

- 1) No. of pole and Hz given, find speed? $N=60f/p$
- 2) Electric circuit fire which type of extinguisher is used? Dry powder, CO₂
- 3) What will be effect of interchanging any 2 phases of 3 phase inductor? Direction of rotation is changed
- 1) How will you detect a fault in an electric motor if it doesn't start?
- 1) What is MGR motor?
- 2) How will you start a generator and put it on load sharing mode with another generator already on load?
- 1) Name the instruments by which you measure electrolyte of a battery?
- 1) What all things are checked before two generators are used in parallel?
- 2) If the simple generator is overloaded, what are the effects and safety devices to prevent tripping?
- 3) What is PID controller?
- 4) How will you detect a fault in a motor?
- 5) What is AVR?
- 6) Various control systems?
- 7) How is synchronous motor started?
- 2) What is ampere/hour?
- 3) What should be the specific gravity of electrolyte of battery when fully charged discharged?
- 4) If you knew the ampere/hour, can you tell me how many plates a battery has?
- 5) What information can you get from the no of plates of a battery?
- 3) What is synchronizing?
- 4) What are steps taken before synchronizing?
- 5) What types of control systems are used on board vessel?
- 6) How will you detect any fault in electrical circuit?
- 7) How the distribution of electric circuit be performed on board?
- 8) What are types of single phase motor?
- 9) What are the basic difference between an induction and single phase motor?
- 10) What are the basic difference between an induction and synchronous motor?

Electrical BK ROY

Avr use and working

Current transformer use and working

Dc generator

Single phasing

Ip protection(many cross questions.. asked approximately whole table)

Fuse type and material

Soft starter

starter

reverse power trip

battery test

Synchronous motor induction motor difference Where used

Inductive circuit, capacitive circuit, resistive circuit

1. What is synchronous motor how to start

2. Zener diode

4. Power factor

1. Alternator cooling

2. Preferential tripping

3. Governor , xxx

4. Alternator alarms ,trips, maintenance.

1. Cooling of Alternator

2. Fuses and Circuit Breaker difference

3. Why fuse in Kw and Alternator in KVA

4. In a capacitive circuit, what is the phase difference between current and voltage

1. Battery Room Safety?

2. What will you add to the battery if liquid level is low?

3. What is the specific gravity which is required?

4. How do you measure specific gravity?

coil heats up easily in series or in parallel

why starter is used in motor

all type of starters

TYPES of motor on ship

Why do IM require starter

Types of starters difference b/w soft starter and star delta starter basic difference

Power factor

AVR - lots of xx qns

Preferential trips - xx qns

Single phasing - xx qns - causes

Too many cross questions only, no specific ones.

Generator paralleling sequence and method and parameters to check

Types of Motors and How does induction motor starts

1. Governor motor type, and use

2. why alternator in KVA and motor in KW

3. Maintenance of Lead acid battery

4. Generator paralleling, lamp method, how to know when you will close the acb, how to know

1. Synchronous motor, starting method, where use in engine room.

2. You have to motor no.1 pf 0.75 and no. 2 pf 0.8 which one motor use and why?

3. types of cb use in engine room, where use ACB, MCCB, MCB

4. RMS value and formula

ELECTRICAL GOPE

1. Alternator maintenance
2. Why Space heater, is it there in motor also ?
3. Creepage and clearance
4. Thermal relay working
5. Dead Panel alarms

1. Safeties of ER crane
2. MSB fire reasons
3. Excited and Equaliser

4. Tracking

Emergency distribution

Type of starter

Which is the biggest motor onboard

Induction motor type

Major reason of electrical fire onboard 07:22 PM

.Reasons of fire in electrical system

2. Battery room heating prevention
 3. How to check battery is fully charged or not
- What's hydrometer and what does it indicates

1. AVR and its purpose and function
2. Emergency generator battery specification and what to report to 2nd eng after checks..
3. Motor single phasing
4. Short circuit
5. Running motor maintenance..

Emergency switch board

ER crane safety

Motor overheating

Safety in LV electrical system

Windlass safety

Working of magnetic relay

Causes of electrical fire

How to identify which are essential services.

2. Motor specifications
3. MSB safety
4. Space heater and its purpose.
5. Megger, How to use take IR?

Emergency switch board

Er crane safety

Motor overheating

1-earth neutral system,insulated neutral system

2-motor checks in running

4-how temperature in the battery room is maintained

5-what is primary cell and secondary cell

Safety in LV electrical system

Windlass safety

How heat is dissipated in battery room

Motor earth fault

Types of motors

Thermal ovr + magnetic relay

Armature reaction

Paralleling of generator , y incoming frequency is more

How will u identify the essential and nonessential loads just by looking

Difference between multimeter and megger

Difference between primary cell and secondary cell

Power supply from emergency generator both 440v and 220 v04:31 PM

1) shore connection box features

2) insulated neutral earth system

3) types of motor starters? (Few cross questions)

4) motor protection devices

5) earthing in motor

6) what will happen if all protection devices on motor fails and an earth fault happens in it?

Eme. Power source distribution

Current control equipment

Er crane safeties

Indication of overcurrent in motor

1. types of relay. working of Magnetic relay and thermal relay

2. Short ckt protection

4. Motor protection

5. Motor maintenance. a lot questions on that IR testing (all answered) Motor maintenance on

6. Armature reaction. effects and how to dampen the effect

ELECTRICAL MUKHERJEE

Internal - chaki sir 1. safties on msb

2. high voltage

3. what are the different types of stators

4. what are the different types of circuit breakers

5. which breaker is used for hv

6. what are cooling arrangements on alternator

7. battery room safties and check

[8. how to check the battery cell plates color](#)

9. what is the gap between switch board and bulkhead

10. why we don't use stator what happens to motor and why it happens

11. thickness of rubber mat in front of msb

alternator maintenance

types of starters

ip protection

single phasing

Type of insulation

Alternator maintenance

Why dol is called starter if it is not limiting starting current

Type of starters

Induction motor service factor

How to control AC motor speed

How to find single phasing

What effect of if air gap is increases

Motor running hot reason

How to test ir value

Megger testing , with procedure explain

Value of Ir .

220v fault detection

Clampmeter use . How it works .

