

# **VISHWANATHAN (USHAVISHU IYER) SIR MUM NOIDA**

**1st july 2021**

**Mumbau**

**Meena sir**

**Vishwanathan sir**

**Motor and mep combined**

**Company type of ship grt**

**Me&ae specs**

**Type of governor**

**Shaft generator**

**How clutched in**

**Safety cutouts**

**Lubrication in sg fittings on sg**

**Shafting arrangements Cpp**

**Purifier.. what part of gravity disc decided the interface wanted to know whether outer dia inside dia or thickness**

**Bulk handling compressor**

**Fwg..Location of salinometer y temperature compensator**

**Result both repeat**

**Without seeing the connection how to distinguish the discharge nd suction line of bilge pump from pressure guage**

**He asked particularly from your own ship**

**So just see through ur engine specs and all**

**01 july**

**Mumbai mmd**

**Meena**

ushavisu iyer

Motor

Main engine specifications

Meaning of the nomenclatures

Which is the hardest part to lubricate in main engine and why ?cross questioning

And how lubrication and what type of lubrication

Which filter has (fo or lo)more meshing and why ?

Why centrifugal pump has wear ring?

Mep

Auxiliary engine specs

How many suction vlv and exhaust vlv for one unit

About tappet clearance

Which vlv has more tappet clearance and why more

Boiler guage glass showing correct level of water or not how will u check and if low water what will happen and what actions will u take

Turbocharger filter dirty how will u come to know

Efficiency of turbocharger how will u get to know (rough estimation without any calculation)

Steam gasket which type will u chose from workshop? which gasket is more suitable

How will u replace the gasket in the flange of the steam line?

And some more

Got both 

accepted answers... thanx to the man

Which part lub hard

Cross head

Reason is because there is no reversal of load.. and oscillation is short ...

When the engine is stopped that time there is boundary lubrication.. and when the engine attains minimum rpm.. the oil film enters between the shaft and the bearing and shaft lifts up no more metal to metal contact... This is hydrodynamic lubrication .. than I explained him about the hydrostatic lubrication where u make use of external pump

lo fo mesh

Bhia ye more meshing wala I am not sure.. I said lo to which he gave me a look .. he knew I wasn't sure.. and than he asked why..I said something than he asked me about the fo viscosity while injection..Yeah I said...12 cst

which has more tappet

Yes bro exhaust and why because it is exposed to more heat than he asked me how I said.. when the valve opens it comes down so more contact with the exhaust gases and than he asked what will happen if more heat I said.. thermal expansion will be more .. to which he said good

Boiler question correct level

Guage glass blow through kar k dekhenge ki sahi water level dikhara hai ya nai ..fir agar low hai toh stop firing the boiler and wait for it to cool down don't fill water immediately..

turbo eff.

Monometer se pata chal jayega turbocharger ka air filter dirty hai toh

Efficiency.. ul get rough idea by looking at turbine intel and outlet temp.. ul come to know how much heat energy is converted to pressure energy..

how to replace gasket

Wire mesh gasket is used for steam lines

Kuch ni bhai.. bus basic puchra tha ... I said isloate steam line... If vlv are not holding than close the main steam stop vlv.. and drain the steam from the line if any.. and replace

**01/07/2021**

**Mumbai MMD**

**MEENA**

**USHAVISHU IYER/VISHWANATHAN**

**Function 5**

**Safety of Msb**

**Mathematical representation of KW and KVA**

**Lead acid battery maintenance**

**Pump room electrical safety**

**Steering motor safety**

**How steering motor is differ from all other motors? Over current trip is fitted or not on steering motor?**

**Got Fn 5**

**1/07/2021**

**mumbai**

**Internal- Meena**

**External-Ushavishu Iyer**

**Fn4b and 6**

**Type of ship.**

**Maker**

**Why use Tie rods**

**Is auxiliary engine has tie rod or not?**

**Which turbocharger you have on Main engine?**

**Maker of turbocharger.**

**Lubrication of ME turbocharger.**

**How to detect if piston gland( stuffing box) of ME is faulty while running?**

**Why use after cooler in Main Air Compressor?**

**Why care about density when we need only 30 bar pressure?**

**Relation between ME crankshaft and camshaft rotation?**

**Why refer air compressor making noise during starting.**

**Fn 4b pass**

**Fn 6 repeat**

**01/07/2021**

**Mumbai**

**Internal: Meena**

**External: Vishwanathan**

**fn 4b, 5, 6**

**4b**

- **type of engine (mine was ME)**
- **how fuel injection takes place**
- **hydraulic pumps and cross questions**
- **how to know crankcase oil level in AE. smoke coming out of dip tube. how would you know which unit blow past is happening.**
- **approx length of tie rods. what arrangements are provided to prevent vibrations in tie rod?**
- **in st/gr, when only one pump is in use, how is the standby pump prevented from rotating in opposite direction?**

- what type of pump in ME engine supplies the hydraulic pressure? and how is the pressure varied?
- arrangements provided to avoid excess pressure buildup inside scavenger air receiver? lifting pressure of the relief valve?

