

Mahatma Gandhi Mission University

Jawaharlal Nehru Engineering College, Aurangabad.

Class: TY (ECE-I and II) CA-II (2023-24) Part-II 3.04.2024

Subject: Information Theory and coding -21UET601D Max Marks: 10 Duration: 45 Min.

N.B.:- Solve any two questions.

Sr. No.	Question	Marks	Bloom taxonomy	CO
1	Q1. Define: 1] Code rate 2] Hamming Weight 3] Hamming Distance Find Hamming weight and distance for the following code: C=[000,010,101,111]	05	L1	CO4
2	A generator matrix of a(6,3) LBC code is given .Find code word for message bits 110 $G = \begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 & 1 & 0 \end{bmatrix}$	05	L2	CO4
3	For (6,3) LBC code, the received code word is 001110. Find whether it is correct, if P given $P = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$	05	L2	CO4
4	Construct Parity check Matrix (H) of (7,4) LBC for following Generator matrix $G = \begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 & 0 \end{bmatrix}$	05	L3	CO4

Mahatma Gandhi Mission University

Jawaharlal Nehru Engineering College, Aurangabad.

Class: TY (ECE-I and II) CA-II (2023-24) Part-II 3.04.2024

Subject: Information Theory and coding -21UET601D Max Marks: 10 Duration: 45 Min.

N.B.:- Solve any two questions.

Sr. No.	Question	Marks	Bloom taxonomy	CO
1	Q1. Define: 1] Code rate 2] Hamming Weight 3] Hamming Distance Find Hamming weight and distance for the following code: C=[000,010,101,111]	05	L1	CO4
2	A generator matrix of a(6,3) LBC code is given .Find code word for message bits 110 $G = \begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 1 \\ 0 & 1 & 0 & 1 & 0 & 1 \\ 0 & 0 & 1 & 1 & 1 & 0 \end{bmatrix}$	05	L2	CO4
3	For (6,3) LBC code, the received code word is 001110. Find whether it is correct, if P given $P = \begin{bmatrix} 0 & 1 & 1 \\ 1 & 0 & 1 \\ 1 & 1 & 0 \end{bmatrix}$	05	L2	CO4
4	Construct Parity check Matrix (H) of (7,4) LBC for following Generator matrix $G = \begin{bmatrix} 1 & 0 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 & 0 & 1 & 0 \end{bmatrix}$	05	L3	CO4

15 MAY 2024/TY/ECE (ECT)/2023-24/P2/CA-2

MGM UNIVERSITY
J.N.E.C. AURANGABAD
Department of Electronics & Telecommunication
T.Y.- B.TECH. ECE Year: 2023-24 (Semester -VI) Part II

Course : JAVA Programming. Class: TY II

Max Marks: 10

Time: 45 Minutes

TEST: CA II

Date:03 /04/24

N.B. (I)Solve any two questions.

(II)Each question carries equal marks..

Q.NO	Questions	Level	CO
1	What is cloning explain it in detail with example,what is difference between cloning and copy	L2	CO3
2	Explain Math class in detail with example	L1	CO3
3	List of primitive type and its wrapper class and autoboxing and unboxing	L2	CO3

MGM UNIVERSITY
J.N.E.C. AURANGABAD
Department of Electronics & Telecommunication
T.Y.- B.TECH. ECE Year: 2023-24 (Semester -VI) Part II

Course : JAVA Programming. Class: TY II

Max Marks: 10

Time: 45 Minutes

TEST: CA II

Date:03 /04/24

N.B. (I)Solve any two questions.

(II)Each question carries equal marks.

Q.NO	Questions	Level	CO
1	What is cloning explain it in detail with example,what is difference between cloning and copy	L2	CO3
2	Explain Math class in detail with example	L1	CO3
3	List of primitive type and its wrapper class and autoboxing and unboxing	L2	CO3

MGM UNIVERSITY
J.N.E.C. AURANGABAD
Department of Electronics & Telecommunication
T.Y.- B.TECH. ECE Year: 2023-24 (Semester -VI) Part II

Course : JAVA Programming. Class: TY II

Max Marks: 10

Time: 45 Minutes

TEST: CA II

Date:03 /04/24

N.B. (I)Solve any two questions.

(II)Each question carries equal marks.

