



ARKA JAIN
University

Jharkhand

NAAC
GRADE A
ACCREDITED UNIVERSITY

[06-05-2025]

END TERM EXAMINATION
School of Engineering & IT

Program	Electrical and Electronics Engineering	Branch	Diploma
Subject Name	Building Electrification	Session	Even 2024-2025
Semester	VI	Year	May, 2025
• 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 comes under <u>Unfair Means</u> and will <u>Result</u> in the <u>Cancellation</u> of the <u>Papers</u> .			
Knowledge Level (KL)	K1 : Remembering	K3 : Applying	K5 : Evaluating
	K2 : Understanding	K4 : Analysing	K6 : Creating
Time: 3 Hour Max. Marks : 70			

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

Q.N	QUESTIONS	Marks	COs	KL	PO
1					
i	Enlist any two safety accessories. *	2	CO1	K1	PO2
ii	Name two cable laying methods.	2	CO2	K3	PO1
iii	Define casing-capping wiring.	2	CO3	K3	PO3
iv	List the types of conduit wiring.	2	CO3	K5	PO4
vi	Define staircase wiring?	2	CO3	K2	PO2
vii	What is the maximum connected load allowed per lighting circuit?	2	CO4	K1	PO4
viii	What is the purpose of an ELCB?	2	CO5	K2	PO4
ix	Define fusing factor.	2	CO5	K4	PO5
x	What is the unit of luminous intensity?	2	CO6	K6	PO6

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

(Each question 5 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
2	Classify four types of switches based on their construction.	5	CO1	K3	PO1
3	Why is proper cable jointing important in underground systems?	5	CO2	K1	PO1

4	Write the advantages of concealed conduit wiring.	5	CO3	K4	PO4
5	Draw a single-line representation of a residential electrical installation 2 ceiling fan, 3 light, two socket outlet.	5	CO4	K6	PO2
6	List factors should be considered while selecting a fuse for an electrical circuit	5	CO5	K6	PO5
7	Mention the factors affecting the level of illumination in a room.	5	CO6	K4	PO6

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

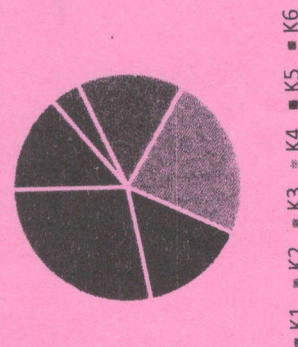
(Each question Carry 10 Marks)

Q. No.	QUESTIONS	Marks	COs	KL	PO
8	Explain the different tools used in wiring and their maintenance.	10	CO1	K5	PO1
9	Describe the different methods of wire jointing. Discuss the importance of proper jointing in electrical installations and the consequences of poor jointing.	10	CO2	K1	PO4
10	Explain the difference between residential and industrial electrical loads. Discuss how the electrical demand, load calculation and wiring methods vary in a residential building compared to an industrial setting.	10	CO3	K5	PO4
11	Describe the construction of a Miniature Circuit Breaker (MCB). Explain its working principle, highlighting the mechanical and thermal-magnetic features that make it suitable for protection in residential and industrial circuits.	10	CO5	K1	PO5
12	Describe the procedure for measuring earth resistance using an earth tester. What equipment is used in this process, and how is the measurement affected by environmental factors such as soil type and moisture content?	10	CO6	K1	PO6

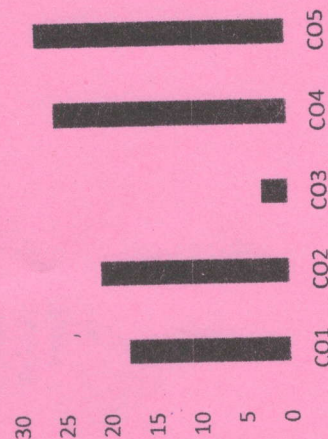
CO1	Identify various wiring tools, accessories, wiring methods, cables and remembering different IEC act.
CO2	Understanding the fundamentals of electrical Installations like requirements, design considerations, testing, estimating and costing.
CO3	Apply various scheme of illumination, the energy conversation method used in it and design methods of illumination system for building complexes.
CO4	Select the design procedure, estimation and costing method, safety aspect of electrical installation in a commercial building, hospital, industries.
CO5	Decide estimation and costing methods of outdoor, indoor substations and different electrification.
CO6	Justify as per national electrical Code of service connections and its safety aspects according to user requirement and prepare report.

