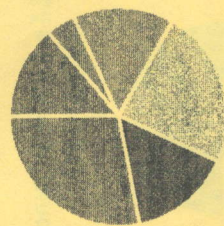


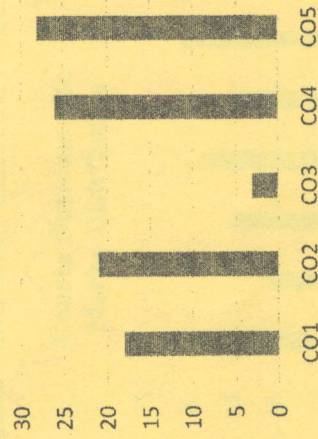
CO- Course Outcomes,	KL- Knowledge Level,	PO – Program Outcome
CO1	Identify various types of faults in power system	
CO2	Select suitable switchgears for different applications.	
CO3	Interpret various types of existing circuit breakers, their design and constructional details.	
CO4	Test the performance of different protective relays.	
CO5	Assess the protection systems of alternators and transformers.	

GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution



Course Outcome Wise Marks Distribution



END SEM EXAMINATION
School of Engineering & IT

Branch	Electrical and Electronics Engineering	Program	Diploma
Subject Name	Switchgear and Protection	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Papers.</u> 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) – 20 Marks

Q. N1	QUESTIONS	Marks	COs	KL	PO
i	What is relay? draw its circuit diagram	2	CO1	K1	PO2
ii	What do you mean by primary and back up protection?	2	CO1	K3	PO1
iii	Define fault clearing time	2	CO2	K3	PO3
iv	What do you mean by relay time?	2	CO2	K5	PO4
v	Define plug setting multiplier (PSM)	2	CO3	K1	PO3
vi	Define differential relay	2	CO3	K2	PO2
vii	Write down the difference between current transformer and potential transformer	2	CO4	K1	PO4
viii	What do you mean by static relays?	2	CO4	K2	PO4
ix	Enlist the types of distance relays.	2	CO5	K4	PO5
x	What is the requirements of a circuit breaker?	2	CO5	K6	PO6

Section B (Answer any FOUR out of SIX) – 20 Marks
(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Explain briefly the construction and working of electromagnetic relay	5	CO3	K3	PO1
3	Write down the functions of protective system	5	CO3	K1	PO1
4	Write down the construction and working of Air blast circuit breaker	5	CO5	K4	PO4
5	A generator is protected by restricted earth fault protection. The generator ratings are 13.2 kV, 10 MVA. The percentage of winding protected against phase to ground is 85%. The relay setting is such that it trips for 20% out of balance. Calculate the resistance to be added in the neutral-to-ground connection.	5	CO5	K5	PO2
6	Describe briefly the operation of reactance relay	5	CO6	K1	PO5
7	Draw and explain the working of percentage differential relay	5	CO4	K6	PO6

Section C (Answer any THREE out of FIVE) – 30 Marks-
(Each question Carry 10 Marks)

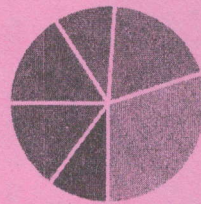
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	What is a protective zone? With a simple diagram, show the various zones in a typical power system.	10	CO3	K3	PO1
9	Draw and explain the construction and working of the Buchholz relay. Against which faults Buchholz relay give the protection? State its advantages and disadvantages.	10	CO2	K4	PO4
10	Explain the operation of a directional impedance relay. Draw its operating characteristics on an R-X diagram.	10	CO5	K2	PO4
11	Explain briefly about construction, working, and advantages of SF6 circuit breaker.	10	CO6	K3	PO5
12	Draw and explain the Merz-Price protection of alternator stator windings. State its advantage	10	CO4	K6	PO6

CO- Course Outcomes, **KL-** Knowledge Level, **PO** – Program Outcome

CO1	Describe Electric traction system in India.
CO2	Discuss the power supply arrangements, like substation, feeding sectioning arrangements etc.
CO3	Interpret the traction layout and its systems.
CO4	Analyze the different components of the electric locomotive.
CO5	Evaluate the signaling and supervisory control systems.
CO6	Structure the overhead equipment for electric traction.