[1. how to control AC motor speed.](#)

2. what is single phasing, how you will find single phasing, what is effect of single phasing

3. why Air b/w rotor and stator, what happens if air gap will increase , what will happen if it will de

4.type of circuit breaker

5.brushless alternator

Auto transformer

Shaft generator safety

Synchronous and induction motor difference07:08 AM

-Motor encloser types

-Insulation resistance

-Types of stator

-Why dol called stator

-Sequential starting

-High voltage low voltage difference

-Why high voltage used now a days

-insulation resistance testing with multimeter

1. Important of power factor

2. Single phasing of motor

3. Insulation resistance

4. Type of enclosure

5. SCR

High voltage low voltage difference

Difference between circuit breaker and fuse?

MCB

Does MCB produce spark?

Emergency generator onload test

Manual starting without load how?

IP

Types of fuse cross

Convert 440-220 v without transformer cross

Hv Lv cross

Msb safeties

CB types

Fuse and cb difference

Paralleling of alternators

Battery room safeties

Synchro scope full

How to control speed of induction motor

How to use clampmeter

Fuse circuit breaker difference

HRC fuse

Types of fuse used onboard

Preferential trip ? How it works ? How to adjust timing

Emergency generator distribution board layout

Doping in semiconductor material ? Pentavalent and tri valent doping ?

Generator trips and values ? Various alarms in auxiliary engines

What all circuit breakers are there on ship ? MCCB rating ?

What is group starter panel ? Advantages

Transducer with example (i told flame eye sensor converts light energy to electrical signal)

IR testing, what its effect?

Megger testing? Between which point in motors?

Synchronous motor and induction motor?

Which motor on ship is synchronous motor?

How to reversing of motor?

ELECTRICAL GANGULY

what is non essential load and why

Significance of powerfactor and how to improve if less what happens

Transformer why kva and motor kw why lot cross about losses

Auto transformer construction and working if switch fails what will happen

Eddy current and its effect

2. CT and PT

3. Dash pot

4. Diode and zener diode

5. breakdown voltage

6. Regulation of emg generator

1. What is commutator ,why used where used lots of cross ques, 2. what is thermistor , name a p

Difference between S/G motor and other motors

Open loop and close loop

Auto transformer starter nd application

Circuit breaker, fuse, switch, relay working and difference

Battery room checks

Thermistor

Residual magnetism why need what is it significant

20/10/21 1. What is Open , short , earth fault and detection

2. SCR

3. Battery specific gravity

4. Air gap xxxx

Shore supply safety features

Shaft generator adv and disadv

Equalizer and exciter

Magnetic thermal relay

Current resisting components

Avr

Air Gap measure

Autotransformer

Megger

DIFFERENCE BETWEEN SLIP RING AND COMMUTATOR

where and why commutator used

Insulation resistance and how it measure

brushless alternator

2.semiconductor

motor not started reasons

Continuity test

What is residual magnetism

What is hysteresis loss

Difference between induction and synchronous

Magnetic locking

ELECTRICAL PAUL

Paralleling of generatorxxxx

AVRxxxx

HV how to generate?xxxx

Insulation? Why how to test

.emergency generator regulations.

2. What is electrical seething, why it is given , is it fire proof?

3. What is intrinsic safe circuits, it's working principle, where it is used on ship(intrinsic safe torch, vhf, lighting in

4. Salvaging of motor from sea water, what all checks to be done, wht is to be done if motor watertight sealing is

Synchrope xxx

Brushless generator

Phase angle

Phase matching

Pid and it's derivatives

Power factor###

Reative power##

Synchronous speed in generator

Closed loop example

Synchroscope full

Thyristor full and xxxxx

Pid controller and what is offset

1. Induction motor and synchronous motor: Rotor construction, Slip significance

2. Use of Induction motor on-board ship

3. Fuse, types, HRC working

4. Induction motor protection, Safety of steering gear motor, class of insulation in SG Motor.

5. Thyristor working, Gate current role

6. Types of transformer, Step-up transformer working

Capacitor

Thyristor

Induction motor

Synchronous motor

Power factor formula

Reactive power

Single phasing

Insulated neutral system

Fuse and overload relay

ELECTRICAL BHATTACHARYA

Paralleling of generatorxxxx

AVRxxxx

HV how to generate?xxxx

Insulation? Why how to test

.emergency generator regulations.

2. What is electrical seething, why it is given , is it fire proof?

3. What is intrinsic safe circuits, it's working principle, where it is used on ship(intrinsic safe torch, vhf, lighting in

4. Salvaging of motor from sea water, what all checks to be done, wht is to be done if motor watertight sealing is

Synchrope xxx

Brushless generator

Phase angle

Phase matching

Pid and it's derivatives

Power factor###

Reative power##

Synchronous speed in generator

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Synchroscope full

Thyristor full and xxxxx

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5. Thyristor working, Gate current role

6. Types of transformer, Step-up transformer working

Capacitor

Thyristor

Induction motor

Synchronous motor

Power factor formula

Reactive power

Single phasing

Insulated neutral system

Fuse and overload relay

ELECTRICAL BASU

Power factor ,reason for low power factor

Transformer losses

Life boat davits limit switch

[1.how to control ac motor speed](#)

2. Types of fuse, how to check continuity of it

3. Msb safeties

4. Reverse power trip

1.What is single phasing. Will motor restart under single phasing

2.Indication of battery fully charged or fully discharged

3.Difference between Fuse and Relay

4.Limit switch working on David

1. Power factor

2. Power factor of ur ship

3. If power factor is reduced .. To which load it will affect?

4. Maintenance of alternator and xxxxx

5. If generator not producing voltage . then wt are reasons

6. Parallel of generator ... And Xxxx

7.preferential trip and xxxx

Limit switch

Power factor

Proximity switch

Power factor? Why it is reduced?how to improve?

Lifeboat davit limit switch location and purpose?

Relays?

Transformer losses? Components in each losses

Power factor xx

How to improve

Why low then what happened

Air gap why xx what happened if more

Fuse and type

Brushless alternator

Use of capacitor

Use of brushes

Significance of power factor

MEGGER

Commutator

Diode

Why diode in alternator

Air gap in alternator/ how to measure air gap

Control of speed in synchronous motor

1. Proximity switch and cross

2. Preferential trip

3. Reverse power trip

4. Types of fuses

5. Losses in transfer and cross

Power factor, value, why reducing, improving method

Battery room safety, fan position

Diode, uses on alternator

Power factor, how to increase, what was the pf in your ship, if decreases then why and more cross

How to control motor speed?