5

- how would you get to know an induction motor is fit?
- why brushes are made of carbon and not of Al or Cu?
- Which system you had on board, 3-wire or 4-wire? which one is more safer?

forgot the rest

6

- what was the normal operating pressure of your boiler?
- what kind of turbine was there in your COPT?
- If you want to test a standby Main lube oil pump, while one Main lube oil pump is running, how would you do it?
- How to repair cracked bonnet of a valve made up of cast iron?
- As a duty engineer, what would you check in the engine room crane, while the ship is leaving the port?

forgot the rest

Result: 4b, 5

01/07/2021

Mumbai mmd

Meena sir

Vishwanath

**3,5,6 functions**

**3**

**Purifier fire actions**

**Co2 bulk system**

**Roro ship bulkhead system**

**Fse**

**Corrugated bulkhead increases which strength specifically of b/h**

**Engine room crane electromagnetic brake releases how ?**

**Co2 bulk system co2 carriage in what form in pipe ?**

**5**

**2 Genny one 350kw other 250kw loaded is it ok conditions? Why such situation ?**

**Pressure switch setting of hydrophone how to do. What are values**

**HV system neutral point earthed? Why ? Ner ?**

**6**

**Fuel injector testing , fuel injector valve dia. Value**

**Ballast pump loses suction during deballast, actions ? And indications ?**

**Steering gear checks before leaving port**

**Safematic? Idk what he was asking exactly. 🤔 steering gear system ..**

**Bilge injection valve testing**

**Bilge injection valve Solas regulations**

**Motor insulation low , what all will you do.**

**more+**

**got 3 and 6**

**01/07/2021**

**Mumbai**

**Meena**

**vishwanathan**

**Motor**

**Ship specifications ?**

**Mcr NCR power ?**

**Cam and crankshaft relative motion?**

**Y break is used in purifier?**

**How distillate pump take suction when condenser in vacuum?**

**Engine bar speed range?**

**Pass**

**on windlass?**

**05/08/2021**

**4b & 6**

**Manjhi sir**

**Vishwanathan Iyer**

**Ship type(offshore)**

**Engine type**

**From engine to propeller what arrangements was there.**

**CPP...how pitch rotates**

**Crankshaft to camshaft relation...how many gears**

**Lubrication system for that.**

**Filters were there for L.O and F.O, tell me which of the filter was smaller micron filter.**

**Turbocharger**

**Reduction gear ratio why it is in ratio**

**Shaft generator**

**MEP**

**Shell and tube type heat exchanger**

**Tube material**

**Colour of tube**

**AE crankcase level checking ...smoke coming out from there why**

**Bilge pump questions**

**3 phase motor single phasing how to know if ur not there**

**What & how many things u can do with a ball pin hammer.**

**Boiler gauge glass blow through**

**Boiler water test**

**Chloride ppm**

**If more how to control**

**How many drain valve is there in boiler**

**Motor pass**

**Mep repeat**

**Air in refer system how to remove it**

**Explain process**

**How a MAC starts on auto mode**

**Include this also**

**Unloader activates how**

**05/08/2021**

**Int. Manjhi.**

**Ext Vishwanathan iyer**

**Safety**

**First listen question properly**

**Safeties in ig to prevent back flow of gases**

**Chain locker location**

**Mob marker, how different from simple lifebuoy ,what color of light it have**

**As per solas how much co2 is required of e/r in fire (don't tell formula to calculate no. Of cylinders)**

**Failed**

**05/08/2021**

**Noida**

**Manjhi sir**

**Vishwamathan sir**

**Types of ship**

**Company and Pre Sea training**

**Safety**

**\*Coffin Plate**

**\*Draw plimsoll marking (paper pen)**

**\*Thickness of plimsoll marking of dimensions**

**\*Vent for double bottom.and location**

**\*material of anchor**

**\*Why ships are provided with different draft condition**

**ELECTRICAL**

**\*One gen running at @350 KW other @250 KW ? is it ok? what will u do**

**\*Boiler water low level test**

**\*Transformer maintenance**

**\*sea water flooding in motor how to revive**

**\*How to test standby lub oil pump**

**\*NER why**

**\*How to know motor is healthy**

**Got Electrical**

**05/08/2021**

**Noida**

**Int. Manjhi.**

**Ext Vishwanathan iyer**

**The type of ship**

**The disadvantages of double hull .