MAHATMA GANDHI MISSION UNIVERSITY

Mid Semester Examination –March 2024

01

Program: TY B.Tech. (ECE)**Sem:** VI (6)

Course: Power Electronics   **Subject Code:** 21UEE601D

Max Marks: 20   **Date:-** 04 /03/2024   **Duration:-** 1 Hr.

Instructions to the Students:
1. Verify that you got correct question paper.
2. Figures to right indicate full marks.
3. Assume suitable data wherever necessary.

		CO	BL	Marks
Q. 1	**Solve the following**			6
	1. _____ is a controlled device a) thyristor b) diode c) DIAC d) none	1	1	
	2. Power diode is _____ terminal device. a) 1 b) 2 c) 3 d) 4	1	1	
	3. TRIAC is _____ terminal device. a) 1 b) 2 c) 3 d) 4	1	1	
	4. All power electronic devices are switches. a) True b) False c) cannot say d) not applicable	1	1	
	5. Power diode is _____ layer device. a) 1 b) 2 c) 3 d) 4	1	1	
	6. DIAC is _____ terminal device. a) 1 b) 2 c) 3 d) 4	1	1	
Q.2	**Solve Any Two of the following.**			3 X 2
a)	Draw and explain thyristor construction and operation.	2	2	
b)	Draw and explain thyristor V-I characteristics	2	2	
c)	Give the working of R firing circuit with waveforms.	2	2	
Q. 3	**Solve Any One of the following.**			8
a)	Explain 1-Phase full wave rectifier and waveforms with RL load.	3	3	
b)	Explain 3-Phase rectifier and waveforms with RL load.	3	3	
	*** Technology is meaningless unless it changes the way we behave. ***			

MGM UNIVERSITY
JAWAHARLAL NEHRU ENGINEERING COLLEGE
DEPARTMENT OF ELECTRICAL ENGINEERING
SUBJECT: Digital Signal Processing   Mid sem (2023-24 PART 2)

TY ECE

TIME: 30 MINUTES   **MAX MARKS: 10**

12 Mark

SOLVE ANY Three. (Each Question Carries 4Marks)

    a. Discuss the Properties of Z Transform.
    b. Illustrate the classification of Discrete Time Systems.
    c. Explain the Block Diagram of Digital Signal Processing.
    d. Explain the ROC for FIR and IIR.
    e. Obtain homogeneous solution for, $Y(n)-3Y(n-1)-4Y(n-2)=0$

08 Mark

SOLVE ANY One. (Each Question Carries 8 Marks)

    a. Obtain convolution sum for,
        $X(n)=\{1 \quad 2 \quad -1 \quad 3\}$ $H(n)=\{2 \quad 4 \quad 3\}$

    b. Obtain convolution sum using Z Transform
        $X(n)=\{-1 \quad 3 \quad 5 \quad 2\}$ $H(n)=\{1 \quad 2 \quad 3\}$

TY-EE-MSE-II

MGM University
Jawaharlal Nehru Engineering College,
Chhatrapati Sambhajinagar

Class: Third Year ECE. **Class Test:** MSE   **Date:** 06/03/2024   **Subject:** AI   **Total Marks:** 20

Sr. Q1	Solve all of the following Questions (1 Mark each)	6 Marks
1.	What is the primary goal of AI? a) To replace human intelligence b) To automate tasks that require human intelligence c) To enhance human capabilities d) To create sentient beings	1
2.	Which of the following is an example of a narrow AI system? a) Siri b) Humanoid robot c) Autonomous car d) All of the above	1
3.	Which of the following is an example of a semi-supervised learning approach? a) Image classification b) Speech recognition c) Document categorization with limited labeled data d) Playing a board game like chess or Go	1
4.	Which knowledge representation technique uses a hierarchical structure to represent knowledge? a) Frames b) Semantic Networks c) Production Rules d) Ontologies	1
5.	In knowledge representation, what is an ontology? a) A set of production rules b) A hierarchical network of concepts c) A collection of frames d) A formal representation of knowledge with defined concepts and relationships	1
6.	What is the Turing Test? a) A test to assess a machine's ability to exhibit intelligent behavior equivalent to, or indistinguishable from, that of a human b) A test to assess a machine's processing speed c) A test to assess a machine's ability to perform complex calculations d) A test to assess a machine's ability to recognize objects	1
Q2	Solve any two of the following Questions (3 Mark each)	6 Marks
1.	What are Rational Agents?	3
2.	What is knowledge representation?	3
3.	What are conceptual graphs?	3
Q3	Solve any two of the following Questions (4 Mark each)	8 Marks
1.	Write about the History of AI in brief	4
2.	Explain the Breadth First Search algorithm along with one example.	4
3.	Explain Various types of Knowledge	4

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TY-EE-MSE

MGM University

Jawaharlal Nehru Engineering College, Aurangabad

MID SEM Examination

Course : T.Y.B.tech   Sem: VI   Subject Name: : Industrial Automation

Subject Code: 21UEE605E   Marks: 20   Duration:-1 Hr.

Note: Solve any FOUR questions.   All questions carry equal mark.

1	What are the different I/O used in PLC . List out the digital and analog I/O In PLC.	CO1	5
2	What is importance of communication link RS-232 & RS- 485 .	CO1	5
3	How is Supervisory level achieved in Automatic control.	CO1	5
4	Give the importance of creation of sequential steps .	CO2	5
5	Explain briefly various Electrical and Field buses.	CO1	5
6	Draw and explain various blocks of PLC.	CO2	5

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TY - EE - MSE - II

MGMU's Jawaharlal Nehru Engineering College

MSE Examination Duration:- 1hr

Course: T.Y.B. Tech Electrical Engineering Sem: VI   Subject: Digital Image Processing   Subject Code: 20UEE608E Marks:20

Note: **Solve any four.**

Q.No	Questions	CO	BL	Marks
1	How digital image is stored? Define and explain. Intensity, contrast, hue.	CO1	L2	5
2	Illustrate how the image is digitized by sampling and quantization process	CO1	L2	5
3	Assume a 6*7 Digital image and apply histogram equalization algorithm to it. Assume suitable grey scale if needed.	C03	L3	5
4	Write detail note about 　i)　　Spatial domain enhancement 　ii)　　Frequency domain enhancement	CO2	L2	5
5	Assume a 3*5 Digital image and a 3*3 mask. Apply Spatial domain image filtering algorithm to it.	C03	L3	5
6	Explain in detail about image acquisition system	CO1	L1	5