

**SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM**



Department of Physics

**CERTIFICATE COURSE IN
HOUSE WIRING & ELECTRIFICATION**

(08.11.2021 to 06.12.2021)

**Add on / Certificate programs offered during the year
2021-22**



S.A.S. GOVERNMENT DEGREE COLLEGE

(AFFILIATED TO ADIKAVI NANNAYA UNIVERSITY, RAJAMAHENDRAVARAM)

Phone: 08818 252189. E-mail: narayanapuram.jkc@gmail.com

NARAYANAPURAM, W.G DISTRICT-534406



CERTIFICATE COURSE AT A GLANCE

1. TITLE OF THE COURSE : **House Wiring and Electrification**
2. LEVEL OF THE COURSE : **UG**
3. NAME OF THE INSTRUCTOR : **Mr B Venkatesulu Reddy**
4. DURATION OF THE COURSE: **30 HOURS**
5. DATE OF COMMENCEMENT : **08.11.2021**
6. DATE OF CLOSURE : **06.12.2021**
7. TIME OF CONDUCT OF THE CLASSES: **05:00 PM – 06:00 PM**
8. NUMBER OF STUDENTS ENROLLED FOR THE COURSE: **19**
9. NUMBER OF STUDENTS COMPLETED THE COURSE: **19**
10. ASSESMENT CRITERION : **Questions and Answers**

B. Venkatesulu Reddy

Principal
S.A.S. GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM, W.G. DISTRICT-534406



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NARAYANAPURAM, W.G DISTRICT-534406

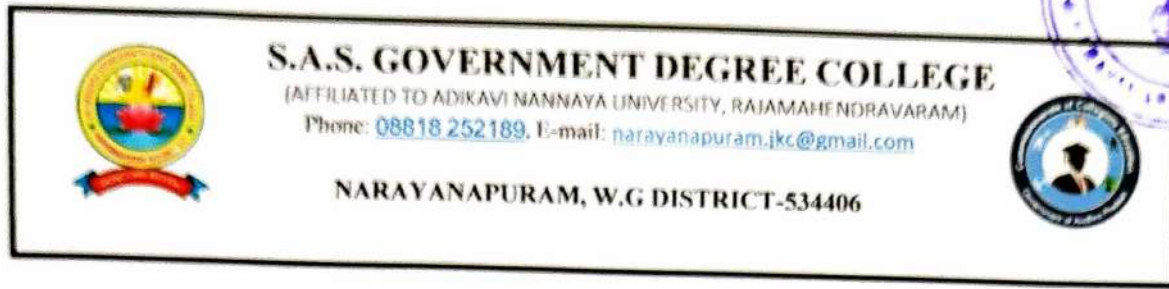


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B. Venkatesh Reddy

Incharge
Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534406

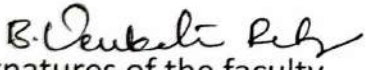


Minutes of Departmental Meeting on Certificate Course

The In Charge of the Department of Physics met in the Principal's chamber under the chairperson ship of Ms Sk Aisha (In Charge Principal) at 01:30 PM on Dt : 01-11-2021 discussed and resolved as detailed here under.

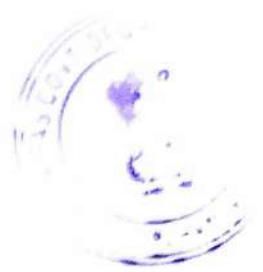
After the through discussion on the agenda of conducting certificate course as per the departmental action plan, it was resolved to

1. Conduct a certificate course titled "House Wiring and Electrification" with a duration of 30 hours during the working days
2. Frame the syllabus and regulations for the successful completion of certificate course
3. Conduct the Exam after the completion of course and issue certificate to the qualified students
4. Serve notice to the students well in advance for the enrolment into this course
5. Commence the course on the date fixed obtaining due permission from the chair.


Signatures of the faculty
Incharge
Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406


Principal
PRINCIPAL
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh

PERMISSION LETTER FOR CERTIFICATE COURSE



NARAYANAPURAM,

Dt. 03.11.2021

From
The In-charge,
Department of Physics,
SAS GDC, Narayanapuram.

To
The Principal,
SAS GDC, Narayanapuram.