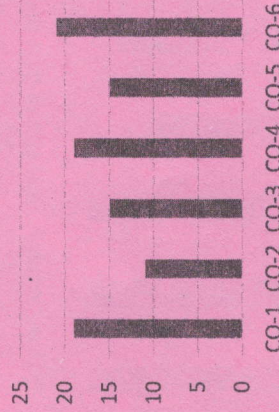
GRAFICAL REPRESENTATION


Bloom's level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution



 ARKAJAIN University Jharkhand		END SEMEXAMINATION School of Engineering & IT	
Branch	Electrical and Electronics Engineering	Program	Diploma
Subject name	Electric Traction	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks: 70	• Start writing from 2nd page onwards; don't Write on the 1st Page Backside • Answer all Questions of Section A (Compulsory) • Answer Any Four out of Six of Section B • Answer Any Three out of Five of Section C • Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Papers.</u>		
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) - 20 Marks					
Q. N 1	QUESTIONS	Marks	COs	KL	PO
i	Name the various System of Traction.	2	CO1	K1	PO2
ii	What is the need for traction motor control?	2	CO6	K3	PO2
iii	State the various constituents of supply system in traction.	2	CO2	K2	PO4
iv	Define the term "Interrupter".	2	CO2	K2	PO5
v	Write the name of the different types of Pantograph.	2	CO6	K3	PO3
vi	What is the normal distance between subsections and parallel post?	2	CO2	K1	PO1
vii	What are the different equipments in power circuit of electric traction work.	2	CO6	K2	PO6
viii	What do you meant by the "Composite System".	2	CO1	K2	PO11
ix	Define the term HOG in electric traction.	2	CO4	K2	PO12
x	What is purpose of neutral section?	2	CO4	K1	PO4

Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	State in brief the advantages and disadvantages of Electric Drive System?	5	CO1	K4	PO5
3	Write down the specialities of traction transformers.	5	CO2	K4	PO6
4	Draw the sketches and explain in brief about the Trolley Collector.	5	CO3	K6	PO7
5	Explain the need of maintenance of electric Locomotives.	5	CO4	K4	PO11
6	State the necessity of railway signalling.	5	CO5	K3	PO12
7	Write down the advantages of remote-control system.	5	CO6	K4	PO3

Section C (Answer any THREE out of FIVE) – 30 Marks-

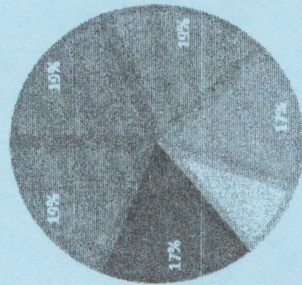
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Write down the comparison between Normal Train, Metro Train, and Mono Rail?	10	CO1	K1	PO5
9	Draw the layout of traction sub-station and show there in the various equipment's.	10	CO3	K6	PO6
10	Write the short notes on the followings: (a) Stitched Catenary Construction (b) Modified Y Catenary Construction	10	CO6	K3	PO11
11	What are the main parts of a single battery system with axle driven generator. Draw a circuit arrangement of this train lighting system.	10	CO5	K4	PO5
12	Explain briefly the different types of motors used for traction purpose.	10	CO4	K5	PO3

CO1	Tell the feature of the 8085 microprocessor, Hardware Architecture and PIN diagram.
CO2	Demonstrate programming proficiency using the various addressing modes and data transfer instructions of 8085 microprocessor.
CO3	Develop the knowledge on architecture and programming of Microcontroller 8051.
CO4	Analyze the interrupts handling and demonstrate peripherals applications in different IC.
CO5	Interpret the programming concepts to interface the hardware units with Microprocessor and Microcontroller
CO6	Design microcontrollers based equipments/projects and interface them with various modules.

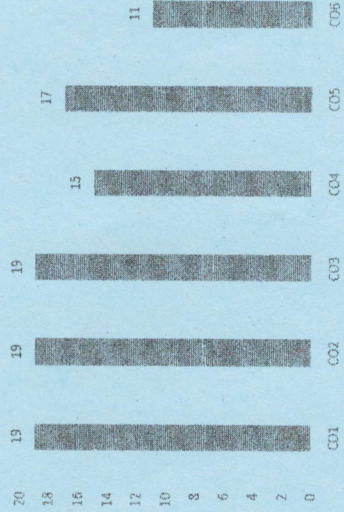
GRAPHICAL REPRESENTATION

.BLOOM'S LEVEL WISE MARKS DISTRIBUTION



Legend: K1, K2, K3, K4, K5, K6

Course Outcome Wise Marks Distribution



Branch	Electrical & Electronics Engineering	Program	Diploma
Subject Name	Microprocessor & Microcontroller	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of <u>Mobile Phones</u> or any kind of <u>Written Material, Arguments with the Invigilator or Discussing with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation of the Papers.</u> 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding	K3 : Applying K4 : Analysing	K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) – 20 Marks

