5	a	Describe bottom-up parsing.	CO2	L1	4M
	b	Difference between SLR, CLR, and LALR parsers.	CO2	L4	8M
		OR			
6	a	Explain syntax-directed definition with an example.	CO2	L2	6M
	b	Define a syntax-directed translation and explain with an example.	CO2	L2	6M
		UNIT-IV			
7		Explain the representation of three address codes with suitable example.	CO5	L2	12M
		OR			
8		Define symbol table and explain different types of data structures used for symbol tables.	CO4	L2	12M
		UNIT-V			
9	a	Discuss about function preserving transformations.	CO6	L2	6M
	b	Describe about loop optimization technique.	CO5	L2	6M
		OR			
10		List and explain the issues in the design of a code generator.	CO6	L2	12M

*** END ***

20/11/2024

O.P.Code: 20CS0517	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
DATA WAREHOUSING AND DATA MINING
(Common to CSIT, CSE & CAD)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	How to classify data mining systems? Discuss in detail.	CO1	L2	6M
	b	Explain about Dimensionality reduction methods.	CO1	L2	6M
		OR			
2	a	Illustrate the concept of Data discretization.	CO1	L2	6M
	b	Determine the concept hierarchy generation for categorical data.	CO1	L3	6M

UNIT-II

3		Discuss the following data warehouse Model: i) Enterprise Warehouse ii) Data Mart iii) Virtual Warehouse	CO2	L2	12M
		OR			
4	a	Explain in brief about ROLAP, MOLAP and HOLAP servers.	CO2	L2	6M
	b	Elaborate about Attribute Oriented Induction with example.	CO2	L5	6M

UNIT-III

5	a	Explain Multilevel Association rules for mining data.	CO3	L2	6M
	b	Discuss in detail Multidimensional association rules for mining data.	CO3	L2	6M
		OR			
6		Explain about Apriori Algorithm with an example.	CO4	L2	12M

UNIT-IV

7	a	Define Decision Tree. Why are decision tree classifiers so popular?	CO5	L2	6M
	b	Outline the concept of Classification by Decision Tree Induction.	CO5	L2	6M
		OR			
8	a	Discuss about Rule based Classification method.	CO5	L2	6M
	b	Define Neural Network. Explain the Classification by Back Propagation.	CO5	L1	6M

UNIT-V

9	a	Explain the various types of data in Cluster analysis.	CO6	L2	6M
	b	Inference the working of k-means clustering.	CO6	L4	6M
		OR			
10		Influence the importance of Grid-based and Model-Based methods in detail.	CO6	L1	12M

***** END *****

O.P.Code: 20CS0533	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech. III Year I Semester Regular & Supplementary Examinations November-2024

CYBER SECURITY

(Computer Science & Information Technology)

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

(Answer all Five Units **5 x 12** = **60** Marks)

UNIT-I

1	**a**	Classify global perspectives on cybercrimes.	**CO1**	**L4**	**6M**
	b	Explain the objectives of Information Security Management in detail.	**CO1**	**L3**	**6M**
		OR			
2	**a**	List and exaplin the types of criminals.	**CO1**	**L3**	**6M**
	b	Summarize the cybercrime in "the legal perspective".	**CO1**	**L2**	**6M**
		UNIT-II			
3	**a**	Explain how Cyber Criminals plan the attacks.	**CO2**	**L4**	**6M**
	b	Define Attack vector . Explain various ways the attacker uses to exploit the system.	**CO2**	**L3**	**6M**
		OR			
4	**a**	What is Cloud Computing? Classify the types in it and list the advantages.	**CO2**	**L3**	**6M**
	b	Describe the security challenges and security measures in Cloud Computing.	**CO2**	**L4**	**6M**
		UNIT-III			
5	**a**	What is LDAP? Identify the LDAP Security in mobile computing devices.	**CO3**	**L4**	**6M**
	b	Express the steps used in authentication service security.	**CO3**	**L3**	**6M**
		OR			
6	**a**	Explain the types of mobile phone Attacks.	**CO3**	**L3**	**6M**
	b	Compare Mishing, Smishing and Vishing in detail.	**CO3**	**L2**	**6M**
		UNIT-IV			
7	**a**	Define Password Cracking. Explain the tools in password cracking.	**CO4**	**L4**	**6M**
	b	What is a key logger? How it creates harmful to the users and list out types in it.	**CO4**	**L3**	**6M**
		OR			
8	**a**	What is Phishing attack? Justify Phishing attacks with an example.	**CO4**	**L3**	**6M**
	b	Identify the techniques in buffer overflow.	**CO4**	**L2**	**6M**
		UNIT-V			
9	**a**	Discuss the perils for organizations.	**CO5**	**L4**	**6M**
	b	Describe various issues in IPR.	**CO5**	**L3**	**6M**
		OR			
10	**a**	Examine Web threats for organization in detail.	**CO5**	**L3**	**6M**
	b	Prioritize the theme behind the "Social media marketing tools".	**CO5**	**L2**	**6M**

***** END *****

O.P.Code: 20CS0518	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

SOFTWARE ENGINEERING

(Common to CSE, CAD, CCC, CSM, CAI & CIC)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	a	How umbrella activities help in solving a software problem? Explain.	CO1	L2	6M
	b	Distinguish between Application Software and System Software with examples.	CO1	L4	6M
		OR			
2	a	What is Agile Process? How Extreme Programming (XP) is an effective agile Model?	CO1	L1	6M
	b	Write a note on Agile Unified Process.	CO1	L2	6M
		UNIT-II			
3		How Use-Case are developed from collected requirements. Devise with an example of use-case diagram.	CO3	L2	12M
		OR			
4	a	What are the elements in Requirement Model? How it helps in Analyzing the Requirements?	CO3	L2	6M
	b	Examine Scenario-Based Modeling with suitable examples.	CO3	L3	6M
		UNIT-III			
5	a	Devise to assess alternate Architectural design .	CO3	L4	6M
	b	Why Cohesion and Coupling is used in Software Design Process. What are the types in it. Differentiate all the types .	CO3	L4	6M
		OR			
6	a	Distinguish between Analysis Model and Design Model.	CO4	L5	6M
	b	What is UI Design? Why it is so important?	CO5	L1	6M
		UNIT-IV			
7	a	Explain Interface Design work flow for WebApps.	CO5	L2	6M
	b	Organize the steps involved in WebApp Interface Design.	CO5	L4	6M
		OR			
8	a	Explain in detail about Task Analysis and Modeling.	CO2	L2	6M
	b	Discuss the following: (i) Analysis of the Work Environment (ii) Analysis of Display Content	CO3	L2	6M
		UNIT-V			
9	a	Discuss the process of Art of Debugging.	CO5	L2	6M
	b	Difference between Alpha and Beta testing.	CO6	L4	6M
		OR			
10	a	Explain about the fundamentals of software testing.	CO4	L2	6M
	b	Identify the Object-Oriented Testing Methods and Explain	CO6	L3	6M

***** END *****

O.P.Code: 20CS1101	R20	H.T.No.										

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

INTRODUCTION TO DATA SCIENCE

CSE(Artificial Intelligence & DataScience)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1		Explain in Details various data types used in Data science and Big data.	CO1	L2	12M
		OR			
2	a	What are various steps involved in integrating phase?	CO1	L1	6M
	b	What is meant by exploratory data analysis?	CO1	L1	6M

UNIT-II

3		Explain the differences between Bl and Data Science.	CO2	L2	12M
		OR			
4	a	State Apriori Algorithm.	CO2	L1	4M
	b	Explain Apriori Algorithm with example.	CO2	L2	8M

UNIT-III

5	a	Describe Decision Trees in detail with example.	CO3	L2	6M
	b	Difference between Alternative hypothesis and null hypothesis.	CO4	L2	6M
		OR			
6	a	State Bayes' Theorem.	CO4	L1	4M
	b	Discuss Naïve Bayes classification method considering an example.	CO4	L2	8M

UNIT-IV

7		Illustrate the method to find k clusters from a collection of M objects with n attributes.	CO5	L3	12M
		OR			
8		Correlate ARMA and ARIMA Models.	CO6	L4	12M

UNIT-V

9		Explain the three important steps of the text analysis.	CO6	L2	12M
		OR			
10	a	Explain how categorizing documents by topics is done.	CO6	L2	6M
	b	Interpret the procedure used in data science to gain insights into customer opinions.	CO6	L3	6M

*** END ***

O.P.Code: 20CS0531	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech. III Year I Semester Regular & Supplementary Examinations November-2024

SOFT COMPUTING

(Common to CSE,CSM & CAI)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	**a**	Illustrate the basic components of Artificial Intelligence and its applications.	**CO1**	**L3**	**6M**
	b	Compare Soft computing and Hard computing.	**CO1**	**L5**	**6M**
		OR			
2	**a**	Analyze Learning Techniques in ANN.	**CO1**	**L4**	**6M**
	b	Describe the role of Evolutionary Programming in Soft Computing.	**CO1**	**L2**	**6M**
		UNIT-II			
3	**a**	Discuss Bidirectional Associative Memory with neat architecture.	**CO2**	**L2**	**6M**
	b	Analyze Auto Associative memory and Hetero Associative memory.	**CO2**	**L4**	**6M**
		OR			
4	**a**	Generalize the Adaptive Resonance Theory Neural Network.	**CO2**	**L6**	**6M**
	b	Identify some applications of ART Model.	**CO2**	**L2**	**6M**
		UNIT-III			
5	**a**	Explain the various components of a FuzzyLogic System with neat block diagram.	**CO3**	**L2**	**6M**
	b	Differentiate the fuzzy sets and classical sets.	**CO3**	**L4**	**6M**
		OR			
6	**a**	Describe the various fuzzy composition relations with suitable examples.	**CO3**	**L2**	**6M**
	b	Differentiate classical relations and Fuzzy relations	**CO3**	**L4**	**6M**
		UNIT-IV			
7	**a**	List out the different reproduction and inheritance operators in GA.	**CO4**	**L2**	**6M**
	b	Identify the Advantages and Disadvantages of Genetic Algorithm.	**CO4**	**L2**	**6M**
		OR			
8	**a**	How Fitness Function can be evaluated in Genetic Algorithm?	**CO4**	**L1**	**6M**
	b	Describe various Encoding Techniques of Genetic algorithm.	**CO4**	**L2**	**6M**
		UNIT-V			
9	**a**	Illustrate Neuro-Genetic hybrid systems with neat diagram.	**CO5**	**L3**	**6M**
	b	Explain the advantages and disadvantages of Neuro-genetic hybrid Systems.	**CO5**	**L2**	**6M**
		OR			
10	**a**	Explain various Soft Computing Tools.	**CO5**	**L2**	**6M**
	b	Compare sequential , auxillary and embedded hybrid systems.	**CO5**	**L5**	**6M**

***** END *****

O.P.Code: 20CS1201	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular &Supplementary Examinations November-2024
INTRODUCTION TO CLOUD COMPUTING
(CSE with Specialization in Cloud Computing)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	a	What is SOA? Describe with its architecture.	CO1	L1	6M
	b	Explain the Cloud Computing Stack.	CO1	L2	6M
		OR			
2	a	Define Cloud Computing.	CO1	L1	6M
	b	Draw and explain the cloud architecture.	CO1	L2	6M
		UNIT-II			
3	a	Express Pros in Cloud Computing.	CO2	L2	6M
	b	Analyze Cons in Cloud Computing.	CO2	L4	6M
		OR			
4	a	Why SLA is important in cloud computing. Express your opinion.	CO2	L4	6M
	b	Identify the Approaches in SLA Management.	CO2	L2	6M
		UNIT-III			
5		Compare and explain full virtualization and para virtualization.	CO3	L4	12M
		OR			
6	a	What do you understand by Migrating Applications to Cloud.	CO3	L1	6M
	b	Interpret Live VM Migration Steps and Performance Effects.	CO3	L3	6M
		UNIT-IV			
7		Describe Simple DB in Cloud.	CO4	L2	12M
		OR			
8		Describe Multi Entity Support.	CO4	L2	12M
		UNIT-V			
9	a	List the various factors on which availability of services depend.	CO5	L1	4M
	b	Illustrate in detail about the availability management on different cloud services.	CO5	L3	8M
		OR			
10	a	Describe the Life cycle of identity management.	CO5	L2	6M
	b	List and Explain the activities supported by IAM.	CO5	L1	6M