Q.NO	Questions	Level	CO
1	What is cloning explain it in detail with example,what is difference between cloning and copy	L2	CO3
2	Explain Math class in detail with example	L1	CO3
3	List of primitive type and its wrapper class and autoboxing and unboxing	L2	CO3

15 MAY 2024 / TY / ECE (ECT) / 2023-24 / P2 / CA-2

MGMU JNEC, Chhatrapati Sambhajanagar .
ECT DEPT CA-II (2023-24) Part-II

Class: TY (EC& CE) I & II

Max Marks: 10

Subject : Control System Engineering

03/04/2024 Duration: 45 Minutes

Sr.No	Question	Marks	CO	BL
1	For a system $\frac{C(s)}{R(s)} = \frac{75}{s^2+5s+64}$. Find the resonant peak M_r	2	4	3
2	Define Gain Margin & Phase margin	2	4	2
3	For unity feedback control system $G(s) = 100/[s(s+5)]$. Draw the magnitude and phase of Bode plot on semi log paper.	6	4	3

MGMU JNEC, Chhatrapati Sambhajanagar .
ECT DEPT CA-II (2023-24) Part-II

Class: TY (EC& CE) I & II

Max Marks: 10

Subject : Control System Engineering

03/04/2024 Duration: 45 Minutes

Sr.No	Question	Marks	CO	BL
1	For a system $\frac{C(s)}{R(s)} = \frac{75}{s^2+5s+64}$. Find the resonant peak M_r	2	4	3
2	Define Gain Margin & Phase margin	2	4	2
3	For unity feedback control system $G(s) = 100/[s(s+5)]$. Draw the magnitude and phase of Bode plot on semi log paper.	6	4	3

MGMU JNEC, Chhatrapati Sambhajanagar .
ECT DEPT CA-II (2023-24) Part-II

Class: TY (EC& CE) I & II

Max Marks: 10

Subject : Control System Engineering

03/04/2024 Duration: 45 Minutes

Sr.No	Question	Marks	CO	BL
1	For a system $\frac{C(s)}{R(s)} = \frac{75}{s^2+5s+64}$. Find the resonant peak M_r	2	4	3
2	Define Gain Margin & Phase margin	2	4	2
3	For unity feedback control system $G(s) = 100/[s(s+5)]$. Draw the magnitude and phase of Bode plot on semi log paper.	6	4	3

MGMU JNEC, Chhatrapati Sambhajanagar .
ECT DEPT CA-II (2023-24) Part-II

Class: TY (EC& CE) I & II

Max Marks: 10

Subject : Control System Engineering

5/3/2024 Duration: 45 Minutes

Sr.No	Question	Marks	CO	BL
1	For a system $\frac{C(s)}{R(s)} = \frac{75}{s^2+5s+64}$. Find the resonant peak M_r	2	4	3
2	Define Gain Margin & Phase margin	2	4	2
3	For unity feedback control system $G(s) = 100/[s(s+5)]$. Draw the magnitude and phase of Bode plot on semi log paper.	6	4	3

15 MAY 2024 / TY / EC&CE (EC1) / 2023-24 / P2 / CA-2

MGM UNIVERSITY, J.N.E.C. AURANGABAD
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATIONS

T.Y.- B.TECH.

Year: 2023-24 (Semester -V)

Course Code: **21UET604D**:Digital Signal Processing. TEST: CA II

Max Marks: 10

Time: 45 Minutes

Date:04.04.2024

N.B.

(I)Solve any two questions. Each question carries equal marks.

(II)Assume suitable additional data if necessary.

Q.NO	Questions	Level	CO
1	Compute DFT of $x(n)=\{1,2,2,1,0,0,0,0\}$ using Radix to DIF FFT	L3	4
2	Compute DFT of $x(n)=\{2,2,2,2\}$ using Radix to DIT FFT	L1	4
3	For the analog transfer function $H(s) = \frac{2}{s^2+3s+2}$, determine H(z) using Bilinear transformation if T=1.	L3	4
4	For the analog transfer function $H(s) = \frac{2}{s^2+3s+2}$, determine H(z) using Impulse Invariant method if T=1.	L2	4

MGM UNIVERSITY, J.N.E.C. AURANGABAD
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATIONS

T.Y.- B.TECH.

Year: 2023-24 (Semester -V)

Course Code: **21UET604D**:Digital Signal Processing. TEST: CA II

Max Marks: 10

Time: 45 Minutes

Date:04.04.2024

N.B.

(I)Solve any two questions. Each question carries equal marks.

(II)Assume suitable additional data if necessary.