Types of fuses

Paralleling generator in manual mode

Maintenance of alternator

What is relay

Commutator

Motor safety

If you operating crane and suddenly power fail what will happen (electromagnetic fail safe machine)

How many speeds are there in crane and how the speed can change in crane motor

What is thyristor

How to improve power factor

How to connect capacitor in series or in parallel and why in parallel

AC motor speed variation

Shore Supply

Preferential Trip

Overhead Crane Safety

Davit safeties

Battery test, how you come to know if it is fully charged or not?

Paralleling of gen

Reverse power trip

How u come to know if the phase is matching or not

Battery room safety

Type of governor

Maintenance of alternator

And how will you know if the fuse is working or not ?

Types of fuses

Hrc

Diodes

SCR

Avr

Davit safeties

Battery test,how ypu come to know if it is fully charged or not?

Paralleling of gen

Reverse power trip

How u come to know if the phase is matching or not

Transformer losses

Diode and it's applications

Intrinsically safe equipment

Type of governor

Earth fault and how to know it has happened

Power factor on ship

How much pf on your ship

Earthfault

If earthfault happen in engine room and what will u do

Types of earthfaults in engine room

In Emergency generator voltage is not generating , what will be causes

How to solve this problem

What is diode

Where it is used (I told alternator and then he asked why and where it is used in generator)

Electrical safety on lifeboat davit

Reverse power trip

Megger

Types of fuse

HRC fuse

Proximity sensor

Do we supply electricity to it ? How much?

Single phasing, effect, idle motor will start or not ,if no then why

What is relay

Reverse power

Diode and where in alternator

Preferential trip

Can emcy generator and shore supply run in parallel.

Relay

ELECTRICAL NAG

- 1.Paralleling of generators dark lamp method
- 2.Overload trip on motor
- 3.excitation , and why and where

5.means Or wire rating

6.sheathing of wire

Paralleling of generators

Alternator motoring effect

types of Rotor in Slow speed alternator & high speed alternator

induction motor

single phasing

What is conductor and inductor? 3 examples each

What buttons will you see on MSB panel? Same for Emergency Generator Room

How to control the speed of an Induction Motor?

What is power factor? How to improve?

How will you provide short circuit protection to a motor?

how will u parallel 2 alternators

common faults in motor

what is single phasing

what is pf?

how ill u improve power factor

what is capacitor?

what is unit of capacitor?

how will u know battery is fully charged?

which gas emit out after battery fully charged ?

Paralleling of generator

How to check insulation resistance

How to check frequency

Dark lamp method

Ni cd battery electrolyte

Specific gravity

Power factor how to increase power factor

Transformer types instrument transformer in details
Paralling of generator methods
Synchronous motor speed control and how to reverse direction
Alternator cooling
MSB safeties
Preferential trip
Reverse power trip
Fuses types
Power factor how to improve
How can you convert 440v to 220v
Without transformer can you do it?
Overheating reason of motor and protection
Speed control of dc motor, ac motor
Generator
Wire rating
How to detect Overheating
Generator safties
Short circuit protection of motor

ELECTRICAL BHOWMIK

- 1)reverse power relay full
 - 2) battery overcharged/undercharge reason ,effect
 - 3)motor reversing
 - 4)motor overheating reason
 - 5)DC motor working
 - 6)what is electrolyte,use of it in battery ...etc..etc..
 - 7)how lead acid battery charging
 - 8)triple pole double throw
- Types of circuit fault and cross
- Diff between induction and synchronous motor
- Air Gap .why and how much
- Excitation
- Coc

ELECTRICAL GANGOPADHYAY

1. power factor, how to increase it and cross

2. MSB safety

3. Air gap how to measure it

4. Shore connection safety

5. relay and circuit breaker difference

Flashing

Thyristor

Ward Leonard

Auto transformer

Trac

What is residual magnetism

Soft starter

Significance of air gap

Checks before entry into battery room

[3. earth fault, short circuit and open circuit](#)

[4. earth fault checks.](#)

5. Specific gravity of battery when it get discharged.

6. Safety of overhead crane in engine room.

1. What is clamp meter and working principle

2. what is insulation resistance.

3. What is dashpot.

4. Steering gear motor safety.

What is commutator

2. shore supply before taking, checks

3. synchronous and asynchronous motor.

4. what is thermistor.

5. Eddy current and how to reduce it.

OTHERS

.Can we accept 50hz from shore supply if ships rated frequency is 60hz

2.What happens if frequency differs

3.How to correct if shore gives less frequency to ship.

1. If there is fire in ECR will all machineries stop?

2.parameters ok but ACB not closing?

3.why brushes are made of carbon and not from aluminum or copper?

Difference between induction and synchronous motor

Ct transformer potential transformer difference

High voltage advantages

Power factor improve

Reverse power relay

1.what is residue magnetism..why it needed..if no residue magnetism is present what to do..?

2.what is IR(insulation resistance).? How we measured IR in ship.? What is the value..? If motor show low IR what to do..?

3. How to check specific gravity of a led-acid battery.? What is the value of sp.gvrty. of the battery on full charge

4. Engine room overhead crane safety..?

5.what is multimeter..? What all things we can check with multimeter..? How to check all parameters with multimeter

Primary n secondary cell

Commutator

Auto transformer n diffence btwn other transformer

Semiconductor

CTNPT

Multimeter

Air gap

Earth fault

Why Alternator in KVA and motor in KW

Current Transformer

Alternator cooling arrangements

Why alternator in kva and motor in Kw

Zener diode and it's application

Alternator cooling arrangements
Current transformer and where use.
How speed of induction motor regulated
Engine room crane safety
Relay and contactor
Transformers losses and features responsible
Alternator paralleling
Power factor and cross
Msb safety
Circuit breaker
Rao
Types of fuse
Hrc fuse full and location
Magnetic relay
Emergency SB distribution
tracking in electrical
Electrical fire on ESB
Battery specifications
Why size of battery is important
Armature reaction
Msb safeties
What is essential loads
Space heaters
How does proximity switch work?
How to reduce power factor and improve power factor?10:17 PM
1) Power factor
2) causes
3) low power factor corrections
4) induction motor
5) speed vary in inductions motor
6) overhead crane engine room safeties.
7) stuck with piston on crane power supply cutoff...what will happen..
[28/12, 12:36] +91 89884 48115: Fn- 5
Alternator routine
Power factor increase and reduce ?
What p.f of your vessel

Speed reduction in IM

Paralleling of alternator using synchroscope

How will u increase the frequency

Transformer working principle

Application of diode

Examples of :

dol starter

Star delta

Auto transformer

Soft starter

Lifeboat electrical safety

What is residual magnetism and why it is important

How synchronous motor starts.