**

**The various loads on emergency bus bar .**

**The checks to be carried out in engine room during ILLC survey .**

**What all double bottom checks are to made during ILLC survey .**

**The different loads on esb .**

**The insulation reading of new motor .**

**How will check the insulation of the motor**

**The value of voltage generated in the megger .**

**Shaft earth method what will happen is not done and the unti of current and voltage measured across it .**

**Cleared both**

**Thankyou saheem bhai .**

**05.08.2021**

**Noida**

**manjhi sir**

**Vishwanathan Iyer sir**

**Safety and electrical**

**\* integrity of Water tight doors**

**\* How will you know that priming arrangement for emergency fire pump is working satisf...**

**\* Smoke detector working**

**\* About CO2 room ( said about ventilation, 56 bar at 20c, relief valve , air connection, emergency connection)**

**\* Regulation for CO2.**

**\* Types of keel.**

**\* Emergency steering.**

**\* Steering gear electrical safety.**

**\* How to check Insulation resistance of induction motor.**

**\*MSB safeties.**

**\*Pressure switch**

**\* Rest forgot**

**05-08-2021**

**Internal -manji**

**External -Iyar viswanatha**

**Engine type**

**MCR(defination and value)**

**NCR(def and percentage on my ship)**

**Generator type**

**How fuel is controlled (he wants to listen helical groove in plunger)**

**Turbocharger manufacturer name.**

**Turbocharger lubrication.**

**Why header tank.**

**.If in hydrophore frequently cut in cut off. reason**

**Why use vane type pump in steering system.**

**Sea water pump gland is leaking action to be taken.**

**09/08/2021**

**Internal - Ashish Wankhede sir**

**External - Vishwanathan Sir**

**(50- 60mins )**

**Type of ship you have sailed on ?**

**Contract length, Company and pre sea training institute name.**

**Motor**

**Which type of propulsion**

**Propulsion Motor Safety , Each motor power and how it's started.**

**Motor power factor and type**

**Shaft Power and Rpm**

**Type of Engine**

**Engine Specifications**

**If V type of Engine, you have one connecting rod or two. How con- rod is driving both units.**

**Which type of bearing - Thick Shell or Thin Shell**

**Where is Thick Shell and thin shell bearing used.**

**If you overhauled cylinder head and brought it to workshop , how will you identify which is suction and exhaust valve.**

**In air compressor , what is the difference between suction and exhaust valve.**

**Tell me about construction of fuel pump and all parts of fuel pump**

**Is there any delivery valve present in fuel pump, purpose of the delivery valve .**

**How fuel is supplied to engine ?**

**How meat room temperature is maintained at -15°C while your dairy room temperature is +4°C, by the same refrigerant.**

**How would you measure the oil level in crankcase .**

**When using dip stick what does it tells you , unit ?**

**The measurements on dip stick , are in which unit ( mm,cm , or m )**

**Consumption of Cylinder oil per hour and per day ?**

**Which engine has more Cylinder oil consumption 2 stroke or 4 stroke ?**

**Compression Pressure of Your Generator engine .**

## **STEAM**

**Boiler specifications**

**Purpose of Superheater**

**Pressure inside boiler**

**Pressure of Superheated steam**

**Economiser ?**

**How to check boiler water level , if by gauge glass then how ?**

**How many blowdown valves per boiler**

**Tell me about boiler blowdown procedure**

**Why do you open inboard valve first, what happens if opened later ?**

**What is specific name of wear that takes place at valve ?**

**Turbine specifications**

**No. Of stages in each turbine.**

**What is the purpose of gland seal ?**

**Where gland seal supplied in turbine ?**

**How's it's flowing through, pressure ?**

**Labyrinth seal**

**MEP**

**How would you change a gasket in the flange of a SW pipe if the gasket has worn out .**

**In shell and tube type heat exchanger , how will you come to know if heat exchanger is fouled.**

**If ballast pump has stopped taking suction or if the tank level has dropped, how will you come to know and what will be your actions.**