*** END ***

O.P.Code: 20CS1202	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
MOBILE APPLICATION DEVELOPMENT
(CSE with Specialization in Cloud Computing)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	Illustrate Android Architecture with neat sketch.	CO1	L1	12M
	OR			
2	Explain Eclipse and steps to install eclipse IDE. Explain with pros and cons.	CO1	L1	12M

UNIT-II

3	Explain Image Views to display pictures in Android Mobile.	CO2	L1	12M
	OR			
4	What is Text View? Explain the following attributes of Text view.	CO2	L1	12M

UNIT-III

5	How to Save Data using the Shared Preferences Object? Explain	CO1	L1	12M
	OR			
6	What is Content Provider? What are the Operations supported by a Content Provider?	CO1	L1	12M

UNIT-IV

7	How can we send SMS messages in your Android application.	CO1	L1	12M
	OR			
8	How to prepare your application for deployment?	CO1	L1	12M

UNIT-V

9	Illustrates the lifecycle of a Windows Phone application.	CO2	L1	12M
	OR			
10	Create a web application using XAML framework.	CO2	L1	12M

***** END *****

O.P.Code: 20CS0537	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech. III Year I Semester Regular & Supplementary Examinations November-2024

CLOUD COMPUTING

CSE (Artificial Intelligence & Data Science)

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

(Answer all Five Units **5 x 12** = **60** Marks)

		UNIT-I			
1	**a**	List and detail the elements of grid.	**CO1**	**L1**	**6M**
	b	Explain the Cloud Computing Stack.	**CO1**	**L2**	**6M**
		OR			
2	**a**	What is SOA? Describe with its architecture.	**CO1**	**L2**	**6M**
	b	Illustrate the evolution of scalable computing technology.	**CO1**	**L3**	**6M**
		UNIT-II			
3	**a**	Express Pros in Cloud Computing.	**CO2**	**L2**	**6M**
	b	Recall a short note on SLA.	**CO2**	**L4**	**6M**
		OR			
4	**a**	Identify the Approaches in SLA Management.	**CO2**	**L2**	**6M**
	b	Analyze the Public Cloud and Private Cloud.	**CO2**	**L4**	**6M**
		UNIT-III			
5	**a**	Illustrate Hypervisor.	**CO3**	**L3**	**6M**
	b	Explain in detail types of virtualization available.	**CO3**	**L2**	**6M**
		OR			
6	**a**	Describe virtual clusters with its advantages.	**CO3**	**L2**	**6M**
	b	What do you understand by Migrating Applications to Cloud?	**CO3**	**L1**	**6M**
		UNIT-IV			
7	**a**	Explain about Authentication Methods.	**CO4**	**L2**	**6M**
	b	Summarize the details on cloud infrastructure security.	**CO4**	**L2**	**6M**
		OR			
8	**a**	Analyze the aspects of data security.	**CO4**	**L2**	**6M**
	b	Explain about provider data and its security.	**CO4**	**L2**	**6M**
		UNIT-V			
9	**a**	Give the factors that promote the adoption of MCC.	**CO5**	**L1**	**6M**
	b	Discuss the context management architecture based on IRNA with neat diagram.	**CO5**	**L6**	**6M**
		OR			
10	**a**	What do Partitioning Strategies mean? How is ADPS implemented for Program partitioning?	**CO5**	**L1**	**6M**
	b	Identify few of the open issues still need to be addressed in MCC.	**CO5**	**L3**	**6M**

***** END *****

O.P.Code: 20CS0901	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

FUNDAMENTALS OF ARTIFICIAL INTELLIGENCE

(CSE with Specialization in Cloud Computing)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	**a**	Discuss the following terms: i) Systems that think rationally ii) Systems that act rationally.	**CO1**	**L1**	**6M**
	b	Difference between Artificial Intelligence and Human Intelligence.	**CO1**	**L2**	**6M**
		OR			
2		How AI evolve over Tic - Tac - Toe Game Playing? Deduce with an example.	**CO1**	**L2**	**12M**

UNIT-II

3	**a**	Illustrate the concept of Problem Solving Agent with an example.	**CO2**	**L3**	**6M**
	b	Design and Solve Vacuum Cleaner toy problem in AI.	**CO2**	**L6**	**6M**
		OR			
4	**a**	Discuss in detail Crypt-Arithmetic Problem in AI.	**CO2**	**L2**	**6M**
	b	Design a Constraint Satisfaction Problem with an example.	**CO2**	**L6**	**6M**

UNIT-III

5		Explain in detail about Logical Connectives in Propositional Logic with examples.	**CO3**	**L2**	**12M**
		OR			
6	**a**	How effectively Propositional Calculus is used in AI? Explain.	**CO4**	**L2**	**6M**
	b	Prove $\alpha : (P \wedge Q \rightarrow R) \wedge (\sim P \rightarrow S) \wedge Q \wedge \sim R \wedge \sim S$ is inconsistent using tableaux method.	**CO4**	**L5**	**6M**

UNIT-IV

7	**a**	How representations and Mappings in KR is done? Explain.	**CO5**	**L2**	**6M**
	b	Describe the approaches to Knowledge Representation.	**CO5**	**L2**	**6M**
		OR			
8	**a**	List the set of primitives and conceptual tenses used in Conceptual Dependency.	**CO5**	**L1**	**6M**
	b	Explain four knowledge representation techniques	**CO5**	**L2**	**6M**

UNIT-V

9	**a**	List out the Applications of Expert System and Explain.	**CO6**	**L1**	**6M**
	b	Why Expert System is required? What is the Technology used in it.	**CO6**	**L4**	**6M**
		OR			
10		What is a Bayesian belief network? By using Bayesian belief network, Calculate the probability that alarm has sounded, but there is neither a burglary, nor an earthquake occurred, and David and Sophia both called the Harry.	**CO6**	**L3**	**12M**

***** END *****

O.P.Code: 20CS0904	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
INTRODUCTION TO MACHINE LEARNING
CSE(Artificial Intelligence and Machine Learning)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1		Describe about Machine Learning algorithms with their predictions.	CO1	L2	12M
		OR			
2	a	What is the role of pre-processing of data in machine learning? Why it is needed?	CO1	L3	6M
	b	Analyze Reinforcement Learning with neat diagram.	CO1	L4	6M

UNIT-II

3		Explain in details of types of Regression model in ML.	CO1	L2	12M
		OR			
4	a	Describe about Multivariate Tree prediction.	CO1	L1	6M
	b	Describe about Univariate Tree prediction.	CO1	L1	6M

UNIT-III

5		What is multilayer perceptron? Explain in detail.	CO4	L2	12M
		OR			
6	a	State and explain discriminant functions.	CO4	L2	6M
	b	Differentiate between linear and nonlinear discriminant functions.	CO4	L1	6M

UNIT-IV

7		Explain Bayesian decision theory in detail.	CO4	L2	12M
		OR			
8	a	What is bias/variance dilemma? Explain in detail.	CO3	L1	6M
	b	What is estimator? explain briefly.	CO4	L1	6M

UNIT-V

9		What is parameter estimation method? Explain in detail.	CO5	L1	12M
		OR			
10	a	Explain how multivariate regression is implemented.	CO5	L3	6M
	b	Describe the uses of multivariate regression.	CO4	L1	6M

***** END *****

O.P.Code: 20CS1403	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
KNOWLEDGE REPRESENTATION AND REASONING
CSE(Artificial Intelligence)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	a	Why is knowledge representation and reasoning (KRR) essential in artificial intelligence?	CO1	L2	6M
	b	What role does logic play in knowledge representation and reasoning (KRR)?	CO1	L4	6M
		OR			
2	a	Illustrate expressive knowledge in KRR.	CO1	L2	6M
	b	Create a Knowledge base for Vitamins deficiency and symptoms.	CO1	L4	6M
		UNIT-II			
3	a	Create Facts and rules of any real world problem.	CO2	L4	6M
	b	Analyze Horn clauses with examples.	CO2	L2	6M
		OR			
4	A	Sketch SLD resolution tree.	CO2	L4	6M
	b	Describe Backward chaining in SLD.	CO2	L2	6M
		UNIT-III			
5	a	Describe the Rule formation in KRR.	CO3	L2	6M
	b	Analyse the types of Rules in KRR.	CO3	L4	6M
		OR			
6	a	Explain conflict Resolution in production systems.	CO4	L2	6M
	b	Describe applications and advantages of Production system.	CO4	L2	6M
		UNIT-IV			
7	a	Describe the Frames formationim KRR.	CO5	L2	6M
	b	Analyse frame with example in KRR.	CO5	L4	6M
		OR			
8	a	Describe key concepts of Taxonomy and Classification of KRR.	CO5	L3	6M
	b	Evolve Taxonomy relations in Knowledge Representation.	CO5	L3	6M
		UNIT-V			
9	a	Describe planning in intelligent systems.	CO6	L2	6M
	b	Analyse planning algorithms in intelligent systems.	CO6	L4	6M
		OR			
10	a	Describe Architecture of Intelligent agents.	CO6	L3	6M
	b	Illustrate Applications of Intelligent agents.	CO6	L3	6M

*** END ***

O.P.Code: 20CS1003	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
PRINCIPLES OF CYBER SECURITY
CSE (Internet of Things and Cyber security Including Block Chain Technology)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Inference Cybercrimes Cases of Various Categories under IPC Section.	CO1	L4	6M
	b	Dissect the Incidence of Cybercrimes in Cities in detail.	CO1	L4	6M
		OR			
2		Inference Cybercrimes Cases of Various Categories under ITA 2000.	CO1	L1	12M

UNIT-II

3	a	What is CTI and its types?	CO2	L2	6M
	b	Explain Malware and Phishing.	CO2	L6	6M
		OR			
4	a	What do you mean by Access attacks?	CO2	L2	6M
	b	Explain Reconnaissance attacks.	CO2	L6	6M

UNIT-III

5		Discuss the ports and Protocols in Cyber security.	CO3	L2	12M
		OR			
6		What's the Difference Between Digital Information Security and Cyber Security?	CO3	L2	12M

UNIT-IV

7	a	Examine Web threats for organization in detail.	CO4	L1	6M
	b	List out few roles of Cyber Threats.	CO4	L6	6M
		OR			
8		What are the Network traffic analysis?	CO4	L5	12M

UNIT-V

9		Explain Backdoor system in Cyber security.	CO5	L5	12M
		OR			
10	a	Explain single Firewall.	CO5	L2	6M
	b	Explain Dual Firewall.	CO5	L6	6M

***** END *****

Q.P.Code: 20CS1011 | R20 | H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

CRYPTO CURRENCY AND INTRODUCTION TO BLOCK CHAIN TECHNOLOGY

CSE (Internet of Things and Cyber security including Block Chain Technology)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1		What is Hash Function in cryptography? Write Features of Hash functions.	CO1	L1	12M
		OR			
2		Explain about Zero Knowledge Proof.	CO1	L5	12M
		UNIT-II			
3	a	Describe the benefits of block chain.	CO2	L6	6M
	b	What type of records can be kept in the Block chain? Is there any restriction on the same?	CO2	L2	6M
		OR			
4	a	How does Block chain differ from relational databases?	CO2	L1	6M
	b	Compare public and private block chain.	CO2	L3	6M
		UNIT-III			
5	a	Explain Consensus algorithm.	CO3	L2	6M
	b	List out and explain the types of consensus algorithms.	CO3	L4	6M
		OR			
6		Explain Proof-of-Burn in detail.	CO3	L2	12M
		UNIT-IV			
7		Compare the features of Bitcoin and Block chain.	CO4	L3	12M
		OR			
8	a	What is a Bitcoin wallet?	CO4	L1	5M
	b	How can you choose a Bitcoin wallet?	CO4	L5	7M
		UNIT-V			
9		Explain Block chain applications.	CO5	L5	12M
		OR			
10	a	Explain future of Block chain in detail.	CO5	L2	6M
	b	Write about digital currency Exchange.	CO5	L3	6M