Battery capacity test

Pf is same , kw rating is same kva is different whats the problem (can't remind exact question)

4- excitation? Type ? Explain vibrating contact regulator.

Diode

Where it is used

How to change the speed of AC motor

What are the ways to check whether battery is charged or not

EG is running but it's not producing voltage what are the reasons

I told residual magnetism is lost

Then asked how to restore

I told by connecting 24 V DC source

Arc faults and detection

Earth faults and detection

Mccb, nfb, acb.

Induction motor starters

Which for which

Transformers

Steering gear safety

Safmetec system

Why only short circuit trip

Why not overload trip

Types of motor in ER

Safeties in IM

Why fuse is there

How overheat protection works

Bimetallic strip working

Lightning of deck

ER crane safety

Lifeboat hoisting and lowering speed

INT CHAAKI EXT AKD FUN 5 20.03.2020

1. Diff in construction of rotor b/w ac n dc generator
2. Cooling of alternator
3. RLC ckt where do we have the max current n what happen to inductance & capacitance (wanted to hear inductance & capacitance cancel out each other & max current flows through purely resistive load because of low impedance)
4. MSB safeties & Location of relays, how arc produces in ACB, how many contacts, purpose & location of arc chute inside ACB.
5. What all meters on MSB

Date 18/3/2020 External - AKD Internal- SKD

Function -5

- 1) Engine room electrical safety
- 2) Space heater and its function where fitted
- 3) Emergency power supplies on board
- 4) Battery room maintenance
- 5) Emergency fire pump panel maintenance

Function 5.Int- Chakki EXT-AKD

1. Alternator maintenance
2. Why we r doing IR test in hot conditions why not in cold conditions?
3. Emergency supplies in 24v battery?
4. Types of fuses
5. Common cause of motor failure?

Function 5.Int- ChakkiEXT-AKD

1. Synchronous Motor
2. Tracking & Creep age
3. Why we use High voltage in ship & Advanceantage of It.
4. Battery Room Maintenance.
5. Pump Room Safety.

F-5

1. MSB Safeties
1. 2.principle Of transformer, types and explain
2. 3.Types of Starter and explain it
3. 4.impedence, Resistance, Explain
4. Power factor, Apperant power, True power, Explain terms

FUN 5

1. Electronic question I have no idea
2. Factors on which alternator output depends.
3. When u get max RLC output. - during

resonance

4. How megger maintains 500v dc output.

AK das Electrical

1. MSB safety inside.
2. Induction and synchronous motor difference.
3. Fuse type
4. Cooling of alternator.
5. Speed control of induction motor.

24/01/20ElectricalInt-SKD, EXT- BASU

1. Preferential trip, and non-essential loads.
2. What is earth fault, how can indicate that, types of earth fault. How can we 440v earth fault.
3. Overhead crane safeties, explain electromagnetic safe brake.
4. What is intrinsic safety, where it is used, name of instrument?
5. How to find air gap in alternator, name instrument and where we take.

EXT:-BASU Int:-Chaudhry Safety

1. Dead man handle
2. Collision bulk head
3. SOPEP

EXT. K. BASU Int. Chaki Electrical

1. Proximity switch
2. Paralleling it generators
3. Earth fault, what's the problem if you get earth fault, how will know there is earth fault, types of earth fault and how will you detect earth fault
4. Losses in transformer
5. Relays

Date - 12.03.2020 Int – Rao External- BASU

FUN 5

- 1) Air gap (xxx)
- 2) Alternator maintenance
- 3) Power factor (xxx)
- 4) Engine room overhead safety
- 5) Overload relay

EXT BASU-

- 1) Type of governor in Main engine and aux engine
- 2) losses in transformer and formula
- 3) intrinsically safe equipment

- 4) battery fully charged indication
- 5) can we run EMG and main generator in parallel
- 6) Fuses and how to check if fuse is not damaged...

Function -5

- 1) Power factor and Min power factor required
- 2) Air gap and purpose
- 3) Generator not developing voltage reasons
- 4) Alternator paralleling checks
- 5) Battery maintenance

16.01.2020Int - A.k.sinha EXT - Kanak BASU

Electrical (FUN - 5)

1. Earth fault.
2. Transformer losses.
3. Power factor.
4. Diode.
5. Alternator maintenance.

Function 5

1. Maintenance of alternator
2. Reason of motor running hot.
3. ZENER diode
4. Generator overloading what will happen
5. Battery room safety and maintenance.

05.02.2020Int- AK Sinha EXT-Bhattacharya

Fun: 5

1. Induction motor working (what is happening inside how EMF induced and where)
2. Losses in transformer and reasons
3. If a capacitor connected to a battery circuit how the current does will flow direction of current
4. Transformer with no load and transformer with 80% load, will there be difference is losses and what type of loss
5. ZENER diode and application
6. Open circuit and short circuit

Int: kanak Sinha EXT: Bhowmik

Electrical:

1. Weather deck motor safeties
2. Reverse power relay -xxxxxxxxxxxx
3. Capacity of lead acid battery - define Ampere hour

4. E/R crane sudden Seizure. what will happen
5. Earth fault - detection, fault finding, unit –
xxxx

19.02.2020 Int. –Sinha EXT-Bhowmik

1. shore supply connection procedure, mainly he want to hear interlock between ACB and msg
2. definition of slip, he don't want to hear formula
3. motor not getting started reasons xxxx
4. earth fault indication and 440 earth fault came and ur actions
5. IR of induction motor xxxx

EXT- BHOWMIK

1. how to get 24 v dc on ship
2. circuit breaker
3. induction motor
4. ZENER diode, ZENER barrier

Ganguly, chaki Fun 5

1. Residual magnetism, effects
2. Exi explain and components
3. Commutator
4. Difference between synchronous and induction motor based on construction n running

26.02.2020 EXT Ganguly Int A k Sinha FUN 5

1. Lead acid battery, how to check the voltage, specific gravity of electrolyte.
2. Residual magnetism
3. Power factor
4. Air gap

Electrical

1. Types of starter & example of each
2. Primary cell and secondary cell
3. Diff between fuse and circuit breaker
4. Diff between sync motor and induction motor

Int: - Sinha EXT: - GOPE function:-5

1. Difference between megger and multimeter
2. Symptoms of earth fault.
3. What is universal motor?
4. Diode and explain it
5. Specification of battery.
 1. 440 supply of emergency gen.
 2. Electrical safety on prime mover side of alternator.