**In a centrifugal pump , if we use gland packing , how we prevent shaft from erosion .**

**In purifier , at one time my oil is coming out with water and another time water is coming out with oil , what is the problem ?**

**If the grade of oil being used is same , why would you encounter the above problem ?**

**And few more I don't remember !**

**Cleared All 🙌**

**\*MEP ACCEPTED ANSWERS\* \*````Thanks to the wise man\*````**

**\*1.How would you change a gasket in the flange of a SW pipe if the gasket has worn out .\***

**1. I told him that first I will check the thickness of the gasket material, type of gasket material.**

**And then I will take the old gasket and draw it over a new gasket material .**

And prepare the flange by cleaning it properly and then fit the new gasket .

( He just wanted to hear this much )

**\*2.In shell and tube type heat exchanger , how will you come to know if heat exchanger is fouled.\***

**2. In this I told that one method is by checking differential pressure**

And secondly I will check the temperature of SW it will drop and the JW OR FW outlet temperature would rise , more than normal as it won't be cooled properly .

**\*3.In a centrifugal pump , if we use gland packing , how we prevent shaft from erosion .\***

**3. I just told him we put a sleeve in the way of packing and he was happy with this answer.**

**\*4.In purifier , at one time my oil is coming out with water and another time water is coming out with oil , what is the problem ? If the grade of oil being used is same , why would you encounter the above problem ?\***

**4. I told him first of all there might be a problem with the gravity disc, if the size is small then water will carryover with oil And if the disc is large the oil will carryover to water outlet .**

And now if the gravity disc is same and grade of oil is also same, then there is the problem with temperature and density of the fluid.

We are not heating the fluid properly so proper interface is not forming as per the gravity disc used .

**\*5. what could be the reason for water coming in gear box side of purifier.\***

**5. I said water can enter from the bowl side when the O-RING leaks. Due to clearance around vertical shaft...**

**31/08/21**

**Int Ashish wankhede**

**Ext vishwanathan**

**Steam**

- 1. Boiler specifications**
- 2. Turbine specification**
- 3. Purpose of condenser**
- 4. Vacuum maintained at condenser**
- 5. Boiler water tests and procedure**
- 6. Safety valve overhaul**

#### **Motor**

- 1. Main engine specs**
- 2. Jacket Cooling water system, asked to explain**
- 3. Asked to explain pulse lubrication system**
- 4. Injector maintenance**

#### **Mep**

- 1. Purifier type**
- 2. Diff between clarifier and purifier**
- 3. Type of discharge system**
- 4. Bilge high level in your watch, actions**
- 5. Oil in Howell ,actions**
- 6. Compressor specification**
- 7. What is meant by tandem compressor**

**few more forgot**

**Cleared steam and mep**

**Motor repeat**

**31/08/2021**

**ashish wankhede sir**

**Mr. Vishwanathan sir..**

**MOTOR MEP**

- type of vessels you have sailed.
- which Main Engine and Aux. Engine.
- M/E c/case inspection
- How will you take Crankshaft Deflection.
- How to take Bottom end bearing clearance.
- M/E is battery/Air starting. Engine is not getting started, what could be the problems.
- Lube Oil properties and on board test.
- Reasons for c/case explosion in 4-stroke engine.
- Reasons for blow past and what will be your action.
- Some cross questions about piston rings and liner, liner calliberation, etc.
- Centrifugal pump not developing sufficient pressure, what could be the problems.
- Hydrophore pump is getting cutin/cutout very frequently, what will you check and actions.
- Some questions on electricals also that I didn't remember.

**Ext Vishwanath**

**Int Ashish**

**MOTOR MEP**

- 1. ME Nomenclature**
- 2. Why connecting rod not coupled with piston in ME**
- 3. Total number of bearings in one cylinder unit.**
- 4. Intermediate shaft lubrication**
- 5. Tie rod function. A/E present or not?**

6. Reefer unloader valve qstn (confuses a lot)

7. Bunker tank to settling tank transfer. What type of pump? Can't centrifugal pump be used?

8. ME LO pp discharge side pr gauge flickers. Reasons?

9. How would you know that coolers efficiency has reduced?

Rest, I don't remember.

Will let you know.