Q. N 1	QUESTIONS	Marks	Cos	KL	PO
i	What is microcontroller?	2	CO1	K1	PO1
ii	What is stack pointer in 8051?	2	CO1	K1	PO1
iii	Define operand.	2	CO3	K2	PO3
iv	What is program counter in 8085?	2	CO2	K3	PO4
V	Give examples of maskable interrupts in 8085.	2	CO3	K4	PO2
vi	What is RIM and SIM instruction?	2	CO2	K2	PO1
vii	Which interrupt has highest priority in 8085?	2	CO6	K5	PO2
viii	Explain Auxillary carry flag in 8085.	2	CO5	K6	PO1
ix	What do you mean by RLC instruction in 8085?	2	CO6	K4	PO5
x	What is address bus and control bus in 8085?	2	CO6	K6	PO5

Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	Cos	KL	PO
2	What are the different features of 8051?	5	CO1	K3	PO1
3	Explain about 4 basic applications of 8051.	5	CO3	K5	PO2
4	Explain the flags in 8085.	5	CO2	K4	PO5
5	List the major components of microcontroller.	5	CO5	K6	PO4
6	What are registers in microcontroller?	5	CO6	K1	PO3
7	Write a program to add the values of locations 40H and 41H and store the result in locations 42H and 43H.	5	CO4	K2	PO3

Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

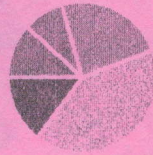
Q. No.	QUESTIONS	Marks	Cos	KL	PO
8	Draw the pin diagram of 8051. Explain its pins.	10	CO1	K1	PO1
9	Explain briefly the following instruction sets of 8085 with proper example: i. MVI ii. STAX iii. SBB iv. JC	10	CO4	K3	PO2
10	Explain all the addressing modes of 8085 with proper example.	10	CO5	K6	PO5
11	What are the differences between Harvard Architecture and Von Neuman Architecture?	10	CO2	K5	PO4
12	Write an assembly language program to subtract two 8 bits hexadecimal numbers.	10	CO3	K2	PO3

CO- Course Outcomes, KL- Knowledge Level, PO – Program Outcome

CO1	Select power electronic devices for specific applications
CO2	Understand how to maintain the performance of Thyristors.
CO3	Develop methods for troubleshoot turn-on and turn-off circuits of Thyristors.
CO4	Analyze & maintain phase controlled rectifiers.
CO5	Assess different power semiconductor switches.
CO6	Design & maintain different industrial control circuits

GRAFICAL REPRESENTATION

Bloom's level wise Marks Distribution



■ level-1 ■ level-2 ■ level-3
■ level-4 ■ level-5



END TERM EXAMINATION
School of Engineering & IT

Branch	Electrical and Electronics Engineering	Program	Diploma
Subject Name	Fundamental of Power Electronics	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks : 50	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Answer Paper / Drawing Sheet/ Log Book/ Ledger (please Mention if any) Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will comes under Unfair Means and will Result in the Cancellation of the Papers. 		
Knowledge Level (KL)	K1 : Remembering K2 : Understanding K3 : Applying K4 : Analysing		K5 : Evaluating K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) – 20 Marks

Q. N	QUESTIONS	Marks	COs	KL	PO
1					
i	What is holding current?	2	CO2	K2	PO3
ii	Draw the symbol of SCR and IGBT?	2	CO1	K1	PO1
iii	What do you mean by unidirectional switch?	2	CO1	K3	PO3
iv	Define rise time and delay time?	2	CO3	K1	PO3
v	What are the function of heat sink?	2	CO2	K2	PO2
vi	What is firing angle, conduction angle?	2	CO4	K1	PO3
vii	Draw the symbol of TRIAC, GTO, UJT,	2	CO1	K1	PO2
viii	What is function of snubber circuit?	2	CO2	K4	PO1
ix	What are difference between natural commutation and force commutation?	2	CO3	K3	PO3
x	Write the functions of UPS	2	CO6	K1	PO2

Section B (Answer any FOUR out of SIX) - 20 Marks

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Explain gate characteristics?	5	CO3	K3	PO2
3	Explain V-I characteristics of Thyristor?	5	CO2	K2	PO4
4	Explain thermal protection of SCR?	5	CO6	K3	PO4
5	Explain the operation of the Single phase half controlled rectifier with RL-load?	5	CO4	K4	PO2
6	Derive the expression of switching losses?	5	CO2	K5	PO5
7	Explain any one the turn on methods of SCR?	5	CO3	K4	PO4