*** END ***

O.P.Code: 20CE0119	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

STRUCTURAL DESIGN

(Civil Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	A simply supported beam of rectangular section of span 4m, carries a 'udl' of 10 kN/m over the entire span. Design the beam using M20 grade concrete and Fe415 HYSD bar.	CO1	L4	12M
	OR			
2	A T-beam of effective flange width of 740mm, thickness of slab 100mm, width of rib 240mm and effective depth 400mm is reinforced with 5# of 20mmϕ bars. Determine the moment of resistance of the section. The materials are M15 grade concrete and Fe250 grade steel.	CO1	L4	12M

UNIT-II

3	A reinforced concrete beam of rectangular section 300mm wide is reinforced with 4# of 25mmϕ at an effective depth of 600mm. The beam has to resists a factored shear force of 400kN at support section. Assume f_{ck} = 25 N/mm^2 and f_y = 415 N/mm^2 , design the vertical stirrups for the section.	CO2	L4	12M
	OR			
4	Design a two-way slab for a room of size 4m x 5m with discontinuous and simply supported edges on all the sides with corners prevented from lifting to support a live load of 4 kN/m^2 and weight of weathering course over the slab is 0.6 kN/m^2 . Adopt M20 grade concrete and Fe415 grade steel.	CO2	L4	12M

UNIT-III

5	Design the reinforcements in a short column 400mm x 600mm subjected to an ultimate axial load of 1600 kN together with ultimate moments of 120 kN.m and 90 kN.m about the major and minor axis respectively. Use M20 grade concrete and Fe415 steel.	CO3	L4	12M
	OR			
6	Design a rectangular isolated footing of uniform thickness for reinforced concrete column bearing a vertical load of 600 kN having a size of 400mm x 600mm. The safe bearing capacity of soil is taken as 120 kN/m^2 . Use M20 grade concrete & Fe415 grade of steel.	CO4	L4	12M

UNIT-IV

7	**a** Discuss on various mechanical properties of structural steel.	CO5	L2	6M
	b Define bolting & explain various terminologies used in bolting.	CO5	L2	6M
	OR			
8	Calculate the strength of a 20mmϕ bolt of grade 4.6 for the following cases. The main plates to be joined are 12mm thick i) For a lap joint ii) For single cover butt joint with the cover plate being 8mm thick. iii) Double cover butt joint with each cover plate being 8mm thick	CO5	L2	12M

UNIT-V

9	Design a laced column with two channels back-to-back of length 10m to carry an axial factored load of 1400 kN. The column may be assumed to have restrained in position but not in direction at both ends. (hinged ends).	CO6	L4	12M
	OR			
10	Design a simply supported beam of effective span 1.5m carrying a factored concentrated load of 360 kN at mid span.	CO6	L4	12M

***** END *****

Q.P.Code: 20CE0120 | R20 | H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular &Supplementary Examinations November-2024
TRANSPORTATION ENGINEERING
(Civil Engineering)

Time: 3 Hours (Answer all Five Units **5 x 12 = 60** Marks) **Max. Marks: 60**

UNIT-I

1	a	List the Factors affecting OSD. Explain Lag distance and Braking distance along with formulas.	CO1	L1	6M
	b	Explain PIEV theory.	CO1	L2	6M
		OR			
2		The speeds of overtaking and overtaken vehicles are 80 kmph and 60 kmph respectively on a two-way traffic road. If the acceleration of the overtaking vehicle is 0.80 m./s^2 , calculate the safe overtaking sight distance. Sketch of the overtaking zone with location of sign posts.	CO1	L3	12M

UNIT-II

3		Explain the significance of traffic studies. Briefly explain any four types of traffic Studies.	CO2	L5	12M
		OR			
4	a	The results of a speed study are given in the form of a frequency distribution table. Find thetime mean speed and space mean speed.	CO2	L3	6M

No	Speed range	Average speed (Vi)	Frequency(qi)
1	2-5	3.5	1
2	6-9	7.5	4
3	10-13	11.5	0
4	14-17	15.5	7

	b	What are the various methods of carrying out speed and delay study?	CO2	L2	6M

UNIT-III

5	a	What are warping stresses? List out the stresses in rigid pavement.	CO3	L2	4M
	b	Classify different types of joints in CC pavements and mention the objects of each.	CO3	L4	8M
		OR			
6	a	Explain CBR method of pavement design and discuss the method useful in determining the thickness of flexible pavement layers.	CO3	L2	6M
	b	Differentiate between flexible pavements and rigid pavements.	CO3	L3	6M

UNIT-IV

7	a	What are fastenings? What are the functions and requirements of fastenings.	CO4	L2	8M
	b	Explain for coning of wheels.	CO4	L5	4M
		OR			
8	a	Explain the role of chairs, keys and fish plates as track fittings and fastenings. Support your Answer with neat sketch.	CO4	L3	8M
	b	What are the types of gauges used in railways?	CO4	L2	4M

UNIT-V

9	a	Discuss briefly about stations with different types.	CO5	L6	6M
	b	Explain briefly about cant with equilibrium equation.	CO5	L2	6M
		OR			
10	a	If a ruling gradient of 1 in 250 is fixed on a B.G section and a horizontal curve of 4^0 is also to be introduced over it. What should be the actual ruling gradient?	CO5	L4	6M
	b	Difference between pusher gradient and momentum gradient.	CO5	L3	6M

***** END *****

O.P.Code: 20CE0136	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
FOUNDATION ENGINEERING
(Civil Engineering)

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

(Answer all Five Units **5 x 12** = **60** Marks)

UNIT-I

1	Derive expression for Rehbann's method for the determination of active earth pressure with neat sketch.		**CO1**	**L3**	**12M**
	OR				
2	A cantilever retaining wall of 7mts height retains sand. The properties of sand are e=0.5,φ=300 and G=2.7.Using Rankines theory Determine the active earth pressure at the base when the backfill is (i) dry (ii) Saturated (iii) Submerged and also the resultant active force in each case.		**CO1**	**L3**	**12M**

UNIT-II

3	**a**	List out various parameters for choice of type of foundation.	**CO2**	**L1**	**6M**
	b	Write various points to consider for fixing depth of foundation.	**CO2**	**L1**	**6M**
		OR			
4	**a**	Determine the ultimate bearing capacity of a square footing, resting on the surface of saturated clay of unconfined compressive strength of 98kN/m^2.	**CO2**	**L3**	**6M**
	b	A square footing (3 m X 3 m) exerts a pressure of 100 kN/m^2 on a cohesivesoil (Es =5x10^4 and μ=0.50).Determine the immediate settlement at the centre, assuming i) Footing is flexible ii) Footing is rigid.	**CO2**	**L3**	**6M**

UNIT-III

5	List out various classifications of pile foundations. Discuss different methods for installation of piles.		**CO3**	**L2**	**12M**
	OR				
6	How would you estimate the group action of piles in (a) sand (b) clay?		**CO3**	**L2**	**12M**

UNIT-IV

7	Explain various steps involved in sinking operation of wells with neat sketch.		**CO4**	**L2**	**12M**
	OR				
8	What are the advantages and disadvantages of Floating caisson and discuss stability of floating caisson during flotation?		**CO4**	**L1**	**12M**

UNIT-V

9	Explain the pressure distribution and stability of free cantilever sheet pile with neat sketch.		**CO5**	**L2**	**12M**
	OR				
10	What are different anchors used in sheet pile walls? Explain the design of anchor pates and beams with neat sketch.		**CO5**	**L2**	**12M**

*** END ***

O.P.Code: 20AG0708	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
AGRICULTURAL PROCESS ENGINEERING
(Agricultural Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1		List out the rheological models and derive kelvin model with related equations.	**L3**	**CO2**	**12M**
		OR			
2	**a**	Define rheology. Write the classification, importance and application of rheological properties.	**L1**	**CO2**	**8M**
	b	Define stress relaxation, retardation time and creep with diagrams.	**L1**	**CO2**	**4M**
		UNIT-II			
3		Write the application of engineering properties in handling, processing machines and storage structures.	**L1**	**CO1**	**12M**
		OR			
4	**a**	Explain the importance and application of thermal properties in food engineering.	**L2**	**CO3**	**6M**
	b	List out thermal properties and define specific heat, thermal conductivity and thermal diffusivity.	**L1**	**CO3**	**6M**
		UNIT-III			
5	**a**	A screen is used to separate two components (A and B) from a feed where F, O and U are taken as mass flow rates of feed, overflow and underflow streams, respectively. The corresponding mass fraction of the oversize component A in these streams is Xf, Xo and Xu. Derive an expression for overall effectiveness of this screen.	**L3**	**CO4**	**6M**
	b	During the evaluation of an air screen grain cleaner with two screens the following data were observed. (i) The impurities present in feed were 6.5%, (ii) The impurities present in clean grain were 0.5%, (iii) The outflow of blower contained 0.2% clean seed, (iv) The overflow of 1st screen contained 1% clean seed and (v) The overflow contained 0.5% clean seed. Compute the cleaning efficiency of the cleaner.	**L3**	**CO4**	**6M**
		OR			
6	**a**	What are the responsible functions of vibration of screen to increase performance?	**L1**	**CO4**	**6M**
	b	Explain the working principle of colour separator with neat sketch.	**L2**	**CO4**	**6M**
		UNIT-IV			
7	**a**	Explain present status, importance, and scope of food processing.	**L2**	**CO4**	**6M**
	b	State Kicks and Rittinger's laws for energy requirement with related equations.	**L1**	**CO4**	**6M**
		OR			
8		Explain gyratory crusher and smooth roll crusher with neat sketch.	**L2**	**CO4**	**12M**
		UNIT-V			
9		Explain about rubber roll Sheller with neat sketch.	**L2**	**CO5**	**12M**
		OR			
10		Explain important unit operations in pulse milling.	**L2**	**CO5**	**12M**

***** END *****

O.P.Code: 20AG0706	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
SOIL AND WATER CONSERVATION ENGINEERING
(Agricultural Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Write a short note on causes of soil erosion.	CO1	L1	6M
	b	Compute the annual soil loss from the continuous fallow field tilled up and down the slope using USLE. Values of the other factors of USLE are as follows: Rainfall factor R = 500 ,Soil Erodibility factor K = 0.15 , LS factor = 0.50 and C and P factor =1.Also compute the soil loss from the above field when it is cultivated on contour with maize crop and assume value of crop management factor C = 0.6 and conservation factor P = 0.5.	CO1	L3	6M

OR

2	a	Explain the mechanism of water erosion.	CO1	L1	6M
	b	Explain the types of water erosion.	CO1	L2	6M

UNIT-II

3	a	Explain mechanics of wind erosion.	CO2	L2	6M
	b	Explain engineering measure to control erosion.	CO2	L2	6M

OR

4	a	Calculate the peak rate of runoff for 10 years return period from an watershed of 75 ha area. The watershed is divided into three parts based on its land use and soil texture in which first part of 25ha with 1% slope is under cultivation(C=0.50), 30 ha with slope 7% is under pasture(C=0.36) and rest of the land land with slope 12% is under forest cultivation(C=0.50). The intensity of rainfall is 7.5cm/ha.	CO2	L3	6M
	b	Explain different methods of strip cropping.	CO2	L2	6M

UNIT-III

5	a	Explain the classification of bunding system with their limitations.	CO3	L2	6M
	b	Differenciate between Contour bund and Graded bund.	CO3	L2	6M

OR

6	a	Discuss types of bench terraces with neat diagram.	CO3	L2	8M
	b	Write the objectives and limitations of bench terraces.	CO3	L2	4M

UNIT-IV

7	a	Explain the construction procedure for grassed waterways.	CO4	L2	6M
	b	Write a short note on maintenance of grassed waterways.	CO4	L2	6M

OR

8		Describe the methods of in Stream Sediment Measurements.	CO4	L2	12M

UNIT-V

9	a	Define farm pond, and write its importance	CO5	L2	4M
	b	Calculate the capacity of farm pond using trapezoidal and Simpsons formula. The area enclosed by different contours of pond site are as below.	CO5	L3	8M

Contour value	300	301	302	303	304	305	306
Area enclosed (sq.m)	220	250	320	370	450	530	600

OR

10	a	Define water harvesting and describe its importance.	CO5	L1	4M
	b	Explain the design steps of gully control structures in brief.	CO6	L2	8M