Sir,

Sub: Department of Physics, SAS Govt. Degree College, Narayanapuram-
Conduct of Certificate course in **House Wiring and Electrification** (30
hours) -Accordance of permission requested-Reg.

Ref: Minutes of the departmental meeting dated 01-11-2021

Adverting to the subject, I wish to submit to your kind self that the Department of Physics is planning to conduct a Certificate course in "**House Wiring and Electrification**" with 30 hours duration for the students of our college as well as the general public. A resolution was passed to this effect in the Departmental meeting dated 01-11-2021. Hence, I request you to kindly accord permission to conduct the same from 08-11-2021 onwards.

Thanking you sir.

Enclosures

1. A xerox copy of the minutes of Departmental meeting dt. 01.11.2021
2. A copy of syllabus

Yours faithfully

B. Venkatesulu Reddy

B Venkatesulu Reddy
(Lecturer in physics)

Incharge
Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
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NARAYANAPURAM, W.G DISTRICT-534406



PROCEEDINGS OF THE PRINCIPAL, SAS GOVT. DEGREE COLLEGE, NARAYANAPURAM

DATE : 04-11-2021

To
The In-charge,
Department of Physics,
SAS GDC
Narayanapuram .

Sir/Madam,

Sub: SAS Govt. Degree college, Narayanapuram- Conduct of certificate course in House Wiring and Electrification – Permission accorded- Reg.

Adverting to the subject, I hereby draw the kind attention of the in-charge of department of Physics of this college ,that a decision was taken in the staff council meeting 03.11.2021 dated after much discussions and deliberation to approve and accord permission for the conduct of a certificate course House Wiring and Electrification with 30 hours duration for the general public as well as the students of our college from dt. 08-11-2021

You are further instructed to make all the necessary preparations and arrangements for the commencement of the course on dt . 08-11-2021.

SK. Anshu
PRINCIPAL
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh



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NARAYANAPURAM, W.G DISTRICT-534406



NOTICE

NARAYANAPURAM

Dt.05.11.2021

All the students of SAS Govt. Degree college, Narayanapuram are hereby informed that the Department of Physics is intending to conduct a certificate course in "House Wiring and Electrification" from 08-11-2021 onwards. The required permission from the honourable Principal of the college has been obtained. Hence the students who are interested in enrolling themselves for the course may please contact the in-charge of the department for further details on or before dt.08-11-2021.

SK
Principal
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM
West Godavari District
Pin: 534 406, Andhra Pradesh

B. Venkatesh Reddy
In-charge of the dept.
Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406



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NARAYANAPURAM, W.G DISTRICT-534406



Department of Physics

(CERTIFICATE COURSE IN HOUSE WIRING AND ELECTRIFICATION)

Certificate Course

Syllabus

2021-22

SAS GDC NARAYANAPURAM DEPARTMENT OF PHYSICS

SYLLABUS FOR CERTIFICATE COURSE

HOUSE WIRING and ELECTRIFICATION

UNIT-I

DOMESTIC WIRING (15hr)

Various types of house wiring and basic requirement of various utilities, estimate and format of estimation, Materials and accessories used in domestic wiring and their cost, types of loads and sub circuits, Types of service mains

Design of number of sub circuits and distribution boards, preparation of wiring installation plan layout with light load, power load and control point.

UNIT-II

MAIN MAINTANANCE (10hr)

Selection of main switch cable, based on the load in circuit/sub circuits. Calculation of length of wiring cable and labor charges. Preparation of detailed estimate in standard Proforma. Estimation of writing of small residential building, offices and Commercial establishments like shops, sales counter, stores.

UNIT-III

POWER WIRING (10hr)

B. Venkatesh Reddy
Incharge

Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406



Discussion on various loads and wiring methods circuits and in small industries agriculture etc., materials and accessories used in motor installation and their cost. Designing of distribution boards, cable, motor control panel.

UNIT-IV

WIRE INSTALLATION (10hr)

Preparation of wiring installation plan and single line diagram, calculation of length of wiring cable and labor charges detailed estimate in standard Proforma Related problems on installation of motors for small workshops and irrigation pump sets.