Section C (Answer any THREE out of FOUR) - 30 Marks-

(Each question Carry 10 Marks)

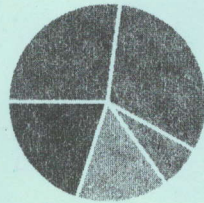
Q. No.	QUESTIONS	Marks	COs	KL	PO
8	What is commutation and explain class B-Shunt resonant commutation circuit?	10	CO6	K4	PO4
9	Explain the turn on characteristics of Thyristor?	10	CO3	K3	PO2
10	Explain method of triggering of Thyristor?	10	CO1	K4	PO2
11	Explain the operation of full bridge controlled rectifier with RL-load?	10	CO4	K4	PO4
12	Describe the Protection circuits SCR	10	CO5	K5	PO5

CO- Course Outcomes, KL- Knowledge Level, PO - Program Outcome

Course Outcomes	CO1	Exposure to introductory ideas and practices followed in a selected number of e-Governance initiatives in India.
	CO2	Understand and appreciate the essence of e-Governance.

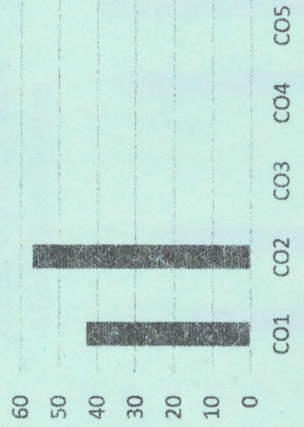
GRAFICAL REPRESENTATION

Bloom's Level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5

Course Outcome Wise Marks Distribution



ARKAJAIN University Jharkhand		END SEM EXAMINATION School of Engineering & IT	
Branch	Electrical Engineering	Program	Diploma
Subject Name	Introduction to E-Governance EEE	Semester	V
		Year	Odd Nov/Dec 2023
Time: 3 Hour Max. Marks : 70	<ul style="list-style-type: none"> Start writing from 2nd page onwards; don't Write on the 1st Page Backside Answer all Questions of Section A (Compulsory) Answer Any Four out of Six of Section B Answer Any Three out of Five of Section C Possession of Mobile Phones or any kind of Written Material, Arguments with the Invigilator or Discussing with Co-Student will come under <u>Unfair Means</u> and will Result in the Cancellation of the Papers. 		
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating

Section A (Each question Carry 02 Marks from Q1-i to Q1-x) - 20 Marks		Q.N	QUESTIONS	Marks	COs	KL	PO
i	What is IRCTC?			2	CO2	K3	PO1
ii	Give 2 objectives of E-governance			2	CO1	K1	PO2
iii	Write the e-governance sites of Post office & Passport Seva Kendra.			2	CO1	K2	PO2
iv	Give 2 examples of E-Governance			2	CO2	K2	PO1
v	What is cloud governance?			2	CO1	K1	PO2
vi	What is NEGP?			2	CO2	K1	PO1
vii	What are the different E-Seva			2	CO2	K1	PO1
viii	What is cyber law?			2	CO1	K1	PO2
ix	Explain online service delivery			2	CO2	K1	PO1
x	Explain the challenges of E-governance			2	CO2	K2	PO1

Section B (Answer any FOUR out of SIX) – 20 Marks

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Discuss the needs of E-Governance.	5	CO2	K2	PO1
3	What are the issues related to E-governance application? Why do we need to consider these issues?	5	CO1	K4	PO2
4	Discuss scope and content of E-governance.	5	CO2	K2	PO1
5	Write short note on Global trends of growth in E-governance	5	CO1	K3	PO2
6	Explain about leadership and strategic planning in E-governance services.	5	CO1	K2	PO2
7	What is an E-governance maturity model? Explain the various maturity levels of E-governance.	5	CO2	K1	PO1

Section C (Answer any THREE out of FIVE) – 30 Marks-

(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	What is E-Governance? Discuss critical flow model and comparative analysis model in details.	10	CO2	K2	PO1
9	Write short note on: a. Cyber Law b. G2C c. G2G	10	CO2	K1	PO1
10	How cyber-crime can be a threat to E-Governance.	10	CO2	K6	PO1
11	Explain the concept of e-Kranti.	10	CO1	K4	PO2
12	Explain the E-Governance initiative taken by government of India and also explain the challenges for this initiative.	10	CO1	K6	PO2