*** END ***

O.P.Code: 20EE0216	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

ELECTRICAL MEASUREMENTS AND INSTRUMENTATION

(Electrical & Electronics Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1		Sketch Quadrant type Electrostatic voltmeter meter. Explain Heterostatic or Idiostatic Connections.	CO1	L1	12M
		OR			
2	a	Derive an expression for the Deflecting torque in MI type instruments.	CO1	L3	6M
	b	Choose a design for Aryton shunt to provide an ammeter with the current ranges 1 A, 5 A and 10 A. The basic meter resistance is 50 ohm and full scale deflection current is 1 mA.	CO1	L4	6M

UNIT-II

3	a	Draw the circuit of a Kelvin's double bridge used for measurement of low resistances. Derive the condition for balance.	CO2	L3	6M
	b	Explain how insulation resistance of a cable can be measured with a help of Loss of charge method.	CO2	L2	6M
		OR			
4		Explain Wien's bridge can be used for experimental determination of frequency. Derive the expression to measure frequency in terms of bridge parameters.	CO2	L5	12M

UNIT-III

5	a	Derive the torque equation for single phase induction type energy meter.	CO3	L3	6M
	b	Explain driving system, moving system and braking system in a Induction type Energy meter.	CO3	L2	6M
		OR			
6		Derive the torque equation for single phase electro dynamometer type wattmeter.	CO3	L3	12M

UNIT-IV

7		Draw the phasor diagram of PT. Derive the expression for its transformation ratio.	CO4	L3	12M
		OR			
8	a	Discuss in detail about Thermistors.	CO4	L2	6M
	b	Describe the working principle of thermocouples.	CO4	L2	6M

UNIT-V

9		Determine the B-H loop using method of reversals and Six point method.	CO5	L3	12M
		OR			
10	a	Explain the functions of time base generator in a CRO.	CO5	L2	6M
	b	Analyze the Lissajous patterns.	CO5	L4	6M

***** END *****

O.P.Code: 20EC0415	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

ELECTROMAGNETIC THEORY AND TRANSMISSION LINES

(Electronics & Communications Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	a	Define Electric field intensity and write the properties electric flux.	CO1	L1	6M
	b	Estimate the electric field Intensity due to volume charge.	CO1	L4	6M
		OR			
2	a	Determine the Electric flux density at a point P due to infinite line charge of uniform Charge density ρL C/m using Gauss law.	CO2	L3	6M
	b	A charge of 5x10-8C is distributed uniformly on the surface of a sphere of radius 1cm. It is a sphere of radius 6 cm. Determine electric flux density.	CO2	L2	6M
		UNIT-II			
3	a	Explain any two applications of Ampere's Circuit law.	CO3	L2	6M
	b	List differential and integral form of Maxwell's equation for static EM filed.	CO2	L2	6M
		OR			
4	a	Illustrate Biot-Savart's Law.	CO1	L2	6M
	b	Determine the Magnetic Field Intensity due to a infinite sheet current.	CO2	L3	6M
		UNIT-III			
5	a	Compute the Expression for Moving loop in Time varying Fields.	CO3	L3	6M
	b	Enumerate Faraday's law and Explain Faraday's laws in Electromagnetic induction.	CO2	L1	6M
		OR			
6	a	Outline Displacement Current with expression.	CO3	L2	6M
	b	In free space, H= 10 sin(ωt-100x)ay A/m. Calculate E.	CO4	L3	6M
		UNIT-IV			
7	a	Derive the general wave equation.	CO5	L3	6M
	b	Evaluate the wave characteristics of plane wave in lossless dielectric medium.	CO5	L4	6M
		OR			
8		Derive the expressions for reflection coefficient and transmission coefficient for reflection of plane wave at oblique in perpendicular polarization.	CO5	L3	12M
		UNIT-V			
9	a	List the applications of transmission lines.	CO6	L2	6M
	b	Explain about SWR and Power.	CO6	L2	6M
		OR			
10	a	Define Transmission line and Discuss about Transmission line Parameters.	CO6	L2	6M
	b	With neat sketch explain about Primary and Secondary constants of transmission line.	CO6	L3	6M

***** END *****

O.P.Code: 20EC0416	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
MICROPROCESSORS AND MICROCONTROLLERS
(Electronics & Communications Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1		Draw a block diagram of Microprocessor controlled temperature system and identify function of each component.	CO1	L4	12M
		OR			
2	a	Describe the memory model of a typical memory chip.	CO1	L2	6M
	b	Explain how memory addresses are assigned to a memory chip of size 1K (1024X8)?	CO2	L2	6M

UNIT-II

3	a	Sketch neat the block diagram of 8085 Architecture and explain the function of each block.	CO2	L3	8M
	b	Discuss the different types of registers used in the 8085 microprocessors.	CO2	L2	4M
		OR			
4	a	Explain the Arithmetic instructions of the 8085 microprocessor	CO2	L2	6M
	b	Explain the branch control instructions of the 8085 microprocessor	CO2	L2	6M

UNIT-III

5	a	Compare serial communication and parallel communication	CO4	L4	4M
	b	Describe the internal RAM structure in the 8051 microcontroller.	CO2	L2	8M
		OR			
6	a	Explain the different types of interrupts in the 8051 microcontroller	CO2	L2	6M
	b	Describe the vector address of interrupts in 8051 μC	CO2	L2	6M

UNIT-IV

7	a	Explain the moving data instructions of 8051microcontroller with an example.	CO4	L2	6M
	b	Draw and explain the external addressing using mov x and mov c.	CO4	L2	6M
		OR			
8	a	Write and explain an ALP program of AND ,OR and XROR operation in 8051.	CO4	L2	6M
	b	Write and explain an ALP program of four time rotate right and rotate left carry operation in 8051.	CO4	L2	6M

UNIT-V

9	a	Design and explain the large matrix keyboard.	CO5	L2	6M
	b	Discuss about interrupt driven program for small keyboards.	CO5	L2	6M
		OR			
10	a	List out the types of led displays and draw the seven-segment display circuit used for SVNSEG program.	CO5	L3	6M
	b	Draw the pin diagram and explain the intelligent LCD display.	CO4	L1	6M

***** END *****

O.P.Code: 20EE0219	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

ELECTRICAL DISTRIBUTION AND AUTOMATION

(Electrical & Electronics Engineering)

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

(Answer all Five Units **5 x 12** = **60** Marks)

		UNIT-I			
1	**a**	What is Load curve ? what is the importance of load curve?	**CO1**	**L1**	**6M**
	b	A distribution substation experiences an annual peak load of 3,500 kW. Thetotal annual energy supplied to the primary feeder circuits is 107 kWh. Find i) the annual average power ii) the annual load factor	**CO1**	**L3**	**6M**
		OR			
2		A generating station has a maximum demand of 25MW, a load factor of 60%, a plant capacity factor of 50% and a plant use factor of 72%. Find (i) the reserve capacity of the plant (ii) the daily energy produced and (iii) maximum energy that could be produced daily if the plant while running as per schedule, were fully loaded.	**CO1**	**L4**	**12M**
		UNIT-II			
3		A 2 wire DC distributor cable AB is 2 KM long supplies loads of 100A,150A,200A and 50A situated 500m,1000m,1600m and 2000m from the feeding point A. Each conductor has a resistance of 0.01ohm per 1000m.calculate potential difference at each load point if a potential difference of 300V is maintained at point A.	**CO2**	**L4**	**12M**
		OR			
4	**a**	Derive the equations for voltage drops in each section and minimum potential in radial Feeder with uniformly distributed load fed at unequal voltages at both ends.	**CO2**	**L3**	**6M**
	b	Explain about Primary distribution systems.	**CO2**	**L2**	**6M**
		UNIT-III			
5	**a**	Explain the various factors to be considered to decide the ideal location of substation.	**CO3**	**L2**	**6M**
	b	Explain Indoor and outdoor substation.	**CO3**	**L2**	**6M**
		OR			
6		Explain different types of bus bar arrangements with neat sketch. And give the advantages and disadvantages.	**CO3**	**L2**	**12M**
		UNIT-IV			
7	**a**	Define power factor. Explain voltage and current relationship for different loads.	**CO4**	**L2**	**6M**
	b	Determine the optimum capacitor allocation for improvement of power factor.	**CO4**	**L3**	**6M**
		OR			
8	**a**	Write notes on how an over excited synchronous machine improves power factor.	**CO4**	**L2**	**6M**
	b	Explain Static capacitors in power factor improvement.	**CO4**	**L2**	**6M**
		UNIT-V			
9		Explain about Supervisory Control and Data Acquisition.	**CO5**	**L2**	**12M**
		OR			
10	**a**	What are the fundamental requirements of communication infrastructure?	**CO5**	**L1**	**6M**
	b	What is communication? Give Methods of Communication.	**CO5**	**L1**	**6M**

***** END *****

O.P.Code: 20EC0430	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

ELECTRONIC MEASUREMENTS AND INSTRUMENTATION

(Electronics & Communications Engineering)

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

(Answer all Five Units **5 x 12** = **60** Marks)

		UNIT-I			
1	**a**	The expected value of the voltage across a resistor is 80 V. However, the measurement gives a value of 79 V. Calculate (i) Absolute error (ii) % Error (iii) Relative accuracy and (iv) % of Accuracy.	**CO1**	**L3**	**6M**
	b	Define Calibration and write a short note on Static and Dynamic Calibration.	**CO1**	**L1**	**6M**
		OR			
2	**a**	With the help of circuit diagram, describe the construction & working of a Shunt type Ohmmeter.	**CO2**	**L2**	**6M**
	b	1 mA meter movement having an internal resistance of 100 Ω is used to convert into a multirange ammeter having the range of 0–10 mA, 0–20 mA and 0–50 mA. Determine the value of the shunt resistance required.	**CO2**	**L3**	**6M**
		UNIT-II			
3		With the neat sketch, explain the working principle of Dual beam oscilloscope.	**CO1**	**L2**	**12M**
		OR			
4	**a**	Describe the working principle of a Triggered sweep CRO with a neat sketch.	**CO2**	**L2**	**6M**
	b	Describe the working principle of a Sweep Trigger Pulse generator using a neat sketch.	**CO2**	**L2**	**6M**
		UNIT-III			
5	**a**	Using a neat block diagram explain the operation of a function generator.	**CO4**	**L3**	**6M**
	b	Define Wave Analyzer and Explain it's working principle.	**CO3**	**L2**	**6M**
		OR			
6	**a**	Explain the working principle of Harmonic distortion analyzer.	**CO3**	**L3**	**6M**
	b	With a neat diagram, illustrate the operation of a Pulse generator.	**CO3**	**L3**	**6M**
		UNIT-IV			
7	**a**	Explain briefly how a Maxwell Bridge is used for measuring an unknown inductance.		**L3**	**6M**
	b	A Wein bridge circuit consists of the following: R_1=4.7KΩ, C_1=5nf, R_2=20KΩ, C_3=10nf, R_3=10KΩ, R_4=100KΩ. Determine the frequency of the circuit.	**CO4**	**L1**	**6M**
		OR			
8	**a**	Discuss in detail about the working principle of Q-meter & its applications.	**CO4**	**L2**	**6M**
	b	What are the different types of AC bridges? Explain any one type of bridge.	**CO4**	**L1**	**6M**
		UNIT-V			
9	**a**	Explain the operation of thermistors and write its limitations.	**CO5**	**L3**	**6M**
	b	Write the advantages & disadvantages of Strain gauge.	**CO6**	**L2**	**6M**
		OR			
10	**a**	Discuss in brief about Moving Coil type Velocity transducers.	**CO5**	**L3**	**6M**
	b	What are the advantages & disadvantages of Resistance thermometer?	**CO5**	**L2**	**6M**

***** END *****

O.P.Code: 20ME0316	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
METAL CUTTING AND MACHINE TOOLS
(Mechanical Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Define the following terms i)Metal cutting ii) Cutting ratio.	CO1	L1	6M
	b	Describe the basic elements in metal cutting with a neat sketch.	CO1	L2	6M
		OR			
2	a	What are the conditions for producing continuous chips?	CO1	L1	6M
	b	How can you classify cutting tools?	CO1	L2	6M

UNIT-II

3	a	List various forces acting on a chip.	CO2	L1	6M
	b	Define cutting speed, feed, and depth of cut.	CO2	L2	6M
		OR			
4	a	What are the characteristics of an ideal cutting tool material?	CO2	L1	6M
	b	List out the types of cutting tool material and explain (i) Coronite (ii) Ucon.	CO2	L2	6M