RefText Books:

1. Electrical Technology, chand publishers, New Delhi- B.I.Theraja.
2. Electrical Technology, ELBS Publications – Edward.
3. D.C Fundamentals, Delman Publications – Loper
4. A.C Fundamentals, Delman Publications - Loper

B. Venkatesh Reddy
Incharge
Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM 531 406

S A S GOVERNMENT DEGREE COLLEGE NARAYANAPURAM
DEPARTMENT OF PHYSICS



Time: 3 Hours

Max. Marks:50

TYPE OF QUESTION	MARKS	SCHEME
SECTION-A Very short Answer Questions	Each question carries 2 Marks 10x2 = 20M	Answer ALL questions At least TWO questions to be asked from each/any unit
SECTION-B Short Answer Questions	SIX questions are to be answered out of EIGHT. Each question carries 6 Marks 5x6 = 30M	Answer any FIVE questions Not more than TWO question from each/any unit


Incharge
Department of Physics
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NARAYANAPURAM, W.G DISTRICT-534406



Department of Physics

2021-22

Course Objectives:

- Recognize the fundamental operations of key electrical, switches and Wire components.
- Troubleshooting the laboratory equipment's.
- Gain proficiency in the design and construction of basic electrical circuits using instruments.
- Enhancement of their skill techniques and Hands on Experience

B. Chakraborty *Reh*
Incharge

Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406



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NARAYANAPURAM, W.G DISTRICT-534406



Department of Physics

2021-22

Certificate Course - Student Attendance Register

Sl.No.	Roll No.	Name of the Student	1	2	3	4	5	6	7	8	9	10
01	1	B. Swathi	P	P	P	P	A	P	P	P	P	P
02	2	G. Yamuna Durga	P	P	P	P	P	P	P	P	P	P
03	3	M. Kanaka Durga	P	P	P	P	P	P	P	P	P	P
04	4	B. Chinna Rao	P	P	A	P	P	P	P	P	P	A
05	5	S. Pavan Kumar	A	P	P	P	P	P	P	P	P	P
06	6	V. Mani Sai Kumar	P	A	P	P	P	P	P	P	P	P
07	7	Y. Varaprasad	A	P	A	P	P	A	P	P	P	P
08	8	A. Somashekar	P	P	P	P	P	P	A	P	P	P
09	9	B. Hemant Kumar	P	A	P	A	P	P	A	P	P	P
10	10	Ch. Prasanna Kumar	P	P	P	P	P	P	P	P	P	P
11	11	G. Sai	P	P	P	A	P	P	P	P	A	P
12	12	G. Madhu Babu	P	P	P	P	P	P	P	P	P	P
13	13	J. Naga Babu	P	P	P	P	P	P	P	P	P	A
14	14	K.D.S. Naga Sai	P	P	P	P	A	P	P	P	P	P
15	15	K.V.D. Bhavani	P	P	P	P	P	P	P	P	P	P
16	16	P. Chiranjeevi	P	P	A	P	P	P	P	A	P	P
17	17	P. Shiva Sai Anand	P	A	P	A	P	P	P	P	P	P
18	18	Sk. Ibrahim	P	P	P	P	P	P	P	P	P	P
19	19	S.V. Satish	P	P	P	A	P	P	P	A	P	P
20												
Signature of the Lecturer												

Incharge

Department of Physics
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Department of Physics

2021-22

Certificate Course - Student Attendance Register

Sl.No.	Roll No.	Name of the Student	11	12	13	14	15	16	17	18	19	20
21	1	B. Swathi	A	A	P	P	P	P	A	P	P	P
22	2	Gr. Yamuna Durga	P	P	P	P	P	P	P	P	A	P
23	3	M. Kanaka Durga	P	P	P	P	P	A	P	P	P	P
24	4	B. Chinnarao	P	P	P	P	P	P	A	P	P	P
25	5	S. Pavan Kumar	P	P	P	P	P	P	P	P	P	P
26	6	V. Mani Sai Kumar	P	P	P	P	P	P	P	P	P	P
27	7	Y. Varaprasad	P	A	P	A	A	A	P	P	P	P
28	8	A. Somashekar	P	P	P	A	P	P	P	P	P	P
29	9	B. Hemant Kumar	A	P	P	A	P	P	P	P	P	P
30	10	Ch. Prasanna Kumar	P	P	P	P	P	P	P	P	P	P
31	11	G. Sai	P	A	P	A	P	P	P	P	P	P
32	12	Gr. Madhu S. Babu	P	A	P	P	P	P	P	P	P	P
33	13	J. Naga Babu	P	P	P	P	P	P	P	P	P	P
34	14	K.D.S. Nagasai	P	A	P	P	P	P	P	P	P	A
35	15	K.V.D. Bhavani	P	P	P	P	A	P	P	P	P	P
36	16	P. Chiranjeevi	P	P	P	P	P	P	P	A	P	P
37	17	P. Shivasai Anand	P	P	P	A	P	P	A	P	A	P
38	18	SK. Ibrahim	P	P	P	P	P	P	P	P	P	P
39	19	S.V. Satish.	P	P	A	P	A	P	P	A	P	P
40												
Signature of the Lecturer												