3. Armature reaction.
4. What is exciting and equalizing?
5. MSB fire(reasons)

Electrical:

1. Motor maintenance
2. Short circuit and cross questions
3. Phase heater function
4. Motor specifications
5. Battery specifications

External GOPE

1. MSB safeties
2. diff b/w earthing and short crkt
3. types of fuse
4. motor overheat effect
5. transformer types ...working

Electrical

1. Intrinsically safe, equipment arrangement
how it works , cross
2. Motor IR how to find cross
3. Safety in Motors ,bimetal strip, etc.,
diagram each and cross
4. Steering motor safety, cross in every safety

Electrical.

1. Battery specification
2. MSB safeties
3. Insulation at high temp. Reason.
4. Earthing effect
5. Electrical causes.

Kolkata date- 20/1/20GOPE

F5-

1. Generator safety devices
2. Preferential trip
3. Motor External maintenance without opening
4. Motor specification
5. IP number meaning
6. Battery maintenance and all above some

**[15/06, 13:49] +91 77087 38964: internal. Ak
chaudhary external. Gop**

1. Why we take IR when winding temp is high
2. Earth fault effect, what will happen
3. How switch board can lead to fire reasons

4. Space heater significance
5. Where all we use dc on ship and particularly in engine room where do we use.

[15/06, 17:33] +91 97566 78800: internal - ak chaudharyext – gope function 5

1. What is excitor and equalizer?
2. What it will show when you connect clamp meter to a three core wire?
3. Shore box specifications (plenty cross questions)
4. Engine room crane safeties (mainly focused on how many limiting switches and hook safety)

ext

gope Function 5

1. Crane safety how many limit switch?
2. Windlass safety
3. Exciter vs. equalizer
4. Emergency power distribution system
5. Dc power load.

29.06.2020online oralint- arvind choudharyext gope F-5

1. Types of starter, onboard which type where we use.
2. How we take ir.
3. Generator electrical safety devices.
4. Steering gear & windlass safety devices.
5. Onboard what most common cause leads to failure of electrical motor.

13.08.2020ext

gope int- chakieletrical

1. What is the common fault of induction motor on every ship
2. Er crane safety
3. Low insulation resistance alarm coming and you found that it is from some container than how to detect that container
4. What is the particular name of that thing which is fitted in motor to reduce moisture in motor
5. Give me difference between voltmeter and megger at least 5.

[20/08, 16:36] +91 96882 70298: 20.08.2020

Electrical MITRA

- 1) What to check before shore connection?
- 2) What is the purpose of synchro scope?
- 3) Purpose of air circuit breaker
- 4) How to check earth fault in system?

Fn 5

1. What are the alternators in your ship
2. Alternator safeties
3. Avr
4. Checks before taking shore supply
5. What is the purpose of syncroscope/how do you synchronise
6. Ip

Internal Sinha sir External mondal sir Exam**FUN 5**

1. Paralleling of gen
2. Principle of IM
3. Transformer principle and step up step down and losses with diagram
4. MSB safeties

Electrical:

1. Transient voltage DIP
2. Diff between induction and synchronous motor, how induction motor starts
3. Starters

8 | Page**MEOCLASS4ORALEXAMSCOSPOOLANDEECEOLQUESTIONS - 2020**

1. 4.Irms, LAVG, form factor
4. Diff between slip ring generator and brushless generator

Function 5

1. How to check the capacity of battery?
2. Working principle of induction motor?
3. Working of star delta starter xxxx
4. Preferential trip working? Sequence of tripping?? xxx
5. ZENER diode working?

FUNCTION: 5(Electrical)

1. Explain intrinsic safety
2. Battery maintenance ...why we add acid to water, not water to acid.
3. Preferential trip (lot of cross question)
4. Engine room Crane safeties.
5. Decider: cooling of alternator winding

29th Aug ext. Mukherjee Int Sinha Electrical

1. Purpose of space heater
2. Maintenance of motor
3. Shipboard distribution system
4. Diff between contact and switch
5. Effect of air gap increase and decrease
6. Soft starter

23/02/2020 EXT-Mukherjee int-sinha fun 5

1. kw, kva
2. winch safety
3. electromagnetic fail safe brake working
4. induction motor not using long time what happen
5. tube light(starter, chock, capacitor)
6. galvanometer

18.02.2018BK MUKHERJEE Function 3

Fun 5

1. Alternator maintenance and xxxx
2. Starter maintenance and xx
3. IES and NES
4. Thyrister and xx

1. Continuity test.
2. Motor losses IR reasons.
3. E/R crane safety.
4. Advance. Of high-voltage.
5. Motor starter.
6. IR testing.
7. Fiction of choke and capacitor in tube light
1. Indication of overcharging of battery..??
2. What is earth fault and how do you find it..??
3. Generator rating..??
4. Why Alternator rating is in KVA and motor in KW, what is Power factor..??
5. What happen if you give 400 V from shore supply..??
6. What is IP65..??

External: Mukherjee (SEI) Internal: chakki

1. High voltage range. Advantage of high voltage. If power increasing so generator also need to be big and fuel consumption high so why using high voltage for high power?

2. Type of circuit breaker. Sf6 requirement use working. RCCB requirement working. What type of fault detected by RCCB? Full form of RCCB and ELCB. Difference. Which circuit breaker used for generator and MSB.
3. Full form of MCCB and MCB with difference.
4. Reverse power trip. At how much voltage it trip.
5. What is dashpot arrangement? Preferential trip. Working.
6. Full form of SCR. working of SCR. What is SCR (want to hear its type of thyrister).basic function of thyrister.
7. Alternator everything... Bahoot cross quest from alternator...