UNIT-III

5		Name the different types of the lathes? Discuss the importance of the each lathe.	CO3	L1	12M
		OR			
6		Discuss about the lathe attachments with neat sketches.	CO3	L2	12M

UNIT-IV

7		Draw the block diagram of a shaper machine and explain briefly the functions of various parts and operations performed on it.	CO4	L2	12M
		OR			
8	a	What is a shaper? Write the working principle and specification of a shaper.	CO4	L3	6M
	b	List out various types of cutters, work holding and tool holding devices used in drilling machine.	CO4	L3	6M

UNIT-V

9		With a neat sketch, explain construction and working of tool and cutter grinding machine.	CO5	L2	12M
		OR			
10		Compare the center and center-less grinding machine.	CO5	L4	12M

***** END *****

O.P.Code: 20ME0329	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
INDUSTRIAL ENGINEERING AND MANAGEMENT
(Mechanical Engineering)

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

(Answer all Five Units **5 x 12** = **60** Marks)

UNIT-I

1	a	Explain the Taylor's principles of scientific management.	CO1	L1	6M
	b	Describe the Fayol's principles of management.	CO1	L2	6M
		OR			
2	a	Explain about departmentation with their merits and demerits.	CO2	L6	6M
	b	Discuss about the decentralization and their merits and demerits.	CO2	L6	6M

UNIT-II

3		How do you classify the plant layouts? Give a critical appraisal for each of them.	CO2	L1	12M
		OR			
4	a	Discuss in detail the basic requirements and procedure for CRAFT and ALDEP technique.	CO2	L6	6M
	b	How do you classify the Material Handling Systems used in plant layout?	CO2	L1	6M

UNIT-III

5	a	Elucidate various method study symbols in detail.	CO3	L2	6M
	b	Compare outline process chart and flow process chart.	CO3	L2	6M
		OR			
6	a	What is therblings? List out various symbols used and its usage in work measurement.	CO4	L1	6M
	b	List out the objectives of method study.	CO4	L1	6M

UNIT-IV

7	a	Explain briefly the following opinion survey methods of forecasting: (i) Sales force opinion survey method (ii) End-use method.	CO5	L2	6M
	b	What are the exceptions to the law of Demand?	CO5	L1	6M
		OR			
8		Discuss in detail about the pricing strategies.	CO5	L6	12M

UNIT-V

9	a	Distinguish between distribution logistics and supply chain management	CO6	L2	6M
	b	List out various objectives of supply chain management.	CO6	L1	6M
		OR			
10	a	Briefly explain the frame work of structuring drivers in supply chain.	CO6	L1	6M
	b	Name the major participants in the supply chain and also describe the effect of them on supply chain.	CO6	L1	6M

***** END *****

27.11.24 FN.

O.P.Code: 20EC0451	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
INTRODUCTION TO COMMUNICATION SYSTEMS
(Open Elective (OE) - I)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1	a	Define Communication and draw the basic block diagram of communication system.	CO1	L1	4M
	b	Explain the function of each block of communication system.	CO1	L2	8M
		OR			
2	a	Explain single tone modulation for transmitting only lower side band (LSB) frequency of SSB modulation.	CO3	L2	7M
	b	What are the advantages and disadvantages of SSB-SC signal?	CO3	L1	5M
		UNIT-II			
3	a	Define angle modulation. Classify different types of angle modulation and advantages of Angle modulation.	CO1	L1	6M
	b	Analyze the expression of single tone NBFM.	CO3	L4	6M
		OR			
4	a	Explain briefly about Phase Modulation with necessary waveforms.	CO2	L2	6M
	b	Derive the expression of modulation index of Phase modulation.	CO2	L3	6M
		UNIT-III			
5	a	Define Noise and list the different types of noises.	CO1	L2	6M
	b	A mixer stage has a noise figure of 20 dB and it is preceded by another amplifier with a noise figure of 9 dB and an available power gain of 15 dB. Calculate the overall noise figure referred to the input.	CO1	L1	6M
		OR			
6	a	Define pulse modulation and different types of pulse modulation in analog and digital communication.	CO4	L4	6M
	b	Compare PAM, PWM and PPM techniques.	CO4	L4	6M
		UNIT-IV			
7	a	Define Digital Communication and draw the basic block diagram of Digital communication system.	CO4	L1	6M
	b	Explain the Process of Quantization with suitable example.	CO5	L2	6M
		OR			
8	a	Explain DM (delta modulation system) with suitable diagrams.	CO2	L2	6M
	b	Compare ASK, FSK, and PSK.	CO6	L4	6M
		UNIT-V			
9	a	Discuss briefly about the evolution of Mobile radio communication.	CO1	L2	6M
	b	Explain second generation (2G) cellular networks.	CO1	L2	6M
		OR			
10	a	Explain the multiple access schemes for wideband systems.	CO6	L2	6M
	b	Draw the TDMA frame structure and briefly explain the fields.	CO6	L1	6M

***** END *****

O.P.Code: 20EE0227 | R20 | H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year I Semester Regular & Supplementary Examinations November-2024
GENERATION OF ENERGY FROM WASTE
(Open Elective (OE) - I)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	What are the different kinds of waste?	CO1	L1	6M
	b	What are the Sources and Types of Solid Wastes?	CO1	L1	6M

OR

2		What is Industrial Waste? What are the effects of industrial waste? What are the management of industrial waste?	CO1	L1	12M

UNIT-II

3		What are the different types of pyrolysis process? Compare the different types of pyrolysis process.	CO2	L3	12M

OR

4		List out applications of Charcoal in various domains.	CO3	L3	12M

UNIT-III

5		Explain the design, construction and operation of updraft gasifier.	CO4	L2	12M

OR

6		What are the advantages and disadvantages of Various Biomass Gasification Technologies (Gasifiers) used?	CO4	L1	12M

UNIT-IV

7		Explain Design, Construction and Operation of Fluidized bed Combustor.	CO5	L2	12M

OR

8		What is Combustion Analysis? What Are the Combustion Analysis Factors?	CO5	L1	12M

UNIT-V

9	a	Classify the different types of Biogas plants.	CO6	L3	6M
	b	Write down the various applications of biogass plants.	CO6	L1	6M

OR

10		Explain the following in detail with respect to biomass plants (i) Bio-Chemical Conversion (ii) Anaerobic digestion	CO6	L2	12M

***** END *****

O.P.Code: 20ME0322	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
NON-CONVENTIONAL ENERGY RESOURCES
(Open Elective (OE) - I)

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

(Answer all Five Units **5 x 12 = 60** Marks)

		UNIT-I			
1		How do you classify the energy sources and brief them.	CO1	L1	12M
		OR			
2	a	Identify the environmental consequences of oil fuel usage.	CO1	L3	6M
	b	Define direct radiation and diffused radiation with a neat sketch.	CO1	L1	6M
		UNIT-II			
3	a	List out the major functions ofsolar thermal conversion systems.	CO1	L1	6M
	b	Classify the solar collectors and explain them.	CO2	L4	6M
		OR			
4		Explain the process of generation of power in solar pond with a neat sketch and also mention its merits and demerits.	CO2	L5	12M
		UNIT-III			
5	a	Discuss the importance of measuring wind speed and name its measuring instruments.	CO3	L2	6M
	b	List out the uses and working of wind sock in aviation industry.	CO3	L4	6M
		OR			
6	a	Describe the working of VAWT with a neat sketch.	CO3	L1	6M
	b	Outline the advantages and disadvantages of VAWT.	CO3	L2	6M
		UNIT-IV			
7	a	Explain about biomass direct combustion.	CO4	L2	6M
	b	Name various strokers used for the combustion of biomass and explain anyone with a neat figure.	CO4	L1	6M
		OR			
8		Explain the function of floating biogas digester with a neat sketch and also mention its merits and demerits.	CO4	L2	12M
		UNIT-V			
9	a	What are the different methods of hydrogen storage?	CO5	L1	6M
	b	Distinguish between wave and tidal energy.	CO5	L5	6M
		OR			
10		What is the nature of tidal power extracted from single basin arrangement and double basin arrangement?	CO5	L1	12M

***** END *****

O.P.Code: 20HS0813 | R20 | H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year I Semester Regular & Supplementary Examinations November-2024
MANAGEMENT SCIENCE
(Open Elective (OE) - I)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Elucidate the functions of Management.	CO1	L2	6M
	b	Interpret outcome of Elton Mayo Experiments.	CO1	L3	6M
		OR			
2	a	Explain the Weber's Idealistic Bureaucracy.	CO1	L2	6M
	b	Compare and contrast with suitable examples about departmentation and decentralization in a business organization.	CO1	L4	6M

UNIT-II

3	a	'Advertising is a mass communicating of information intended to persuade buyers' – Justify this statement.	CO2	L5	6M
	b	Evaluate a best suitable sales promotion technique for promoting electric vehicles (two wheeler).	CO2	L5	6M
		OR			
4		Build different Strategies involved under stages of Product Life Cycle.	CO2	L3	12M

UNIT-III

5	a	Explain about recruitment. What are the various internal and external sources of recruitment?	CO3	L2	6M
	b	Illustrate about training. How do you identify the needs for training?	CO3	L3	6M
		OR			
6		Why manpower planning is important for any organization? What are the factors that influence man power planning?	CO3	L4	12M

UNIT-IV

7		Describe difference between CPM and PERT, in the context of project management.	CO4	L2	12M
		OR			
8	a	What is project management? Explain terminology of Project.	CO4	L1	6M
	b	Define PERT and importance in Network analysis.	CO4	L1	6M

UNIT-V

9		Make use of JIT, MRP, Six Sigma changed the production environment – How?	CO5	L3	12M
		OR			
10		What is Bench Marking and how does an organization derive benefit from such initiatives?	CO5	L1	12M

***** END *****

O.P.Code: 20ME0315	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

HEAT AND MASS TRANSFER

(Mechanical Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Enumerate the some important areas which are covered under the discipline of heat transfer.	CO1	L1	6M
	b	Name and explain the mechanism of heat transfer.	CO1	L1	6M
		OR			
2	a	Define the following terms i)Thermal Conductivity ii) Thermal Resistance.	CO1	L1	6M
	b	Calculate the rate of heat transfer per unit area through a copper plate 45 mm thick, whose one face is maintained at 350 °C and the other face at 50 °C. Take thermal conductivity of copper as 370 W/m °C.	CO1	L4	6M

UNIT-II

3	a	Derive the expression for the overall heat transfer coefficient for a composite wall.	CO2	L3	6M
	b	A cold storage room has walls made up of 220 mm of brick on outside 90 mm of plastic foam and finally 16 mm of wood on the inside. The outside and inside air temperatures are 25 °C and -3 °C respectively. If the inside and outside and heat transfer coefficients are 30 and 11 W/m^2 °C respectively the thermal conductivity of brick, plastic foam and wood are 0.99, 0.02 and 0.17 W/m °C respectively. Then determine i. The rate of heat removal by the refrigeration, if the total wall area is 85 m^2 a) ii. The temperature of the inside surface of the brick.	CO2	L4	6M
		OR			
4	a	Derive an expression for heat conduction through a plane wall.	CO2	L3	6M
	b	Calculate the critical radius of insulation for asbestos (k = 0.172 W/m K) surrounding a pipe and exposed to room air at 300 K with h = 2.8 W/m K. Calculate the heat loss from a 475 K, 60 mm diameter pipe when covered with the critical radius of insulation and without insulation.	CO2	L4	6M

UNIT-III

5	a	What is the physical significance of the Nusselt number? How is it defined.	CO3	L1	6M
	b	Assuming that a man can be represented by a cylinder 350 mm in diameter and 1.65 m high with a surface temperature of 28 °C. Calculate the heat he would lose while standing in a 30 km/h wind at 12 °C.	CO3	L4	6M
		OR			
6	a	Derive the empirical correlation of free convection.	CO3	L3	6M
	b	A vertical cylinder 1.5m high and 180 mm in diameter is maintained at 100 °C in an atmosphere environment of 20 °C. Calculate heat loss by free convection from the surface of the cylinder. Assume properties of air at mean temperature as ρ = 1.06 kg/m3 ,ν = 18.97 x 10-6 m 2 /s, cp = 1.004 kJ/kg °C and k = 0.1042kJ/mh °C.	CO3	L4	6M