B. Venkata R. R.

In Charge

Department of Physics

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Department of Physics

2021-22

Certificate Course - Student Attendance Register

Sl.No.	Roll No.	Name of the Student	21	22	23	24	25	26	27	28	29	30
41	1	B. Swathi	P	A	P	P	A	P	P	P	P	P
42	2	G. Yamuna Durga	P	P	P	P	P	P	P	P	P	P
43	3	M. Kanaka Durga	P	P	P	P	P	P	P	P	P	P
44	4	B. Chinna Rao	P	A	P	P	A	P	P	P	P	P
45	5	S. Pavan Kumar	P	P	P	P	P	P	P	A	P	P
46	6	V. Mani Sai Kumar	P	P	P	P	P	P	P	P	P	P
47	7	Y. Vana Prasad	P	P	P	A	P	A	P	P	P	P
48	8	A. Soma Shekar	P	P	P	P	P	P	A	P	P	P
49	9	B. Hemarath Kumar	P	P	P	P	P	P	A	P	P	P
50	10	G. Sai	P	P	A	P	P	P	P	P	A	P
51	11	G. Madhu Babu	P	P	P	P	P	P	P	P	P	P
52	12	J. Naga Babu	P	P	P	P	P	A	P	P	P	P
53	13	K.D.S Naga Sai	P	P	P	P	P	P	P	P	P	P
54	14	K.V.D. Bhavani	P	P	P	P	P	P	P	P	P	A
55	15	P. Chiranjeevi	P	P	P	P	A	P	P	P	P	P
56	16	Ch. Prasanna Kumar	P	P	P	P	P	P	P	P	P	P
57	17	P. Shiva Sai-Anand	P	P	P	P	A	P	P	A	P	P
58	18	SK. Ibrahim	P	P	P	P	P	P	P	P	P	P
59	19	S.V. Satish	P	P	P	P	A	A	P	P	A	P
60												
Signature of the Lecturer												

B. Venkata Reddy
Incharge
Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
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NARAYANAPURAM, W.G DISTRICT-534406



Department of Physics

2021-22

Certificate Course - Student Attendance Register

Sl. No.	Date	No. of Students Present	No. of Students Absentees	Signature of the Lecturer
01	8/11/21	17	02	B. Venkatesh Reddy
02	9/11/21	16	03	B. Venkatesh Reddy
03	10/11/21	16	03	B. Venkatesh Reddy
04	11/11/21	15	04	B. Venkatesh Reddy
05	12/11/21	18	01	B. Venkatesh Reddy
06	15/11/21	17	02	B. Venkatesh Reddy
07	16/11/21	17	02	B. Venkatesh Reddy
08	17/11/21	18	01	B. Venkatesh Reddy
09	18/11/21	17	02	B. Venkatesh Reddy
10	20/11/21	14	05	B. Venkatesh Reddy
11	22/11/21	18	01	B. Venkatesh Reddy
12	23/11/21	14	05	B. Venkatesh Reddy
13	24/11/21	16	03	B. Venkatesh Reddy
14	25/11/21	17	02	B. Venkatesh Reddy
15	26/11/21	16	03	B. Venkatesh Reddy
16	27/11/21	17	02	B. Venkatesh Reddy
17	29/11/21	17	02	B. Venkatesh Reddy
18	30/11/21	18	01	B. Venkatesh Reddy
19	1/12/21	19	0	B. Venkatesh Reddy
20	2/12/21	18	01	B. Venkatesh Reddy

B. Venkatesh Reddy
Incharge

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NARAYANAPURAM, W.G DISTRICT-534406