GRAPHICAL REPRESENTATION

Bloom's Level wise Marks Distribution



Course Outcome Wise Marks Distribution





ARKA JAIN
University
Jharkhand

NAAC
GRADE A
ACCREDITED UNIVERSITY

[08-05-2025]

END SEM EXAMINATION
School of Engineering & IT

Jharkhand

Branch	Electrical and Electronics Engineering	Program	Diploma
Subject Name	Open Elective III - Energy Efficiency and Audit	Session	Even, 2024-2025
Semester	VI	Year	May, 2025
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 <u>Mobile Phone</u> or any kind of <u>Written Material</u>, <u>Arguments with the Invigilator or Discussion with Co-Student</u> will come under <u>Unfair Means</u> and will <u>Result in the Cancellation of the Paper(s)</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 x - 20 Marks)

Q.N	QUESTIONS	Marks	COs	KL
1				
i	Classify the types of the energy available on the earth?	2	CO1	K1
ii	What is the simplest way to save energy?	2	CO1	K2
iii	Name the different types of fans used in industrial applications.	2	CO1	K1
iv	Give the applications of pumps.	2	CO2	K2
v	What are the types of commonly used lamps?	2	CO2	K1
vi	Name various energy efficient lighting devices used for energy saving.	2	CO1	K2
vii	What are the causes of technical losses in electrical systems?	2	CO3	K1
viii	Define energy-efficient motors and list their significant features.	2	CO4	K2
ix	List the instruments used in an energy audit.	2	CO4	K1
x	Define energy audit as per the Energy Conservation Act.	2	CO5	K2

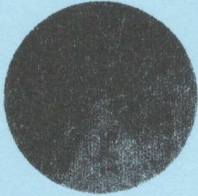
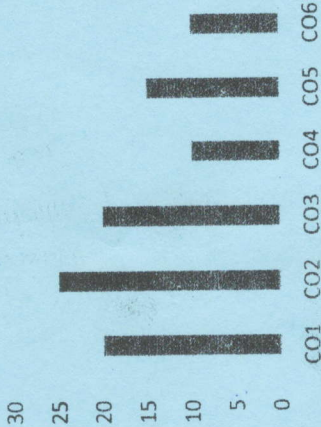
Section B (Answer any FOUR out of SIX) - 20 Marks (Each question Carry 05 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Evaluate the role of the Bureau of Energy Efficiency (BEE) in promoting energy efficiency in India.	05	CO3	K3
3	Develop a comparative analysis to evaluate whether 5-star-rated fans provide air quantity similar to ordinary fans without star ratings, considering energy efficiency and performance metrics.	05	CO4	K4
4	Explain how periodic maintenance contributes to energy conservation in lighting systems.	05	CO5	K3
5	Describe the role of tariff systems in reducing energy bills.	05	CO2	K4
6	Describe the role of an energy flow diagram in an energy audit.	05	CO4	K3
7	Explain briefly about the star labelling, and why is it significant?	05	CO3	K4
Section C (Answer any THREE out of FIVE) - 30 Marks (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	A consumer uses a 1.5-ton 5-star air conditioner for 6 hours daily, consuming 1.1 kW per hour. Another 3-star air conditioner of the same size consumes 1.5 kW per hour. Calculate the monthly electricity bill for both appliances, assuming electricity costs ₹7 per kWh. Compare the savings.	10	CO5	K6
9	Describe the present energy scenario of India.	10	CO5	K5
10	Illustrate the energy savings achieved by replacing traditional lamp sources with energy-efficient luminaires.	10	CO6	K5
11	Illustrate the need for energy conservation in induction motors and transformers.	10	CO6	K6
12	What are the key steps involved in preparing an Energy Audit Report? Kindly provide the brief explanation of each step included in the standard report format.	10	CO4	K6

CO- Course Outcomes,		KL- Knowledge Level,	PO – Program Outcome
Course Outcomes	CO1	Identify Energy forecasting, Energy economics, Energy pricing and incentives For energy conservation	
	CO2	Understand various options and assess the business and policy environment regarding energy conservation and energy auditing.	
	CO3	Apply the strategies and policy recommendations on energy conservation and energy auditing.	
	CO4	Analyze the viability of energy conservation projects.	
	CO5	Evaluate technology, economics and regulation related issues associated with energy conservation and energy auditing.	
	CO6	Create competency in Energy analysis techniques and methods & Energy conservation Planning and practices.	
GRAPHICAL REPRESENTATION			
Bloom's level wise Marks Distribution		Course Outcome wise Marks Distribution	
■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6		CO-1 CO-2 CO-3 CO-4 CO-5 CO-6	