Q.NO	Questions	Level	CO
1	Compute DFT of $x(n)=\{1,2,2,1,0,0,0,0\}$ using Radix to DIF FFT	L3	4
2	Compute DFT of $x(n)=\{2,2,2,2\}$ using Radix to DIT FFT	L1	4
3	For the analog transfer function $H(s) = \frac{2}{s^2+3s+2}$, determine H(z) using Bilinear transformation if T=1.	L3	4
4	For the analog transfer function $H(s) = \frac{2}{s^2+3s+2}$, determine H(z) using Impulse Invariant method if T=1.	L2	4

MGM UNIVERSITY, J.N.E.C. AURANGABAD
DEPARTMENT OF ELECTRONICS & TELECOMMUNICATIONS

T.Y.- B.TECH.

Year: 2023-24 (Semester -V)

Course Code: **21UET604D**:Digital Signal Processing. TEST: CA II

Max Marks: 10

Time: 45 Minutes

Date:04.04.2024

N.B.

(I)Solve any two questions. Each question carries equal marks.

(II)Assume suitable additional data if necessary.

Q.NO	Questions	Level	CO
1	Compute DFT of $x(n)=\{1,2,2,1,0,0,0,0\}$ using Radix to DIF FFT	L3	4
2	Compute DFT of $x(n)=\{2,2,2,2\}$ using Radix to DIT FFT	L1	4
3	For the analog transfer function $H(s) = \frac{2}{s^2+3s+2}$, determine H(z) using Bilinear transformation if T=1.	L3	4
4	For the analog transfer function $H(s) = \frac{2}{s^2+3s+2}$, determine H(z) using Impulse Invariant method if T=1.	L2	4

15 MAY 2024 / TY / ECE (ECT) / 2023-24 / P2 / CA-2

Mahatma Gandhi Mission University
Jawaharlal Nehru Engineering College, Chh. Sambhajinagar
Class: TY (ECE-I and II) CA-II (2023-24) Part-II 04.03.2024
Subject: HCP in IoT 21UET606E Max Marks: 10 Duration: 45 Min.

N.B.:- Solve any two questions.

Sr. No.	Question	BL	Marks	CO
1	Enlist and explain different components of Smart Object.	2	05	CO4
2	What is the need of trends in Smart Object?	3	05	CO4
3	Define sensors and explain its need in IoT	3	05	CO4
4	What is zigbee protocol? Explain in detail.	3	05	CO4

Mahatma Gandhi Mission University
Jawaharlal Nehru Engineering College, Chh. Sambhajinagar
Class: TY (ECE-I and II) CA-II (2023-24) Part-II 04.03.2024
Subject: HCP in IoT 21UET606E Max Marks: 10 Duration: 45 Min.

N.B.:- Solve any two questions.

Sr. No.	Question	BL	Marks	CO
1	Enlist and explain different components of Smart Object.	2	05	CO4
2	What is the need of trends in Smart Object?	3	05	CO4
3	Define sensors and explain its need in IoT	3	05	CO4
4	What is zigbee protocol? Explain in detail.	3	05	CO4

Mahatma Gandhi Mission University
Jawaharlal Nehru Engineering College, Chh. Sambhajinagar
Class: TY (ECE-I and II) CA-II (2023-24) Part-II 04.03.2024
Subject: HCP in IoT 21UET606E Max Marks: 10 Duration: 45 Min.

N.B.:- Solve any two questions.

Sr. No.	Question	BL	Marks	CO
1	Enlist and explain different components of Smart Object.	2	05	CO4
2	What is the need of trends in Smart Object?	3	05	CO4
3	Define sensors and explain its need in IoT	3	05	CO4
4	What is zigbee protocol? Explain in detail.	3	05	CO4

Mahatma Gandhi Mission University
Jawaharlal Nehru Engineering College, Chh. Sambhajinagar
Class: TY (ECE-I and II) CA-II (2023-24) Part-II 04.03.2024
Subject: HCP in IoT 21UET606E Max Marks: 10 Duration: 45 Min.

N.B.:- Solve any two questions.

Sr. No.	Question	BL	Marks	CO
1	Enlist and explain different components of Smart Object.	2	05	CO4
2	What is the need of trends in Smart Object?	3	05	CO4
3	Define sensors and explain its need in IoT	3	05	CO4
4	What is zigbee protocol? Explain in detail.	3	05	CO4

15 MAY 2024 / TY / ECE (ECT) / 2023-24 / P2 / CA-2

Mahatma Gandhi Mission's
Jawaharlal Nehru Engineering College, Aurangabad.
CA-II (2023-24) Part-II

Class: TY (ECE I & II)