Department of Physics

2021-22

Certificate Course - Student Attendance Register

Sl. No.	Date	No. of Students Present	No. of Students Absentees	Signature of the Lecturer
21	03/12/21	18	01	B. Venkata R. R.
22	04/12/21	14	05	B. Venkata R. R.
23	06/12/21	18	01	B. Venkata R. R.
24				
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B. Venkata R. R.
incharge

Department of Physics
SAS GOVERNMENT DEGREE COLLEGE
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NARAYANAPURAM, W.G DISTRICT-534406



Department of Physics

(CERTIFICATE COURSE IN HOUSE WIRING & ELECTRIFICATION)

Brief Report on Certificate Course

In the Academic Year 2022-23 certificate course programme on Certificate course in **HOUSE WIRING AND ELECTRIFICATION** was conducted in the Department of Physics from 08.11.2021 to 06.12.2021, a good number of students were admitted for this certificate course. Through this course students get knowledge about various techniques of Electrical wiring Skill in physics. Assessment was done in the form of Questions and Answers.

B. Venkatesh Reddy

Head Dept. Of Physics

Incharge

Department of Physics

SAS GOVERNMENT DEGREE COLLEGE
NARAYANAPURAM-534 406

SK. Ashaile

Principal

PRINCIPAL,
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM
West Godavari District.
Pin: 534 406, Andhra Pradesh



S.A.S. GOVERNMENT DEGREE COLLEGE, NARAYANAPURAM
Affiliated to Adikavi Nannaya University, Rajamahendravaram



DEPARTMENT OF PHYSICS

CERTIFICATE

Section A Roll No. 12

This is to certify that Mr/Miss. S.K. Ibrahim

has attended the **CERTIFICATE** COURSE IN HOUSE WIRING & ELECTRIFICATION conducted during academic year 2021 - 2022 and having passed the examination prescribed therefore was declared to have completed the course.

B. Venkatesulu Reddy
Course Co-ordinator
B. VENKATESULU REDDY
M.Sc.

Lecturer in Physics
SASJ Govt. Degree College
NARAYANAPURAM - 534407

B. Venkatesulu Reddy
Head of the Department
B. VENKATESULU REDDY
M.Sc.

Lecturer in Physics
SASJ Govt. Degree College
NARAYANAPURAM - 534407

S.K. Ibrahim
Principal
S.A.S. Govt. Degree College
NARAYANAPURAM-534407

West Godavari, Andhra Pradesh



S.A.S. GOVERNMENT DEGREE COLLEGE, NARAYANAPURAM

Affiliated to Adikavi Nannaya University, Rajamahendravaram



DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that Mr. S. Venkata Satish Section A Roll No. 13

has attended the **CERTIFICATE COURSE IN HOUSE WIRING & ELECTRIFICATION** conducted during academic year 2021 - 2022 and having passed the examination prescribed therefore was declared to have completed the course.

B. Chakraborty
Head of the Department

S.K. Sreeharsha
Principal
SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM

West Godavari District.
Pin: 534 406, Andhra Pradesh



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Affiliated to Adikavi Nannaya University, Rajamahendravaram



DEPARTMENT OF PHYSICS

CERTIFICATE

This is to certify that Mr. **P. CHIRANJEEVI** Section **A** Roll No. **10**
has attended the **CERTIFICATE COURSE IN HOUSE WIRING & ELECTRIFICATION**
conducted during academic year 2021 - 2022 and having passed the examination prescribed therefore
was declared to have completed the course.

B. Chakali Reddy
Head of the Department

S. K. A. S. S. S.
Principal

**SAS GOVT. DEGREE COLLEGE
NARAYANAPURAM**

West Godavari District.
Pin: 534 406, Andhra Pradesh

Section - A

Answer the following Any 10 questions.
Each questions carries '2' Marks.



10x2 = 20 M.u

- 1, what is domestic wiring system?
- 2, what is house wiring short notes?
- 3, what are the various types of service line?
- 4, what is the types of cables?
- 5, why should we hire you maintenance.
- 6, How many types of wires are there in a circuit?
- 7, what are the main rules for power wiring?
- 8, what is a motor control panel?
- 9, what is Mcc and pcc panel?
- 10, Types of wire installation?
- 11, what is the importance of wire installations?
- 12, what is Load control in aviations?
- 13, which color wire is positive Ac?