20/1/2020Int-MukherjeeEXT-SKDFUN-5

1. MSB safeties xxxx
2. Fuses types and HRC fuse
3. Air gap xxxx
4. Crane safeties
5. Cooling of alternator, how to check IR xxxx

Mukherjee (SEI vale) AKD (internal)

1. Crane safety engine vala,
2. Limit switch, each function
3. Synchronization, before, after 12 o clock,
4. Alternator cooling
5. Speed control of induction motor

Int: chaki EXT: nag Safety and electrical

1. Motor overheated reason.
2. Fuse and function and type.
3. Principle of transformer and draw d full crk diagram from transformer to MSB
4. Earthed and how to know and it's ckt
5. lling of generator through bright lamp method. And draw its ckt diagram.

EXT. Nag

1. 1 Types of fuses and rating
2. 2 what is power factor and how to increase it
3. 3 what are effects of more air gap and how effect on slip
4. 4 is compulsory no. Of pole same for paralleling two gen.
5. 5 what are MSB safeties

FUN5 17.03.2020

1. What is type of cable used in pump room on oil tanker?
2. What is the reason two generators sharing different KWs?
3. What is type of excitation used in alternator?
4. What is the purpose of using star-delta starter and type of starter used in Main Cooling Sea Water pump?
5. How capacity of battery is measured and what is volt drop test?

FUN -3

1. How to check the insulation resistance of dc motor
2. Breaker and type and working of sf6 type
3. Fuse and circuit breaker difference
4. Battery specifications and battery room safety

Date: 18/02/2020 Int: Rao External: Goswami

Function: 5

1. Specifications for Lead Acid battery
2. Reverse power trip working xxxxx
3. Weather deck motor electrical protection
4. Synchronous motor, synchronous speed, slip .Y is slip produced in induction motor not synchronous
5. Fuse wire regulation .Difference between relay and contactor

18.02.2018Function 5

1. Commutator and slip ring
2. Relay and magnetic contractor. Relay working?
3. Importance of phase sequence?

xxxxquestions (syncroscope and dark lamp method)

4. Single phasing? Cause, how to detect, how to prevent?

5. Preferential trip relay working?

6. Capacitor, where you will find it onboard ship? xxxx questions

Function- 5.

1. Specification of alternator.

2. Shore connection where located.

3. MSB and ESB where located? When main generator is running, is it supplying to ESB? And when Emergency generator running with on load, whether it is supplying to MSB or not? And why.

4. What is High Voltage?

5. You are taking breakfast, one generator is running in port and no loading or discharging is taking place, what will be your immediate action?

*****Func-5**

1. RMS definition

2. IR decrease why

3. Motor supply 420 instead of 440 what will happened

4. Air gap why

5. Induction motor

6. Star connection

7. Diagram earth and neutral

8. Single phasing. What will happen

17/02/20 EXT: Roy Int: SKD F-5

1. What is starter? Types of starter. Advance of soft starter vs star delta starter.

2. what is intrinsically safe equipment &XX

3. What is IP rating? Deck machinery vs engine machinery, which one will have higher IP rating.

4. How to parallel 2 generators with diag.

FUN-5EXT-b.k Roy Int- chakki

1. What is power factor? How improve

2. Transformer principal and type

3. Reverse power trip and preferential trip

4. Alternator and motor safety

5. Capacitive, resistive and inductive circuit phase angle between current and voltage

17/02/20 EXT: Roy Int: SKDF-5

1. What is starter? Types of starter.

Advantages of soft starter vs star delta starter.

2. What is intrinsically safe equipment &XX

3. What is IP rating? Deck machinery vs engine machinery, which one will have higher IP rating.

4. How to parallel 2 generators with diag.

Int Roy

1. Why alternator having kva and motor having kW rating.

2. single phasing and xxx

3. Function of AVR.

4. Alternator safety.

5. Gen paralleling procedure and working of synchro scopexxxx

External- Roy Internal- Sinha Function 5

1. Types of motor used in engine room?

Application of synchronous motor?

2. AVR working principle

3. Boiler flame failure alarm working principle

4. Battery room entrance precaution.

Electrical

1. What all meters in MSB.

2. How do u measure KW formula

3. Wheatstone bridge uses

4. Voltmeter working

5. Clamp meter working

6. HRC

Electrical Pritam Roy

1. How we r getting voltage before AVR connected

2. Working and types of rectifier

3. Safety and use and reason of using High voltage

4. How AVR works

5. Losses in transformer

FUN 5 Int SKD EXT -DON'T KNOW

1. MSB SAFETY

2. Battery room safety

3. When Battery overcharge and precautions

4. Types of fuses
5. ESB AND DISTRIBUTION
6. 440v used for motor and 220 for listening why.
7. Induction motor working principle, full starting procedure.
8. Battery room safety.
9. Motor safety.
10. Types of starter.
11. Diff between DOL and star delta.

Electrical -

1. Marine high voltage system & cross
2. Transformer principle & losses & cross
3. Shore power voltage adjustment how?
4. Emergency generator principle and operation
5. Emergency generator regulations and lots of cross
6. Why high voltage system is used in modern days ship?

Fun 5

- 2) Types of starter DOL ckt diagram
- 3) Battery Maintenance
- 4) Exi equipment and Exd equipment
- 5) Motor specifications
- 6) IP protection and its range

Int : A K Sinha Sir Ex : S K Dutta

- 1) Use of high voltage systems
- 2) MCCB, RCCB capacity etc.
- 3) Neutral earthed, insulated earthed
- 4) Propeller earthing
- 5) Alternator maintenance
- 6) Difference between a switch and a circuit breaker

External: SKD Internal: das guptaFUN5

- 1) Purpose of air gap and how to measure it
- 2) Types of stators
- 3) Synchronizing of alternator
- 4) IR test of motor name of instrument
- 5) High voltage range and type circuit breaker used in high voltage

Int- AK Sinha. EXT-SKD

- 1) Types of earthing
- 2) Insulated and earthing system difference
- 3) Generator paralleling conditions
- 4) What will happen when u don't close at 11 o'clock
- 5) Types of overcurrent relay
- 6) He asked if u close the breaker of idle generator what will happen
- 7) Effects on AVR electronic components due to insulation resistance test

Fun - 5

6. Generator Voltage Not Showing After Start.. Cause
- 2- Motor Running In Opposite Directions.. Cause
- 3- Transducer Type And Working
- 4- How to Order Battery.
- 5- Boiler Automatic Feed Water Control And How It Work

1. 3 Months maintenance of alternator
2. What is salinometer
3. Cause of induction motor failure
4. Different b/w fuse and circuit breaker.