MUMBAI

31/08/2021

Vishwanathan sir

Ashish sir

Function 3

1. T.P.C.

2. Bilge keel

3. Fixed fire system on board

4. Co2 room requirements

5. Fire plan

6. Different alarms in engine room

Function 5

1. Power factor and little basic questions.

2. Preferential trip

3. How to parallel generator

4. How to do continuity test.

Few more questions I can't recollect

mumbai

Vishwanathan sir

**A Wankhede sir**

**Motor and MEP**

**1. ME AE Nomenclature**

**2. Lubrication in ME ,timed untimed?**

**3. Material of crosshead, bottom end and main bearing**

**4. How to take tappet of running AE?**

**5. AE all unit crankcase door leaking (small leakage), why what will you do?**

**6. Turbo charger filter fouled how will you know?**

**7. What is the process in Air compressor?**

**8. How cooling is decided in evaporator?**

**9. Bilge pump not taking suction from aft bilge well,why?**

**10. How to measure butt clearance in piston ring?**

**Result- Repeat all**

**31/08/2021**

**Wankhede sir**

**vishwanathan sir**

**Electrical**

**Pump room electrical safety**

**Generator rating and voltage control**

**Grade of insulation**

**Squirrel cage motor vs wound rotor motor**

**Batteries charging**

**Thermistor vs thermostat .**

**And more questions**

**15/11/2021**

**Function 3**

**MMD- MUMBAI**

**GAURI LAL MEENA Sir**

**Ushavisu Iyer sir**

**Type of ship sailed**

**All functions full form**

**What is ip**

**Co2 system explain**

**co2 bottle safeties**

**Co2 system arrangment**

**Hyper mist system explain**

**Solas chapters**

**Marpol**

**Annex 6 discharge criteria**

**Ows working**

**Fire in work shop what will your action**

**Life boat launching**

**Emg lighting check**

**What is Caba compressed air breathing apparatus**

**Bunkering procedure**

**RESULT- Pass**

**15 nov**

**MMD MUMBAI**

**Mep motor**

**Internal - meena sir**

**Extr - ush( chenn@i mmd)**

**Type of ship**

High voltage x question ( mep motor may high voltage 😊 )

Indicator cook leaking

Rta and rt- flex difference

Gen. Specifications

How much it can generate power

X question

Air compressor efficienc

low many x question

Few more....

Asking many things from electrical

Mep pass

15/11/2021

Safety

Internal : Meena sir

External: Iyer sir

Which type of ship

-MOB alarm

-Saturday routines

-Check on steering gear

-Fire safety plan where is it kept and why is it kept there

-Fire station what all things are there explain

-which fixed fire fighting system on board.