Section - B

Answer the following Any five questions.
Each questions carries "six" Marks.

5x6 = 30 M.u

- 1, How do you create an electrical layout plan?
- 2, How do estimate electrical wiring installation?
- 3, what is desining of distribution of boards and cables?
- 4, what are the methods of electrical wiring system connections?
- 5, How many types of wiring systems are there?
- 6, what are the benefits of electrical installation?

Section-ADomestic wiring system :-

Domestic electric circuits are the circuits that are used in homes to supply electricity throughout our houses. They are used to power a variety of household appliances and these circuit light up our homes. Three wires are used in domestic wiring.

They are the

- i, Live wire (L)
- ii, Neutral wire (N)
- iii, Earth wire (E)

2, Ans House wiring :-

House wiring means the installation of user's electrical equipment like wiring or devices installed in houses or buildings etc for the purpose of using electricity.

House electrical wiring is a process of connecting different accessories for the distribution of electrical energy from the supplier to various appliances and equipment at home television, lamps, air conditioners etc.

3.

Ans: Service lines are of two types.

- overhead service lines.
- underground cable service lines.
- overhead service lines. there are various methods of installation of overhead service lines are their use depends upon the conditions prevailing.
- Hire a licensed electrician to design and install the electrical service line.
- The electrical will trench the ground and lay conduit from the power source to the property.

8.

Ans: Motor control panel (MCP) :-

Motor control panel (MCP) is the device that controls the starting and stopping of an electric motor via an electrical contact and overload relay. which stops the motor when it is under excessive load, which causes the motor to overheat.

The purpose of a motor control to switches and devices can regulate the operation of electrical motors. They can be provide manual or automatic functions, starts, and stop the motor, control forward or reverse motions, speed up or slow down, and more.

7.

Ans:

Main rules for power wiring:-

General rules for electrical wiring:-

1. A two-pole linked main switch and a fuse unit must be installed near the point of entrance of supply cables on

ry installation.

2. the conductor used must be of significant length to safely carry load current.
3. the conductors installed must be safe in every way.
4. every installation is to be properly protected near the point of entry of.
5. In a two-wire installation if one pole is permanently earthed, no fuse.
6. Is to be used in 3-phase supply.

5, Ans:- Interviewers want to know that you have the ability to prioritize tasks, manage your time effectively, and make sound decisions under pressure. Your response will demonstrate your flexibility, commitment and ability to handle unexpected challenges, which are essential skills for a maintenance technician.

9, Ans:- MCC :- (Motor Control Center) :-

The MCC panel (motor control center) is used as the primary means for controlling various motors needed for a facility's electrical system.

This panel contains all motor control and protection devices (MCB, contactors, timers, MCCBs, transformers etc.)

MCC panels comes in different types.

- standard MCC panels
- Intelligent MCC panels
- soft starter MCC panels

PCC panels (Power control center):

pcc panel stand for power control center also known as power panel, the power control center panel works by connecting circuits from several places into a single central hub. This enables access to the whole electrical connections of a grid, industry from a single place.

12,

Ans:-

The aircraft load control agent is responsible for ensuring the safe and efficient loading of cargo, baggage, and passengers onto aircraft. They play a crucial role in maintaining the aircraft's balance and weight distribution, ensuring compliance with safety regulations and optimizing fuel efficiency.

The Load control officer calculates aircraft weight, balance and control of wide-body aircraft to define load limits.

14,
Ans:-

Importance of wire installations:-

10,
Ans:-

Types of wire installations:-

- 1, Electrical conduit
- 2, Batten wiring
- 3, casing and capping wiring
- 4, cleat wiring.

1, Electrical conduit:-

In this system, VIR and PVC wires are carried through steel or iron or PVC pipes. The conduits may be running over walls or may be concealed.

batten wiring:-

In this, insulated wires are run through the straight teak wooden battens. The wooden battens are fixed on the ceilings or walls by plugs. •

3. casing and capping wiring:-

casing and capping wiring is a types of electrical installation. where wires are run along the surface of a wall or ceiling and enclosed in a plastic or metal.