Electrical

- 1) SCR and thyrister
- 2) MSB safeties
- 3) preferential trip
- 4) relay and switch difference
- 5) intrinsically safe

[01/07, 11:01] +91 79923 54224: electrical

1. Auto transformer
2. Reverse power
3. Switchboard safeties
4. Battery room safety

Fx5 electrical

1. 1 . Msb safeties
2. Induction motor principal & working
3. 3 . Starting method of induction motor..expalin all four (why needed)
4. Zener diode working
5. Transformer losses
6. Current dependent losses

[03/06, 16:58] +91 96770 23082: A.k singha & mitra

ELECTRICAL:

1. Earth fault (cross ques & what is the indications he is expecting to say abt low insulation meter)
2. Paralleling of gen.xxxxx
- 3.thyristor (where u use)..xxx
4. Induction motor working (explain abt the short circuit arrangement in rotor)
5. Trikkle charging, hw much volt u will give, hw will u find battery is charged, sp gravity of electrolite
charg and discharg condition.
6. Dol starter (single phase what will happend)
7. Nickel cadmium battery
Got electrical.

[07/06, 14:42] shakti: Ext-Nag

Int-Chaki

- 1)what we can find with synchronoscope and Paralleling of alternator
- 2)I.M working, principle
- 3)transfeemer working, principle and how we can know step up and down
- 4) capacitor in series and parallel.which one will be more..unit of capacitance and capacitive reactance
- 5)fuse rating and types
Finally got COC

JAI SHREE RAM

[07/06, 15:08] +91 87656 99001: Ext Rkd

Int Skd

Fn 5

- 1) capacitor and its working mechanism
- 2)why transformer produces humming sound?
- 3) msb safeties xxx
- 4)power factor xxx
- 5) forgot

[11/06, 22:25] New: Electrical..ext; Mitra, intrnl; Arvind chaudhari

- 1) single phasing ..causes Nd effect's
- 2) synchronization.. a lot of cross questions..
- 3) battery maintenance..how to check specific gravity if there is no hydrometer
- 4) motor losses in detail
- 5) about synchronous ..! He want to listen ..a about a coil

[12/06, 11:29] +91 73822 39035: Date 11 june 2019

Int :Chowdary

Ext: Mitra

F5

- 1.How to do battery voltage drop test
- 2.working of start delta starter and importance and so many xxxxxxxx
- 3.synchronus motor working and where it is usedxxxx
- 4.checks for shore connectionxxx
- 5.eqrth fault indication detection and so manyxxxx

Finally got F5

[12/06, 15:10] +91 6206 126 193: 12.06.2019

external - Das

electrical

1. different types of lights and buttons in alarm panel aur horns and their significance.

2. motor wire insulation class
3. draw and explain welding connections
4. checks in generators and batteries before departure from port.

[14/06, 17:16] +91 96319 00971: 14/6/19

Int: Ak sinha ext: Naag

1. Bright lamp synchronization method with circuit diagram
2. single phasing
3. Types of starters... What is your actions if motor is not getting proper torque with dol starter
4. ni cd battery with chemical reaction
5. what is residual magnetism and how generator starts
6. Paralleling of generator and what do you mean by same phase difference

Result :pass

Ext: naag

Int: chakki

Function 5

1. Dark lamp method with proper circuit diagram.
2. Power factor. Advantages of good power factor.
3. Air gap large what are the effects and how does air gap effects the power factor.
4. Types of fuses and it's rating
5. Intrinsically safe equipment.

FUNCTION 5.

1. TYPE OF startor. and explain star delta.
 2. single fashing explain.
 3. transformer loss and explain all.
 4. MSB safty.
 5. power factor and all about this like which factor is affecting .what is ur ship power factor. How we can improve.
 1. what is the principal of bimetallic strip. 2. what is the function of arc chutes.
 3. how is boiler water level maintained. 4. Draw brushless alternater.
 5. single element, two and three element contol. Goth both
- got coc

Electrical

1. Why do we do trickel charging
2. What is Ip56 means.
3. difference b/w relay and contactor.
4. 24v insulation alarm where it is indicated how to rectify.
5. Difference b/w insulation and resistance

Electrical

1. single phasing ?
2. types of starter?
3. Alternator maintenance?
- 4 . Intrinsically safe ?
5. Can we parallel aux generator and emergency generator?

Life boat weekly maintenance

Type of fuse that use onboard and rating

Generator paralleling

Emergency battery maintenance
Power Shore supply safety and protection
Ext: A. Chaudhary

Int- Mukharjee

Electrical:

1. MSB safeties
2. Types of Circuit breakers with Dol diagram
3. Motor single phasing. And how would you check single phasing
4. RCCB and ELCB, Safeties and trips working.
5. Starters in detail with cross questions
6. Few more about transformer etc

Function 5 : Electrical

- 1) maintenance on circuit breaker.
- 2) maintenance on Emergency battery.
- 3) Dol starter and star delta with diagram. Where we use.
- 4) Fuse types and ratings..

: Internal: sinha

External: mukherjee

Electrical

1. Define rms value and full form
2. Maintenance on batteries. Precautions to be taken while doing so..precautions to taken to while handling water and acid mixture.
3. Alternator specifications and why alternator rated in kva and motor in kw.
4. Types of starters
5. Why high inrush current while starting of star delta connected motor and why current surges when star changed over to delta.
6. What is dead handle and dead panel.
7. Which connections are given by emergency generator. Describe power given to fire system via emcy gen. How to test emcy gen. Without black out.

fn-5

int. - chaki ext. - AKB

1. power factor xx
2. paralleling of A/E xx
3. types of starter, star-delta starter
4. single phasing
5. circuit with capacitor

Int: kanak sinha

Ext: Bhowmik

Electrical:

1. Weather deck motor safeties
2. Reverse power relay -xxxxxxxxxxxx
3. Capacity of lead acid battery - define Ampere hour
4. E/R crane sudden seizure . what will happen
5. Earth fault - detection, fault finding, unit -xxxx

Int: Chakki

Ext: Kanak Basu

1. What is power factor. Which load will increase power factor and which load will decrease it.
2. Alternator maintenance (changing of air filter is one of his imp point)
3. What is Intrinsically safe equipment and example.
4. What is earth fault. Types of earth fault and how do u find out earth fault.
5. Why transformer rating in kVA not in kW.