-Block coefficient

-Prismatic coefficient

-Theoretical speed

-pass 😊

**Ashish wankhede**

**External- viswanathan sir**

**Function 5**

**1.advantages of high voltage system**

**2.What is proximity switch and limit switch and difference between them**

**3.What is thermistor and where it is located on motor?**

**4.ER crane safeties**

**5.Three lamp method of synchronizing full**

**Wankhede sir**

**vishwanathan sir**

**- Thrust block**

**- How to identify an alarm in the engine room.**

**- how is a ship moving in water. What is the propeller doing.**

**- how do you charge refrigerant**

**- what is automatically controlled in an ME engine.**

**- what is demisters**

**- boiler gauge glass blowdown**

**- difference between LO of Ae and ME**

**Both passed**

**Wankhede sir**

**vishwanathan sir**

**Tpc**

**Type of resistance**

**Fixed fire fighting system**

**Type of ship ...which type of gas carrier ....cargo temp**

**Engine type**

**Fire in purifier room in your watch**

**Centrifugal pump are not self primed why**

**Pump gland leaking what ll u do**

**Type of starter**

**Type of governor ....governor maker**

**Me just started what all u will check**

**07 dec**

**Wankhede sir**

**vishwanathan sir**

**Motor & Mep**

**Type of ship**

**Mc-c and mc engine difference .why is mc-c compact , what things have changed**

**Trips and alarms of copt**

**Calibration of o2 analyzer**

**What is between receiver and expansion valve in domestic refrigerator?**

**What is purpose of AE crankcase vent ? Is vent there?**

**What absorbs moisture in refer. Plant?**

**What is min. And max. Thickness of feeler gauge.?**

**What risk are associated using feeler gauge?**

**What will u do if feeler gauge breaks inside bearing?**

**7/12/2021**

**MMD Delhi**

**wankhede sir**

**Vishwanathan sir**

**4b and 6**

**How camshaft is driven?**

**Relative speed between camshaft and crankshaft for 2s and 4s engine?**

**What is thrust bearing?**

**Purpose of tale tell hole?**

**How to change purifier to clarifier?**

**What checks carried out before starting AE?**

**Why unloaded required in compressor?**

**How does unloader work and when does drain unloader open and close?**

**6 passed 4b repeat**

**Internal : Ashish Vankade**

**External: Vishwanathan Iyer**

**1. Type of ship**

**2. Deadweight of my ship**

**3. BDN what all there in document and what are specifications of fuel mentioned in it**

**4. Marpol 1,4,5,6**

**5. Oil discharge criteria for engine room in spcl area**

**6. Oil discharge criteria for cargo**

**7. Orb part 1 entries**

**8. Certificates in annex 6**

**9. Importance of NoX technical file and what all entered in Nox technical file**

**10. Rescue boat regulations**

**11. Things carried in life raft and its capacity**

**12. Working of IG**

**13. PV breaker and PV valve difference**

**14. Liquid in PV breaker**

**15. Solas chapters 9, 11 and 12**

**16. Objectives of ISM**

**17. Code for solas chapter 11 and certificate issued for that code**

**18. Collision bulkhead position and its purpose**

**19. Free surface effect**

**Result: Pass**

**Mumbai**

**Vishwanathan iyer sir**

**Safety:**

**Bdn**

**Objective of ism**

**Nox technical file**

**Which annexes applicable on board**

**Orb how many**

**Explain one entry**

**Solas chapter name randomly and which code comes under it**

**Electrical:**

**Battery room entering precautions**

**Gasses produce in battery room**

**Fan exhaust or suction, emergency gen req .**

**AVR working and principle, alternator maintenance**

**Wankhede**

**Vishwanathan Iyer**

**Function 3**

**Safety..**

**1.wt is dead weight,GT,nt**

**2.wt is garbord starke**

**3.wt is safe matic system of steering gear .**

**4.why time delay in CO2 system....,CO2 alarm is general alarm?... difference between high pressure and low pressure....of CO2.**

**5.wt are the pollutants in the annex 6.**

**6.difference between watertight and whether tight doors.....and where u test ..water tight doors...**

**7.block coefficient**

**8.free surface effect**

**9.Marpol 1 4 6**

**10. Orb entry and explain**

**11. Working of igg**

**12. Rescue boat regulations**

**Aur bhul gaya bhai**

**Coc 🙏**

**Internal - Ashish Wankhade**

**External - Vishwanathan Iyer**

**1. Type of ship**

**2. DWT of my ship**

**3. Marpol annexes applicable on ur ship**

**4. Annex 1, 6 certificates**

**5. ORB part 1,2**

**Entries, signed by who**

**6. NoX technical file**

**7. Life boat and rescue boat differences**

**8. Solas chapters 14,13,11,9,2**

**9. Certificates and codes in chapter 9**

**10. Objectives of ISM**

**11. ISPS, levels in ISPS , who sets the levels**

- 12. Collision bulkhead
- 13. Margin line
- 14. Loadline
- 15. Garbage Management plan - 2 new classes
- 16. Fire fighting system used on deck

Foam type

- 17. Fixed fire fighting system in engine room
- 18. Hypermist system

Result – Pass

Internal sreenivas prasad

External iyer vishwanathan sir

3

Type of ship

LfL

UfL

HC limit in cargo tank

Working of propotioner

Deck foam regulation

Emergency power requirement

No of regulations in annex 6

Annex 6 pollutants

Annex 6 special area

ECA

5

Kw kva kvar

Synchronisation of generator

**Equipment used to measure ir**

**unit of IR**

**6 jan**

**Noida**

**Int purna manjhi**

**Ext vishwanathan Iyer sir**

**Starter and types and cross questions**

**Battery maintenance and lead acid battery related**

**Thermostat and thermistor**

**Brushless alternator regarding**

**What if one cell in battery is defective**

**Emergency DG and related questions**

**Thanks brother**

**Pass**

**Int Purna Majhi sir**

**Ext Vishwanathan sir**

**Function 6**

**1) O2 content in analyzer increase.. actions.**

**2)Boiler water tests**

**3)Chloride high..why and action**

**4)Main bearing clearance. Precautions for feeler. What to do if feeler breaks inside.**

**5)Main engine indicator cock leaking. Actions**

**Some more i forgot**

**PASS**

**Electrical**

**year sir(ext)**

**Manjhi sir(ent)**

**Parlleling of generator**

**Alternatior specification**

**Diff between kw and kva**

**Emergency generator regulations**

**Load connected on esb**

**Ner**