 ARKA JAIN University Jharkhand			[10-05-2025] END SEM EXAMINATION School of Engineering & IT	
Program	Electrical and Electronics Engineering		Branch	Diploma
Subject Name	Entrepreneurship and Start-ups		Session	Even, 2024-2025
Semester	VI		Year	May, 2025
Time: 3 Hour Max. Marks : 70		- Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> <u>Answer all Questions of Section A (Compulsory)</u> <u>Answer Any Four out of Six of Section B</u> <u>Answer Any Three out of Five of Section C</u> <u>Possession of Mobile Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will come under Unfair Means and will Result in the Cancellation of the Paper(s).</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 x – 20 Marks)					
Q. N	QUESTIONS	Marks	COs	KL	
1					
i	Writes traits of an entrepreneur.	2	CO1	K1	
ii	Give comparison between entrepreneur and intreprenuer.	2	CO1	K1	
iii	Compute nature of business plan.	2	CO2	K2	
iv	How activity map can help understand the flow of your business?	2	CO2	K2	
v	Define feasibility test and its type.	2	CO3	K3	
vi	What is Idea pitching?	2	CO3	K1	
vii	How to identify the potential market?	2	CO4	K2	
viii	Illustrate Significance of writing the business plan.	2	CO4	K3	
ix	Is there any entrepreneurial initiatives in India? Mention it.	2	CO5	K2	
x	List different financing method available for start-up in India.	2	CO6	K1	

Section B (Answer any FOUR out of SIX) – 20 Marks				
(Each question Carry 05 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Elaborate the Concept of Entrepreneurial Personality with examples.	05	CO1	K2
3	Discuss any case study of start-up.	05	CO1	K4
4	Explain the process of recruitment with flow chart.	05	CO2	K3
5	Explain product positioning with example.	05	CO2	K5
6	Discuss in details how to target customers in different market environments.	05	CO4	K2
7	Explain the strategy development for businesses.	05	CO6	K3
Section C (Answer any THREE out of FIVE) – 30 Marks				
(Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Discuss the knowledge & skills of Entrepreneur with suitable example.	10	CO1	K2
9	Describe role of Business Structures in the form of a Flow Chart.	10	CO1	K6
10	Briefly discuss with examples, the smart ways for building competitive advantages.	10	CO3	K5
11	As a Financial Manager how would you develop Budget plan for a company facing financial constraints while insuring suitability and growth?	10	CO5	K4
12	Design Step by step for start up founder to secure funding through a combination of bootstrapping crowd funding and venture capital. How would you structure fundraising process?	10	CO6	K3

CO- Course Outcomes,		KL- Knowledge Level,	PO – Program Outcome
Course Outcomes	CO1	Identify the most recognized sources of potential funding and financing for business start-ups and/or expansion.	
	CO2	Understand the function of the entrepreneur in the successful, commercial application of innovations..	
	CO3	Apply basic computer proficiency, including the use of word processing, presentation, and spreadsheet software packages, as well as a basic facility with the internet and other research tools.	
	CO4	Analyze personal attributes that enable best use of entrepreneurial opportunities.	
	CO5	Evaluate fundamental comprehension of business opportunity from the perspective of a prospective investor.	
	CO6	Build entrepreneurial leadership and management style for startup and exit strategies	
GRAPHICAL REPRESENTATION			
Bloom's Level Wise Marks Distribution		Course Outcome wise Marks Distribution	
			
■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6			

 ARKA JAIN University Jharkhand 		[13-05-2025] END SEM EXAMINATION School of Engineering & IT			
Program	Electrical and Electronics Engineering	Branch	Diploma		
Subject Name	Indian Constitution	Session	Even, 2024-2025		
Semester	VI	Year	May, 2025		
Time: 1.5 Hour Max. Marks : 35		• Start writing from 2nd page onwards; <u>don't Write on the 1st Page Backside</u> • Answer all Questions of Section A (Compulsory) • Answer Any <u>Five out of Six</u> of Section B • Answer Any <u>Two out of Four</u> 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		K3 : Applying	K5 : Evaluating	
	K2 : Understanding		K4 : Analysing	K6 : Creating	

Section A (Each question Carry 01 Marks from Q1-i to v) – 05 Marks

Q. N	QUESTIONS	Marks	COs	KL
1				
i	Differentiate between the roles of the Supreme Court and the High Courts	01	CO4	K6
ii	Who is the head of the district administration in India?	01	CO4	K1
iii	When did the Constitution come into force?	01	CO1	K2
iv	How many members make up the Election Commission of India?	01	CO5	K6
v	Who was the first president of the Constituent Assembly?	01	CO1	K1

Section B (Answer any FIVE out of SIX) – 10 Marks
(Each question Carry 02 Marks)

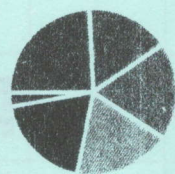
Q. No.	QUESTIONS	Marks	COs	KL
2	Enlist the powers and duties of the Chief Election Commission in India.	02	CO5	K3
3	Discuss about the Demand for a Constituent Assembly	02	CO2	K5
4	What role do fundamental rights play in protecting citizens under the constitution?	02	CO3	K4
5	List the different levels of the Panchayati Raj system	02	CO4	K4