UNIT-IV

7	a	Define the term absorptivity, reflectivity and transmittivity of radiation.	CO4	L1	6M
	b	Deduce the correlation in boiling with proper expression.	CO4	L4	6M

OR

8	a	Differentiate between the mechanism of film wise and drop wise condensation.	CO4	L4	6M
	b	Assuming the sun to be a black body emitting radiation with maximum intensity at $\lambda = 0.49$ μm, calculate the following i)The surface temperature of the sun ii)The heat flux at surface of the sun.	CO4	L4	6M

UNIT-V

9	a	Discuss about the modes of Mass transfer.	CO6	L2	6M
	b	What is Mass transfer coefficient? Explain it briefly.	CO6	L2	6M

OR

10	a	Elucidate the correlation for mass transfer.	CO6	L2	6M
	b	List out the application of Mass Transfer.	CO6	L1	6M

***** END *****

O.P.Code: 20ME0314	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

DESIGN OF MACHINE ELEMENTS-I

(Mechanical Engineering)

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

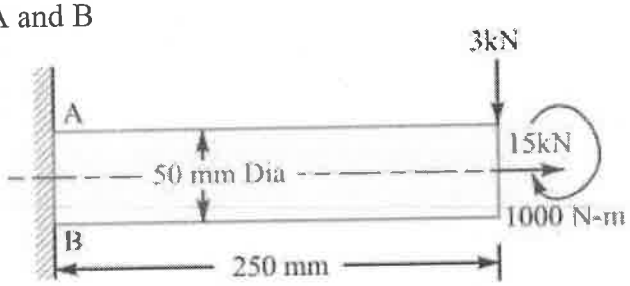
(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	How do you classify materials for engineering use?	CO1	L1	6M
	b	Draw and Explain the stress–strain diagram for mild steel.	CO1	L2	6M

OR

2		A shaft, as shown in Fig. is subjected to a bending load of 3 kN, pure torque of 1000 N-m and an axial pulling force of 15 kN. Calculate the stresses at A and B	CO1	L3	12M

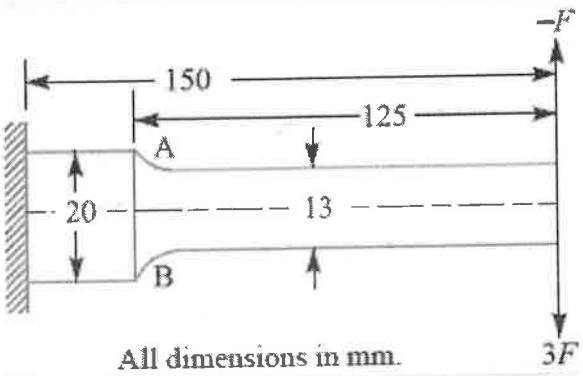


UNIT-II

3		The load on a bolt consists of an axial pull of 10 kN together with a transverse shear force of 5 kN. Find the diameter of bolt required according to 1. Maximum principal stress theory 2.Maximum shear stress theory 3.Maximum principal strain theory 4.Maximum strain energy theory; and 5.Maximum distortion energy theory.	CO2	L3	12M

OR

4		Cantilever beam made of cold drawn carbon steel of circular cross-section as shown in Fig. Is subjected to a load which varies from – F to 3F. Determine the maximum load that this member can withstand for an indefinite life using a factor of safety as 2. The theoretical stress concentration factor is 1.42 and the notch sensitivity is 0.9. Assume the following values : Ultimate stress = 550 MPa Yield stress = 470 MPa Endurance limit = 275 MPa Size factor = 0.85 Surface finish factor= 0.89	CO2	L3	12M



UNIT-III

5		Derive an expression for eccentric load acting parallel to the axis of bolts	CO3	L3	12M

OR

6	a	What is an eccentric loaded welded joint? Discuss the procedure for designing such a joint	CO3	L2	6M
	b	A plate 100 mm wide and 10 mm thick is to be welded to another plate by means of double parallel fillets. The plates are subjected to a static load of 80 kN. Find the length of weld if the permissible shear stress in the weld does not exceed 55 MPa.	CO3	L3	6M

UNIT-IV

7		A shaft is supported by two bearings placed 1 m apart. A 600 mm diameter pulley is mounted at a distance of 300 mm to the right of left hand bearing and this drives a pulley directly below it with the help of belt having maximum tension of 2.25 kN. Another pulley 400 mm diameter is placed 200 mm to the left of right hand bearing and is driven with the help of electric motor and belt, which is placed horizontally to the right. The angle of contact for both the pulleys is 180° and $\mu = 0.24$. Determine the suitable diameter for a solid shaft, allowing working stress of 63 MPa in tension and 42 MPa in shear for the material of shaft. Assume that the torque on one pulley is equal to that on the other pulley.	CO4	L3	12M

OR

8		Design a sleeve and cotter joint to resist a tensile load of 60 kN. All parts of the joint are made of the same material with the following allowable stresses: Tensile stress = 60 MPa; shear stress = 70 MPa; and compressive stress = 125 MPa.	CO5	L3	12M

UNIT-V

9		How are the keys classified? Draw neat sketches of different types of keys and state their applications.	CO6	L1	12M

OR

10		Design a cast iron protective type flange coupling to transmit 15 kW at 900 r.p.m. from an electric motor to a compressor. The service factor may be assumed as 1.35. The following permissible stresses may be used : Shear stress for shaft, bolt and key material = 40 MPa Crushing stress for bolt and key = 80 MPa Shear stress for cast iron = 8 MPa Draw a neat sketch of the coupling.	CO6	L3	12M

***** END *****

O.P.Code: 20EC0417	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

DIGITAL SIGNAL PROCESSING

(Electronics & Communications Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Explain the relationship between DFT and other transforms.	CO1	L1	4M
	b	Evaluate the output of y(n) of a filter whose impulse response is h[n]={1 ,1, 1} and input signal x(n)={3, -1 ,0, 1, 3, 2, 0, 1, 2, 1} using overplap-add method.	CO1	L5	8M

OR

2		Compute an 8-point DFT of the sequence x[n] = {1, 2, 3, 4, 4, 3, 2, 1} using Radix-2 DIT FFT algorithm.	CO1	L3	12M

UNIT-II

3	a	Explain the steps in the design of analog Chebyshev low pass filter.	CO2	L2	6M
	b	What are the basic elements used to construct the block diagram of discrete system. Draw their symbols.	CO2	L1	6M

OR

4		Design a digital-butter-worth filter using using the following constraints: LET T=1sec, applying impulse invariant method. $0.8 \le \lvert H(\mathrm{w}) \rvert \le 1 \quad ; 0 \le w \le 0.2n$ $\lvert H(\mathrm{w}) \rvert \le 0.2 \quad ; 032n \le w \le \pi$	CO2	L3	12M

UNIT-III

5	a	Write the design of steps of FIR filter using Frequency sampling technique.	CO3	L2	6M
	b	Realize the H(z) with minimum number of multipliers $H(\mathrm{z}) = 1 + \frac{1}{2}z^{-1} + \frac{1}{8}z^{-2} + \frac{3}{4}z^{-3} + \frac{1}{8}z^{-4} + \frac{1}{2}z^{-5} + z^{-6}$	CO3	L3	6M

OR

6		Design an ideal high pass filter using hanning window with frequency response, Find the values of h(n) for N=11 and H(z). $H_d(\mathrm{e}^{jw}) = \begin{cases} 1; & \frac{\pi}{4} \le \lvert w \rvert \le \pi \\ 0, & \lvert w \rvert \le \frac{\pi}{4} \end{cases}$	CO3	L3	12M

UNIT-IV

7	a	Draw and explain the power spectral density functions for truncation and Rounding.	CO4	L3	6M
	b	Discuss various common methods for quantitation.	CO4	L2	6M

OR

8	a	Explain the signal scaling of second order IIR filter with necessary mathematical expressions.	CO4	L2	6M
	b	What is mean by Overflow limit cycle oscillations? Explain with examples.	CO4	L2	6M

UNIT-V

9	a	What are the advantages of the DSP processors over conventional microprocessors?	CO6	L1	6M
	b	Explaint the concept of multi acess memory and multi ported memory.	CO6	L2	6M

OR

10		Draw the architecture of TMS320C50 and explain its important blocks.	CO6	L2	12M

***** END *****

O.P.Code: 20EE0215	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

ELECTRIC MACHINES -III

(Electrical & Electronics Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Explain the constructional details of the stator and types of rotors of an alternator.	CO1	L2	6M
	b	An 8 pole, 3 phase 60 degree spread double layer winding has 72 coils in 72 slots. These coils are short pitched by two slots. Calculate the winding factor for the fundamental and third, fifth harmonics.	CO1	L3	6M

OR

2	a	Define harmonics and what are the various causes of producing harmonics in induced EMF?	CO1	L3	6M
	b	What are the effect of harmonics on induced EMF and winding factors and how they are suppressed?	CO1	L4	6M

UNIT-II

3	a	Explain the procedure for calculation voltage regulation by synchronous impedance method with phasor diagram.	CO2	L2	6M
	b	Explain the procedure for the construction of the Potier triangle by ZPF method and How do you calculate the no-load voltage and voltage regulation with a phasor diagram?	CO2	L2	6M

OR

4	a	Describe the slip test method for the measurement of Xd and Xq of synchronous machine.	CO3	L2	6M
	b	Describe the ASA method of calculating voltage regulation.	CO2	L2	6M

UNIT-III

5		Derive the expression for power developed of an alternator connected to infinite bus bar with Power angle characteristics.	CO3	L2	12M

OR

6	a	Determine Sub transient, Transient and steady state reactance of synchronous machine experimentally.	CO3	L3	6M
	b	A 5MVA, 10KV, 1500rpm, 50HZ alternator runs in parallel with other machines. Its reactance drop is 20%. Find a) No load b) Full load at 0.8PF lagging, the synchronizing power per unit mechanical angle of phase displacement and calculate the synchronizing if the mechanical displacement is 0.5.	CO3	L3	6M

UNIT-IV

7	a	A 400V, 3-phase star-connected synchronous motor has an armature resistance of 0.2 Ω per phase and synchronous motor reactance of 2 Ω per phase. While driving a certain load it takes 25A from the supply. Calculate the back e.m.f induced in the motor if it is working with i) 0.8 lagging ii) 0.9 leading iii) at UPF.	CO5	L3	8M

	b	Explain the power flow diagram in a synchronous motor.	**CO5**	**L2**	**4M**
		OR			
8	**a**	Explain the V and inverted V curves of the synchronous motor.	**CO5**	**L2**	**8M**
	b	What are the advantages and disadvantages of synchronous motors?	**CO5**	**L1**	**4M**
		UNIT-V			
9	**a**	Define various torques associated with synchronous motors.	**CO6**	**L1**	**6M**
	b	Explain the procedure for starting a synchronous motor.	**CO6**	**L2**	**6M**
		OR			
10	**a**	Estimate the procedure for estimation of load current in a synchronous induction motor.	**CO6**	**L2**	**6M**
	b	Explain the comparison of synchronous and induction motors.	**CO6**	**L2**	**6M**

***** END *****

O.P.Code: 20EE0214	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular &Supplementary Examinations November-2024

CONTROL SYSTEMS

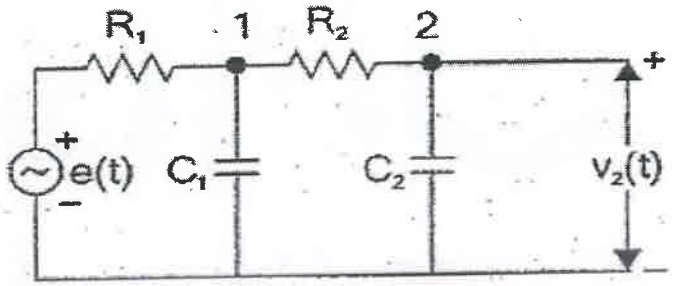
(Electrical & Electronics Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Distinguish between Block diagram Reduction Technique and Signal Flow Graph.	CO1	L2	6M
	b	For the electrical system shown in Fig, find the transfer function.	CO1	L3	6M