13,
Ans

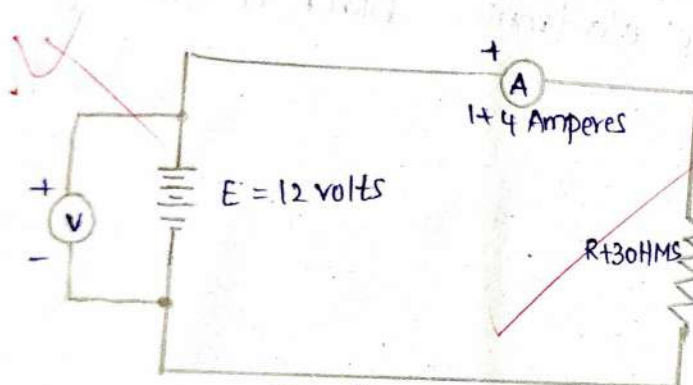
usually the red is marked as '+' and the black is marked as '-'. That in both AC electricity and DC electronics, there is a black wire.

But in AC electricity the black is hot (positive) whereas in DC electronics black is for negative.

Q1. Ans:- Electrical layout :-

It is the visual and drawn description of our building circuits and electrical properties, also known as wiring diagram or electrical drawing. It includes lines and symbols in a layout that represents the electrical system of the property, usually designed by an electrical engineer.

A drawing meant to depict the physical arrangement of the wires and the components they connect is called artwork or layout, physical design, or wiring diagram. Circuit diagrams are used for the design (circuit design), construction (such as PCB layout), and maintenance of electrical and electronic equipment.



② Schematic of circuit

Diagram of basic circuit

How to drafts an electrical plan :-

Step 1:- Know Your Layout. Either use a software or a graph paper and make a scale drawing of the different rooms.

Step 2:- plan it in Advance. After finalizing your layout, focus on your electrical plan.

Step 3:- Walk Through your plan.

the typical house wiring types are the joint box system, which is popularly known as the tree system of wiring, and the looping system type of wiring connections.

- Tree system of wiring :-

when in electrical wiring, the appliances are connected through joints, is called a joint box or the tree system of wiring. This system of electrical wiring connection consumes very less cable size, is cheap (the joint box price little costly), and is suitable for several temporary electrical installations.

- Looping or Loop-in system of wiring :-

The most universally used wiring method is the loop-in or looping system. The name is such because the connection to light or fan is made by carrying around the circuit, from one point to another in a series of loops until the last circuit is reached.

Fun Facts :-

- The contributions of wire and cables are known to probable everyone on earth who is using electricity.
- we can say the presence of wires and cables is so well known that they the entire world together with their length.
- Scientists also have invented wire that is ten-thousand times thinner than a single strand of human hair (the wire is only one atom length tall and four atoms wide).

5, Ans:- There are five classified types of electrical wiring systems and they are:

1, cleat wiring:-

cleat wirings are not the domestic wiring types, and more like temporary systems like for in a building under constructions.

2, casing wiring:-

The wiring was made of VIR cables with wooden casings. casing wiring type had easy repair methods, but this type of wiring is outdated and obsolete now.

3, Batten wiring:-

compared to other electrical wiring types, the batten wiring is cheap and can be waterproof, steam proof, and chemical proof.

4, conduit wiring:-

This wiring might be one of the most difficult and expensive types to installation. It is also very safe and long-lasting.

5, concealed wiring:-

The concealed conduit wire is also very laborious and expensive to install but is also risk-free and durable.

Benefits of electrical installation:-

Improved safety :-

Regular inspections can identify potential hazards and prevent accidents.

Increased energy efficiency:- proper maintenance can help detect and fix issues that lead to energy waste. enhanced lifespan of equipment; Routine maintenance can extend the life of electrical equipment.

Importance of electrical system:-

Electrical systems play an essential role supporting the protection of the containment barrier, through powering the reactor protection and safety systems to ensure the energy from the accident is removed from the containment and dissipated to the environment.

Benefits :-

1) Energy efficiency:-

Regular electrical inspections can also improve energy efficiency in the home. By identifying areas for improvement, you can reduce your energy bill.

2) Home appliance:-

protect appliance. You've likely spent a considerable amount of money furnishing your home with the latest and greatest appliances to make your's home.

3) Electricity:-

The most common electrical safety hazards in the home include outdated wiring, overloaded circuits, and faulty electrical components.