6	Highlight the role and importance of the District Administration head in the overall governance of a district.	02	CO3	K4
7	What were the various committees of the Constituent Assembly?	02	CO1	K2
Section C (Answer any TWO out of FOUR) - 20 Marks (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	What are fundamental duties, and why are they important in a democratic society?	10	CO3	K4
9	Discuss the Summary of the Structure of Governance	10	CO5	K1
10	Explain about the key powers and functions of the Rajya Sabha	10	CO4	K5
11	Discuss on the Salient features of Constitution of India.	10	CO2	K3

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

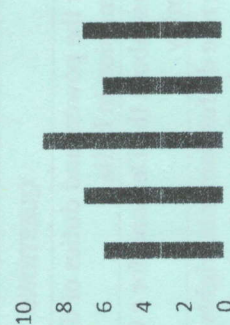
CO1	Understand the emergence and evolution of Indian Constitution.
CO2	Understand and analyse federalism in the Indian context
CO3	Understand and explain the significance of Indian Constitution as the fundamental law of the land
CO4	Exercise his fundamental rights in proper sense at the same time identifies his responsibilities in national building.
CO5	Analyse the Indian political system, the powers and functions of the Union, State and Local Governments in detail
	Understand Electoral Process, Emergency provisions and Amendment procedure
GRAPHICAL REPRESENTATION	

Bloom's level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution



CO-1 CO-2 CO-3 CO-4 CO-5



ARKA JAIN
University

Jharkhand



[15-05-2025]

END SEM EXAMINATION
School of Engineering & IT

Branch	Electrical and Electronics Engineering	Program	Diploma
Subject Name	Internet of Things	Session	Even, 2024-2025
Semester	VI	Year	May, 2025
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 Phone or any kind of Written Material, Arguments with the Invigilator or Discussion with Co-Student will comes under Unfair Means and will Result in the Cancellation of the Paper(s).		
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 x - 20 Marks)

Q.N	QUESTIONS	Marks	COs	KL
1				
i	Define the Internet of Things.	2	CO1	K1
ii	Define communication protocols in IoT.	2	CO2	K1
iii	What is Arduino?	2	CO3	K1
iv	Define data handling in IoT.	2	CO4	K1
v	Mention one role of IoT in logistics.	2	CO5	K1
vi	State one challenge in IoT activity monitoring.	2	CO5	K2
vii	What is IoT data analytics?	2	CO4	K2
viii	Why is sensor integration important in IoT?	2	CO3	K2
ix	Mention one IoT application in smart cities.	2	CO2	K1
x	What are IoT levels?	2	CO1	K2

Section B (Answer any FOUR out of SIX) – 20 Marks (Each question Carry 05 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
2	Explain the physical and logical design of IoT with examples.	05	CO1	K2
3	Discuss sensor networks and their importance in disaster management.	05	CO2	K3
4	Explain the integration of sensors and actuators in IoT using Arduino.	05	CO3	K3
5	Illustrate the role of Raspberry Pi in IoT prototyping with an example	05	CO4	K3
6	Explain how IoT helps in remote healthcare diagnostics.	05	CO5	K3
7	Discuss the role of IoT in improving energy management in smart grids.	05	CO5	K4
Section C (Answer any THREE out of FIVE) – 30 Marks (Each question Carry 10 Marks)				
Q. No.	QUESTIONS	Marks	COs	KL
8	Discuss the significance of IoT levels in designing large-scale systems with examples.	10	CO1	K4
9	Analyze the application of IoT in smart cities, focusing on traffic and waste management.	10	CO2	K4
10	Describe the architecture and programming of Arduino, highlighting its use in automation.	10	CO3	K4
11	Explain the role of IoT data analytics in enabling real-time decision-making with examples.	10	CO4	K4
12	Evaluate the role of IoT in precision farming and its impact on sustainable agriculture.	10	CO5	K5

CO1 Identify the factors that contributed to the emergence of IoT.

CO2 Understand the application areas of IOT

CO3 Apply Arduino to get automations as per requirement.

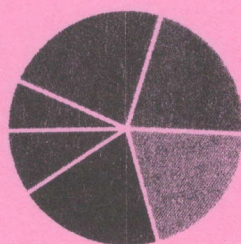
CO4 Analyze the revolution of Internet in Mobile Devices, Cloud & Sensor Networks.

CO5 Evaluate building blocks of Internet of Things and characteristics.

CO6 Design an IoT device to work with a Cloud Computing infrastructure.

GRAPHICAL REPRESENTATION

Bloom's level wise Marks Distribution



■ K1 ■ K2 ■ K3 ■ K4 ■ K5 ■ K6

Course Outcome wise Marks Distribution