OR

2		Find the transfer function of Armature controlled DC Motor.	CO1	L3	12M

UNIT-II

3	a	What is the Transient and steady state response of first and second order systems.	CO2	L2	6M
	b	What is the Time response? Explain the standard test input signals with neat sketch.	CO2	L3	6M

OR

4		For a unity feedback control system, the open loop transfer function $G(S) = \frac{10(S+2)}{S^2(S+1)}$. (i) Determine the position, velocity and acceleration error constants. (ii) The steady state error when the input is $R(S) = \frac{3}{S} - \frac{2}{S^2} + \frac{1}{3S^3}$.	CO2	L4	12M

UNIT-III

5		Find the range of K for stability of unity feedback system whose open loop transfer function is $G(s) = \frac{K}{S(S+1)(S+2)}$ using Routh's stability criterion.	CO3	L3	12M

OR

6		Develop the root locus of the system whose open loop transfer function is $$G(S) = \frac{K(S+9)}{S(S^2+4S+11)}$$	CO3	L4	12M

UNIT-IV

7	a	Define and derive the expression for resonant frequency.	CO4	L2	6M
	b	Determine the transfer function of Lead Compensator and draw pole-zero plot.	CO4	L3	6M

OR

8		Develop the Bode plot for the system having the following transfer function and determine phase margin and gain margin. $$G(S) = \frac{75(1+0.2S)}{S(S^2+16S+100)}$$	CO4	L4	12M

UNIT-V

9	a	Explain the properties of STM.	CO5	L3	6M
	b	What are the properties of State Transition Matrix.	CO5	L2	6M

OR

10	a	Diagonalize the following system matrix $A = \begin{pmatrix} 0 & 6 & -5 \\ 1 & 0 & 2 \\ 3 & 2 & 4 \end{pmatrix}$	CO5	L2	6M
	b	Derive the expression for the transfer function and poles of the system from the state model. $\dot{X} = Ax + Bu$ and $Y = Cx + Du$	CO5	L3	6M

***** END *****

O.P.Code: 20AG0707	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
FARM MACHINERY AND EQUIPMENT-II
(Agricultural Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Explain the different cutter bar attachments of a mower with the help of a neat sketch.	CO1	L1	6M
	b	Define self-propelled windrower and Discuss the safety precautions in operation and adjustments of mowers.	CO1	L2	6M
		OR			
2	a	What are the types of field forage harvesters and explain the flail type forage harvesters with a neat sketch.	CO1	L2	7M
	b	What are the advantages of using field forage harvesters? Describe the proper care and maintenance required for their effective operation in the field.	CO1	L2	5M

UNIT-II

3	a	Draw the schematic diagram of a grain combine. Explain about cutting and threshing mechanism.	CO2	L2	6M
	b	What is the difference between a snapper, picker-sheller, and a picker-husker? Explain the gathering and snapping mechanism of a corn harvester.	CO2	L2	6M
		OR			
4	a	Define harvesting and explain the working of the vertical conveyor reaper with a neat sketch.	CO2	L2	7M
	b	What are the advantages and disadvantages of using a combine harvester? List down the basic operations performed by a combine harvester.	CO2	L1	5M

UNIT-III

5	a	Explain different types of potato harvesters.	CO3	L2	8M
	b	Distinguish between groundnut digger shaker and potato harvester.	CO3	L2	4M
		OR			
6	a	Distinguish between manual fruit harvesters (blade type) and manual fruit harvesters (hold-on and twist type).	CO3	L2	6M
	b	Explain in briefly about different methods of fruit harvesting.	CO3	L2	6M

UNIT-IV

7	a	What are the types of cotton pickers? Explain cotton pickers with drum-type spindle arrangement.	CO4	L2	6M
	b	Explain self-propelled sugar-cane harvesters.	CO4	L2	6M
		OR			
8	a	Write factors affecting the performance of cotton pickers.	CO4	L2	4M
	b	Explain briefly about working principles of cotton strippers. Also, discuss the factors that have contributed to the popularity of strippers over pickers.	CO4	L3	8M

UNIT-V

9	a	What are the components of a power thresher? Explain them.	CO5	L2	6M
	b	What are the parameters used to evaluate the performance of a threshing system? Also write about the effect of operating conditions on cylinder loss and seed damage.	CO5	L2	6M

OR

10	a	What is the need for testing of machinery? What are the efforts made for standardization? What are the types of testing systems?	CO5	L2	6M
	b	Explain the working principle of groundnut thresher.	CO5	L2	6M

***** END *****

O.P.Code: 20CE0161	R20	H.T.No.									

22

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
SOIL MECHANICS
(Agricultural Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Explain in detail how soils are formed.	CO1	L1	6M
	b	Briefly explain different types of soil structures which can occur in nature.	CO1	L1	6M
		OR			
2		A soil sample with a grain specific gravity of 2.67 was filled in a 1000 ml containerin the loosest possible state and the dry weight of the sample was found to be 1475g. It was then filled at the densest state obtainable and the weight was found to be1770 g. The void ratio of thesoil in the natural state was 0.63. Determine the density index in the natural state.	CO1	L3	12M

UNIT-II

3	a	The capillary rise in silt is 50 cm and that in fine sand is 30 cm. What is the difference in the pore size of the two soils?	CO2	L3	6M
	b	In a falling head permeameter test on a silty clay sample, the following results were obtained: Sample length = 12 mm Sample diameter = 80 mm Initial head = 1200 mm Final head =400 mm Time for fall in head = 6 minutes Stand pipe diameter = 4 mm Find the coefficient of permeability of the soil in mm/s.	CO2	L3	6M
		OR			
4	a	Define total stress, neutral stress and effective stress. What is the importance of the effective stress?	CO2	L1	6M
	b	What is a quick sand? How would you calculate the hydraulic gradient required to create quick sand condition in a sample of sand?	CO2	L2	6M

UNIT-III

5	a	State the assumptions made in computing stresses below the ground surface due to a point load acting on it.	CO3	L1	6M
	b	Derive an expression for the vertical stress at a point due to a line load.	CO3	L2	6M
		OR			
6		A sample of soil was prepared by mixing a quantity of dry soil with 10% by massof water. Find the mass of this wet mixture required to produce a cylindrical,compacted specimen of 15 cm diameter and 12.5 cm deep and having 6% aircontent. Find also the void ratio and the dry density of the specimen if G = 2.68.	CO4	L3	12M

UNIT-IV

7	a	Differentiate between 'Compaction' and 'Consolidation'.	CO5	L2	6M
	b	State the assumptions made by Terzaghi for theory of one-dimensional consolidation.	CO5	L1	6M

OR

8		Undrained soil sample 30 m thick got 50% consolidation in 20 minutes withdrainage allowed at top and bottom in the laboratory. If the clay layer from whichthe sample was obtained is 3 m thick in field condition, estimate the time it will taketo consolidate 50% with (i) double surface drainage (ii) single surface drainage, if inboth cases, consolidation pressure is uniform.	**CO5**	**L4**	**12M**

UNIT-V

9	**a**	Explain Coulomb's law for shearing strength of soils and its modification by Terzaghi.	**CO6**	**L1**	**6M**
	b	A shear vane of 7.5 cm diameter and 11.0 cm length was used to measure theshear strength of a soft clay. If a torque of 600 N-m was required to shear thesoil, calculate the shear strength. The vane was then rotated rapidly to causeremoulding of the soil. The torque required in the remoulded state was 200N-m. Determine the sensitivity of the soil.	**CO6**	**L3**	**6M**

OR

10		Calculate the potential shear strength on horizontal plane at a depth of 3 m belowthe surface in a formation of cohesionless soil when the water table is at a depth of3.5 m. The degree of saturation may be taken as 0.5 on the average. Void ratio =0.5; grain specific gravity = 2.7; angel of internal friction = 30^{o}. What will be themodified value of shear strength if the water table reaches the ground surface?	**CO6**	**L3**	**12M**

***** END *****

319

Q.P.Code: 20CS0903	R20	H.T.No.

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
AUTOMATA THEORY AND COMPILER DESIGN
(Common to CSM, CAI & CIC)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Consider the below finite automata and check whether the strings are accepted or not	CO1	L1	8M

States (Q)	Input Alphabtes	
	0	1
→q0	q1	q3
q1	q0	q2
(q2)	q3	q1
q3	q2	q0

(i) 0001 (ii) 1010 (iii) 1001

	b	Define alphabets, strings, Languages.	CO1	L2	4M

OR

2	a	Define Melay machine and Moore machine.	CO1	L3	6M
	b	Construct Mealy machine corresponding to Moore machine.	CO2	L3	6M

States (Q)	Next States		Output
	I/P=0	I/P=1	
→q1	q1	q2	0
q2	q1	q3	0
q3	q1	q3	1

UNIT-II

3	a	State Turing machine.	CO6	L1	4M
	b	Construct a TM for regular Expression 01(00+11)(0+1)*1.	CO6	L6	8M

OR

4	a	Write the process adapted to convert the grammar into CNF.	CO4	L2	4M
	b	Convert the following grammar into CNF. S→ bA/aB A→bAA/aS/a B→aBB/bS/a.	CO4	L3	8M

UNIT-III

5	a	Explain in detail about the role of lexical analyzer in Compiler Design.	CO1	L2	6M
	b	Write about input buffering.	CO1	L3	6M

OR

6	a	Illustrate the rules to be followed in finding the FIRST and FOLLOW.	CO1	L3	4M
	b	Find FIRST and FOLLOW for the following grammar? E→ E+T/T T→T*F/F F→(E)/id	CO2	L3	8M

UNIT-IV

7	a	Define a syntax-directed translation and explain with example.	CO2	L2	6M
	b	Give the evaluation order of SDT with an example.	CO2	L5	6M

OR

8	a	Describe bottom up parsing.	CO2	L1	4M
	b	Differences between SLR,CLR, LALR parsers.	CO2	L4	8M

UNIT-V

9	a	Analyse the different forms in target program.	CO6	L4	6M
	b	Explain the target machine in code generator.	CO6	L2	6M

OR

10	a	Analyze Simple code generator	CO6	L4	6M
	b	Evaluate Register allocation and register assignment techniques.	CO6	L5	6M

***** END *****

O.P.Code: 20CI0605	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech III Year I Semester Regular & Supplementary Examinations November-2024
SOFTWARE ENGINEERING & TESTING
(Computer Science & Information Technology)

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

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Define software crisis? Identify the reasons for software crisis.	CO1	L1	6M
	b	Explain Waterfall model with a neat diagram and list out the merits and demerits of waterfall model.	CO1	L2	6M
		OR			
2	a	An application has the following: 10 external inputs, 12 high external outputs, 20 low internal logical files, 15 high external interface files, 12 average external enquiries. And a value of complexity adjustment factor of 1.10. What are the unadjusted and adjusted function pint counts?	CO1	L6	6M
	b	Is software metrics required in software engineering? Why do we really need metrics in software.	CO1	L1	6M

UNIT-II

3	a	Explain Intermediate COCOMO model in detail.	CO2	L2	6M
	b	A new project with estimated 400 KLOC embedded system has to be developed. Project manager has a choice of hiring from two pools of developers: very highly capable with very little experience in the programming language being used or developers of low quality but a lot of experience with the programming language. What is the impact of hiring all developers from one or the other pool?	CO2	L5	6M
		OR			
4	a	Explain Software Prototyping in software engineering.	CO2	L2	6M
	b	Model a Dataflow diagram for a "Library Management System". State and explain the functional requirements you are considering.	CO2	L6	6M

UNIT-III

5	a	Define module coupling and explain different types of coupling.	CO3	L1	6M
	b	Demonstrate relationship between module cohesion and module coupling for process of good software design.	CO3	L1	6M
		OR			
6	a	Explain function-oriented software design approach.	CO3	L1	6M
	b	Define software reliability.Explain the significance of bath tube curve of reliability with the help of a diagram.	CO3	L1	6M

UNIT-IV

7	a	What is software testing? What is the deference between verification and validation.	CO4	L1	6M
	b	Define the following terminologies: i) Error, Mistake, Bug, Fault and Failure. ii) Test, Test case and Test suite.	CO4	L1	6M
		OR			