Ext - Mukherjee sei

1. Difference Between normal switch and circuit breaker
2. Alternator Cooling arrangements
3. High voltage system
4. Types of circuit breaker

: Electromagnetic induction

Ni cad battery

Alternator

Maintenance

Motor shopped in sea water what u will do

Wheat stone

Fun-5

- what is capacitor ,where we use.
- what is armature reaction.xxx
- battery room ventilation .xxx motor burnt.how ventilation take place.
- thermister xxx,where how etc
- power factor.
- parlleling generator ,not showing voltage why ?xxx

Extrnal mondal

Trainee Extrnal bhaskar Mukherjee

- 1 residual maginstm nd cross
- 2 a/e crankcase inspection
- 3 what is brushless generator nd how initial current generated.
- 4 forgot rest.

: Electrical

1. Types of starter and auto transformer working with diagram
2. Alternators maintenance xxx
3. Intrinsically safe circuit with diagram xxx
4. Speed control of Motor
5. IP protection of motor and Motor ratings

: fn 5-lot of cross questions

1. msb safeties/ engine crane safeties
2. generator fail to generate enough voltage..how you will increase excitation if excitation system

fails

- 3.class of insulation of motor
- 4.air gap increased... effect...what will happen to power factor
5. forgot

: Basu,skd

Fn-5 electrical

Single phasing

Synchronising of gen
Alternator maintainance
Alternator cooling , air gap
Intrinsically safe
: 20/06/19

Electrical

1. Why do we do trickle charging
 2. What is Ip56 means.
 3. difference b/w relay and contactor.
 4. 24v insulation alarm where it is indicated how to rectify.
 5. Difference b/w insulation and resistance
- *Fn 5*

Earth Fault how will u find **XX**

Excitation, how is it done, name of parts, abt poles and windings or bhi cross questit the Alternator Maintenance (what to do and how to do)

how is it cooled

how air enters alternator even if temp is high inside. from where it enters where it exits
Pyrometer (what is it and working)

O2 analyzer

(what is it and working)

Function 5 : Electrical

- 1) circuit breaker and types, where we use vacuum and sf6 type
 - 2) why reverse power relay happens, he didn't accept prime mover failure and loss of excitation
 - 3) sequential starting, how it happens , which breaker trips, can breaker be automatically
- [07/08, 15:07] +91 70032 92581: Ext. Kanak Basu

Int. Chaaki

1. What is earth fault, how will you detect and what are the causes.
2. What is steering gear safeties
3. What is single phasing and what are the consequences.
4. Loads connected of emergency generator. If power failure occurred and emergency generator

doesn't start, what will happen

: 5. What is Relay, and what is the voltage used for relay

: 1 Power distribution system complete

2 Where we use 440v and 220v , why we use 440v for lighting purpose

3 how alternator is ventilated

4 maintainance of alternator

5 what is clampmeter, how to use

6 battery room safeties

7 why water level reduces in battery

Sk sinha ext..m k ghop.. 8.8 .2019.

Fun-5

- 1 .what Space heater how is work and why users this??.
 2. Types of starter and differences bet. Auto and dol stater.
 3. What is exiter and equalizer where is uses this.
 4. AvR explanation??.
 5. alternator maintainance ..
 6. Air gap. How measure?? Instrument name . If increase and decrease what happened..
 7. Forget.
- .

: 1 effect of earth fault on motor

2 E/R crane safeties x electromagnetic fail safe break and how many limit switch.

3 MSB safeties

4 motor name plate

5 space heater

: Ext: Mukharjee Sir

F5:

1 induction motor speed control

2: transistor and thermistor

3: battery room inspection

4: alternator cooling

Mukherjee 16/8 /19

Fn 5

1. 3 phase induction motor safety

2. Emergency gen. & Loads from it

3. Shore supply equipment

4. Frequency fluctuating continuous reasons

5. Forgot

Abhimanyu Sr: He asked me ..

What is capacitor.

What is armature reaction.

What is power factor.

Voltmeter not showing reading while paralleling reason .

Battery room ventilation fan motor burnt how u will enter.

[21/08, 19:36] +91 90022 48226: 21/8/19

Int Sinha ext rkd

Fn5

1 earth fault 2

single phasing. its protection and protection temp rating

3 battery room ventilation regulation

4 fuse wire specification 5

what is xxxxxxxx(forgot)

: Int- Sinha

Ext- Paul

Electrical-

1. Exact definition of synchroscope and which motor is there and how it works.

2. Working of single phase Transformer.

3. Triac.

4. Paralleling of generator.

5. Types of transistor..

6. PID. and what is function of Derivative.***

Function 5

2. Brushless excitation and error type avr

3. What is thyristor and how can it be used as a full wave rectifier. Uses of thyristor. What is triac

4. Synchroscope and what is checked.

5. Types of dc motor

Got CoC

: 1. Acb, its purpose and construction details

2. synchroscope , explain
3. Megger explain, minimum IR
4. Fuses, application, construction details
5. Power factor explain

: External- ram

Internal- ak.sinha

ELECTRICAL

generator safites

Battery specification

How to check DC motor insulation

Shore connection box

Resistor

: INT:- Chaki Ext :- Mitra

Elect

1. Avr

2. Function n working of diode. Where it is used? Full wave n half wave rectifier

3. How brushless alternator are excited?

4 Thyristor construction n working.. Where it is used..

5. Forgot

[29/08, 17:22] +91 82203 04990: External- Dangerous man

Internal- SKD

ELECTRICAL

1. Difference between induction motor and synchronous motor- cross questions

2. How will you control rpm of A.c. motor and prove it

3. How will you control Voltage of alternator- lot of cross questions

4. what is enclosure of induction motor.

5. Advantages of High voltage and prove it.

6. Circuit breakers used for high voltage system.

: Why the frequency is flickering?

: Shore connection box ? Arrangements ... regulations

Emergency generator regulations? Lot of ****

: Maintenance on IM?

: It how to measure? Factors affecting IR? Tracking and Creepage?