Max Marks:10

Subject:VLSI Design **Code Course:(20UET605E)**

Duration: 45 Minutes

N.B.:- Solve any two questions

Sr.No.	Question	Marks	CO	BL
Q1]	Define Accumulator. How to use for ALU Explain with example? What are the advantage, Disadvantage.	05	4	1
Q2]	Design 2 bit Multiplier? How many AND Gate, half adder required for it?	05	4	2
Q3]	What is mean by Transmission Gate? Draw symbol. Design 2:1Mux using transmission Gate. Make Truth table.	05	4	2
Q4]	Draw Block diagram of Barrel Shifter. Describe 4X4 Barrel Shifter with truth table and diagram.	05	4	2

Mahatma Gandhi Mission's
Jawaharlal Nehru Engineering College, Aurangabad.
CA-II (2023-24) Part-II

Class: TY (ECE I & II)

Max Marks:10

Subject:VLSI Design **Code Course:(20UET605E)**

Duration: 45 Minutes

N.B.:- Solve any two questions

Sr.No.	Question	Marks	CO	BL
Q1]	Define Accumulator. How to use for ALU Explain with example? What are the advantage, Disadvantage.	05	4	1
Q2]	Design 2 bit Multiplier? How many AND Gate, half adder required for it?	05	4	2
Q3]	What is mean by Transmission Gate? Draw symbol. Design 2:1Mux using transmission Gate. Make Truth table.	05	4	2
Q4]	Draw Block diagram of Barrel Shifter. Describe 4X4 Barrel Shifter with truth table and diagram.	05	4	2

Mahatma Gandhi Mission's
Jawaharlal Nehru Engineering College, Aurangabad.
CA-II (2023-24) Part-II

Class: TY (ECE I & II)

Max Marks:10

Subject:VLSI Design **Code Course:(20UET605E)**

Duration: 45 Minutes

N.B.:- Solve any two questions

Sr.No.	Question	Marks	CO	BL
Q1]	Define Accumulator. How to use for ALU Explain with example? What are the advantage, Disadvantage.	05	4	1
Q2]	Design 2 bit Multiplier? How many AND Gate, half adder required for it?	05	4	2
Q3]	What is mean by Transmission Gate? Draw symbol. Design 2:1Mux using transmission Gate. Make Truth table.	05	4	2
Q4]	Draw Block diagram of Barrel Shifter. Describe 4X4 Barrel Shifter with truth table and diagram.	05	4	2

15 MAY 2024 / TY / ECE (ECT) / 2023-24 / P2 / CA-2

MGM University, Aurangabad
Jawaharlal Nehru Engineering College
CA-II (2023-24) Part-II

Class: TY (EC&CE)
Subject: Machine Learning

Max Marks: 10
Duration: 45 Minutes

N.B.: - Solve any two questions.

Sr.No.	Question	Marks	CO	BL
1	What is outlier? Explain different methods of outlier detection.	05	CO4	1
2	Explain the Label Encoding with suitable example. Enlist its advantages and disadvantages.	05	CO4	2
3	What is regularization? Explain Ridge and Lasso regularization techniques.	05	CO4	2
4	What is classification problem? Explain Logistic Regression in detail.	05	CO4	1

MGM University, Aurangabad
Jawaharlal Nehru Engineering College
CA-II (2023-24) Part-II

Class: TY (EC&CE)
Subject: Machine Learning

Max Marks: 10
Duration: 45 Minutes

N.B.: - Solve any two questions.

Sr.No.	Question	Marks	CO	BL
1	What is outlier? Explain different methods of outlier detection.	05	CO4	1
2	Explain the Label Encoding with suitable example. Enlist its advantages and disadvantages.	05	CO4	2
3	What is regularization? Explain Ridge and Lasso regularization techniques.	05	CO4	2
4	What is classification problem? Explain Logistic Regression in detail.	05	CO4	1

MGM University, Aurangabad
Jawaharlal Nehru Engineering College
CA-II (2023-24) Part-II

Class: TY (EC&CE)
Subject: Machine Learning

Max Marks: 10
Duration: 45 Minutes

N.B.: - Solve any two questions.

Sr.No.	Question	Marks	CO	BL
1	What is outlier? Explain different methods of outlier detection.	05	CO4	1
2	Explain the Label Encoding with suitable example. Enlist its advantages and disadvantages.	05	CO4	2
3	What is regularization? Explain Ridge and Lasso regularization techniques.	05	CO4	2
4	What is classification problem? Explain Logistic Regression in detail.	05	CO4	1

15 MAY 2024 / TY / ECE (ECT) / 2023-24 / P2- / CA-2