8	a	Explain decision table-based testing technique.	CO4	L2	6M
	b	Simplify data flow testing technique with an example.	CO4	L2	6M

UNIT-V

9	a	Explain the following teams: i) Reverse engineering ii) Regression testing	CO5	L2	6M
	b	Differentiate between re-engineering and new development.	CO5	L2	6M

OR

10	a	Explain the following software maintenance. i) Boehm's Model ii) Iterative enhancement model	CO5	L2	6M
	b	What are the appropriate reverse engineering tools? Discuss any two tools in detail.	CO5	L1	6M

*** END ***

O.P.Code: 20CE0121	R20	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR

(AUTONOMOUS)

B.Tech III Year I Semester Regular & Supplementary Examinations November-2024

ESTIMATION, COSTING AND VALUATION

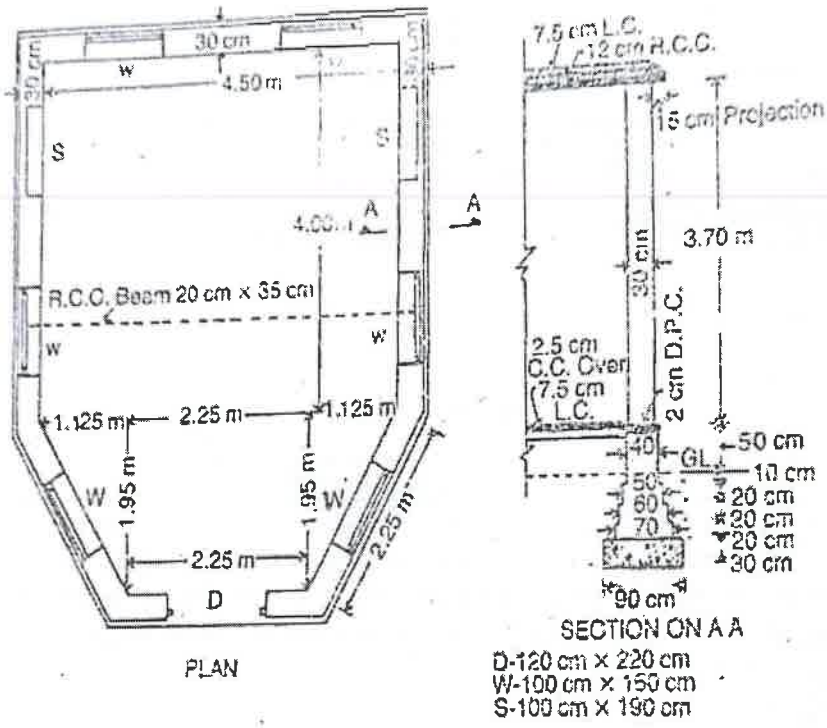
(Civil Engineering)

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

(Answer all Five Units **5 x 12 = 60** Marks)

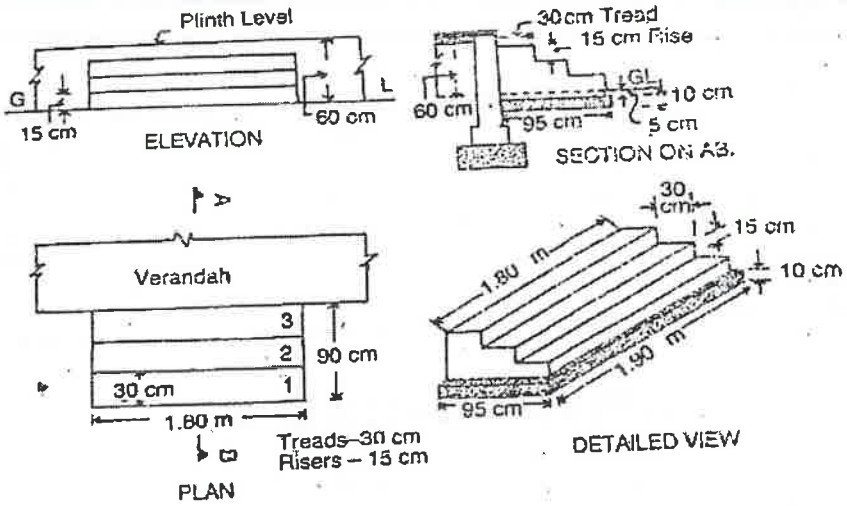
UNIT-I

1	From the given plan and section shown below, estimate the quantities of (i) Earthwork in foundation, (ii) Concrete in foundation, (iii) Brickwork in foundation and plinth in 1:6 cement mortar, (iv) 2 cm Damp proof course at plinth level, (v) Brickwork in superstructure in lime mortar, (vi) 2.5 cm c.c over 7.5 cm L.C floor.	CO1	L3	12M



OR

2	Estimate the quantities of (i) Earthwork, (ii) Concrete, (iii) Brickwork and (iv) Finishing work of different types of steps from the given drawings.	CO1	L3	12M

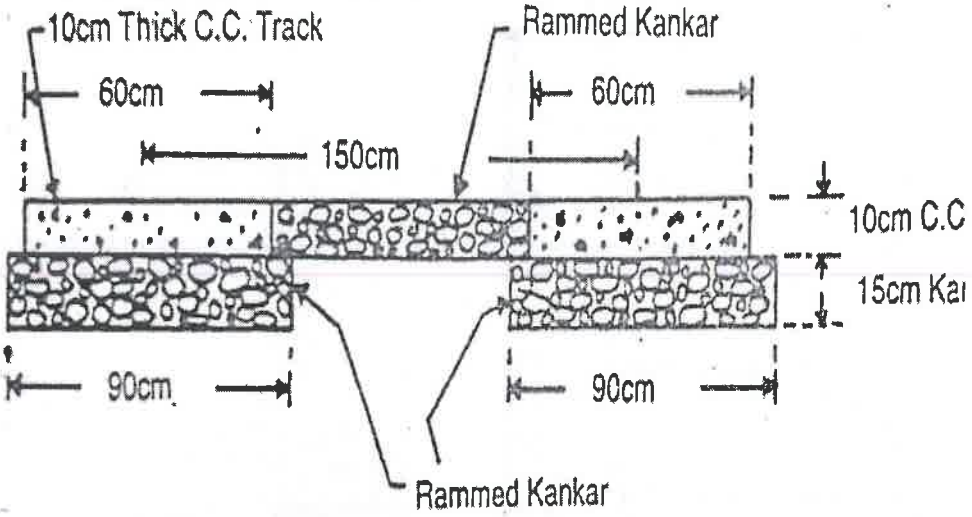


UNIT-II

3	Explain how the quantity of earthwork is estimated for a road section having regular trapezoidal cross section with formulae and necessary tables: (a) Mid-section area method (b) Mean sectional area method (c) Prismoidal formula method	CO2	L2	12M

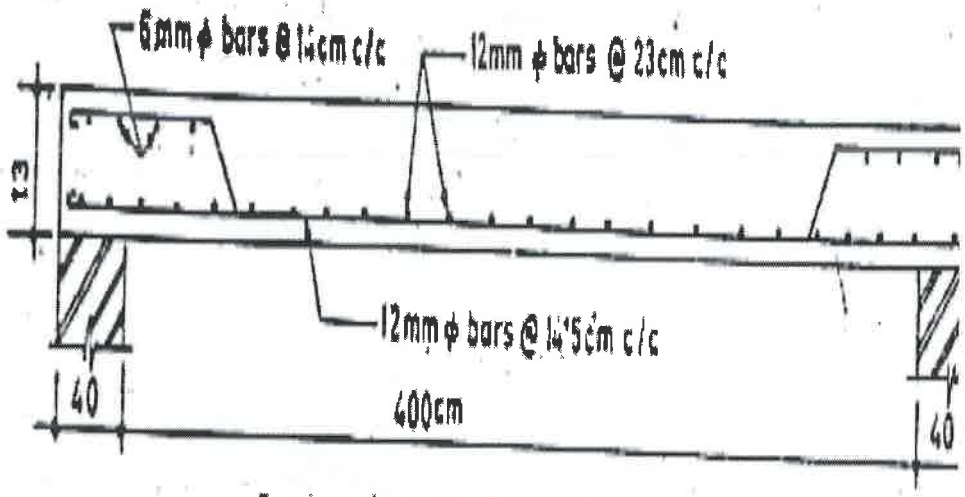
OR

4	Prepare an estimate for one kilometer length of a cement concrete trackway with 60 cm wide tracks 1.50 m center to centre over 15 cm rammed kankar. The cross-section of the track is given in figure below. Assume suitable rates.	CO2	L3	12M



UNIT-III

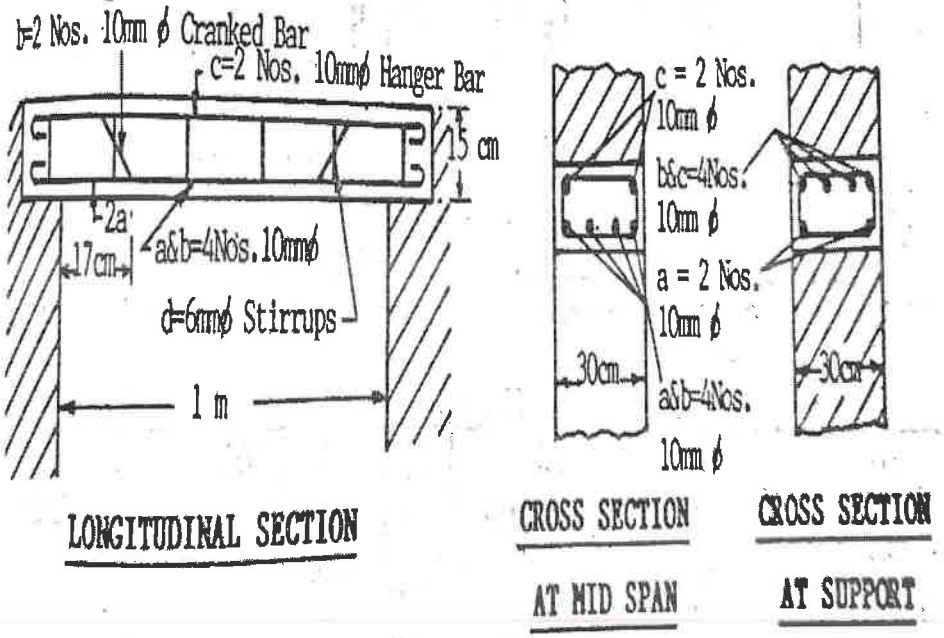
5	Figure below shows the section along the shorter span of a room of size 4 m x 5.5 m (internal dimension). The thickness of the slab is 13 cm. The thickness of wall is 40 cm. Prepare bill of quantities of the R.C.C slab. Assume any dimension not given in the figure. Also prepare bar bending schedule.	CO3	L3	12M



Section of room slab along shorter span.

OR

6	Prepare a schedule of bars for the RCC lintel shown in figure assuming bearing of the lintel be 15 cm on walls at each side. Weight of 100 mm dia bar = 0.62 kg/RM and 6 mm dia bar = 0.22 kg/RM.	CO3	L3	12M



UNIT-IV

7	a	Prepare the rate per cu. m for 1:2:4 cement concrete.	CO4	L3	6M
	b	Prepare the rate per cu. m for random rubble stone masonry in superstructure in 1:6 cement sand mortar.	CO4	L3	6M

OR

8	a	What is the rate per sq. m for constructing 12 mm thick cement plastering in ceiling with 1:3 cement sand mortar?	CO4	L3	6M
	b	Prepare rate per cu. m for exaction for a basement in hard soil, depth 1.5 m and removing the material through a distance of 50 m.	CO4	L3	6M

UNIT-V

9	a	Write the detailed specifications for white washing and colour washing.	CO5	L2	6M
	b	Mention the detail specifications for doors and windows.	CO5	L2	6M

OR

10		A three-storied building is standing on a plot of land measuring 800 sq.m. The plinth area of each storey is 400 sq.m. The building is of RCC framed structure and the future life may be taken as 70 years. The building fetches a gross rent of Rs.1500.00 per month. Work out the capitalized value of the property on the basis of 6% net yield. For sinking fund 3% compound interest may be assumed. Cost of land may be taken Rs.40.00 per sq m. Other data as required may be assumed suitably.	CO5	L3	12M

***** END *****