	Course	B.E – MARINE ENGINEERING	
Semester		V	
S	ubject Code	UAEE501	
Sı	bject Name	MARINE ELECTRICAL TECHNOLOGY - II	
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		UNIT-I	
	PART A		
1	What is Megge	er?	
2	Mention the U	ses of Megger	
3	Write the spec	ification of generating plant in ship.	
4	What is the use	e of OCR in generator?	
5	Define windla	SS.	
6	5 Write down the condition for parallel operation of alternator.		
7	What is dead s	ship condition?	
8	What is AVR?		
9	What is the rol	le of emergency generator?	
10	How to check	up a Megger is working in good condition?	
11	What is an alte	ernator?	
12	what is OLR?		
13	what are prote	ctive devices?	
	PART B		
1	Explain the loa	ad sharing of alternator.	
2	Explain how f	ire will be detected in the engine room.	
3	List the primary essential services in ship.		
4	Explain the droop characteristics of AVR.		
5	Compare main generator and emergency generator in ship.		
6	Briefly explain the construction and working of megger.		
7	List the secondary essential services in ship.		
8	Explain the ov	er current protection of generator with relevant diagram.	
	PART C		
1	Explain the sh	ip electrical layout with a neat sketch.	
2	Explain Brushless alternator with necessary diagram.		
3	Explain emergency power supply system with basic diagrams.		
4	4 With a neat sketch explain generator protection.		

			UNIT-II	
	PA	RT A		
1	What is blackout?			
2	Wri	ite any two	differences between ACB and VCB.	
3	Wh	What is the purpose of bilge alarm?		
4	Wh	at will be t	he performance of the motor if the frequency is reduced.	
5	Wh	at is shore	supply? Where it is used?	
6	Wh	at is ballas	t system?	
7	Wh	at is MSB?		
8	Wr	ite down th	e condition for parallel operation of generator.	
9	Wh	at is the dif	fference between a fuse and a circuit breaker?	
10	Wh	en a genera	ator will act as a motor?	
11	Wh	at is a circu	it breaker?	
12	Wh	at is engine	e room ventilation?	
13	List	t the types of	of circuit breaker.	
	PA	RT B		
1	Wri	ite the proc	edure for shore power reception on a VLCC.	
2	Exp	plain the eff	fect of change in supply voltage on torque and speed.	
3	Dra	w and expl	ain Main switch board in marine electrical systems	
4	Exp	olain dark la	amp method of synchronizing two alternators.	
5	Exp	olain radial	distribution system.	
6	Exp	olain bright	lamp method of synchronizing two alternators.	
7	Exp	plain the wo	orking of bilge alarm.	
8	A 4	40V, 5KW	, 0.8pf, 3 phase load is supplied as shown in the figure below. Find the short circuit fault	
	cur	rent when t	he fault occurs at the (a) load terminal (b) db (c) main switchboard.	
		(G 0.025 Ω MAIN SWITCHBOARD MAIN SWITCHBOARD MAIN SWITCHBOARD d.b.	
	PA	RT C		
1	Exp	olain AC di	stribution system in onboard ships.	
2	Exp	plain shore	supply arrangement with basic diagram.	
3	Exp	Explain the construction and working of Air circuit breaker.		
4	Explain the construction and working of vacuum circuit breaker.			

		UNIT-III		
PART A				
1	How earthing is done in ship?			
2	What is topping up?			
3	Write any two difference between secondary cell and primary cell.			
4	List the defects	s of lead acid batteries.		
5	What is the pu	rpose of emergency batteries on board ship?		
6	Write any four Do's while handling batteries			
7	Write any four	Don'ts while handling batteries		
8	Draw the block diagram of Battery charger			
9	How we can check fully charged battery?			
10	What is trickle	charging?		
11	What is Electro	ochemical reaction?		
12	What is therma	al runaway?		
13	What do you n	hean by smart charger?		
	PARIB			
	Demonstrate th	ne safety precautions related to entering into and working in battery room		
2	Explain the typ	bes of earthing system.		
3	Explain the im	portance of earthing with an example.		
4	What are the c	haracteristics are required for a good primary cell?		
5	With a neat blo	ock diagram of the Battery charger.		
6	Briefly explain	the indications of a fully charged cell.		
7	What are the e	lectrical characteristics of Lead acid cell?		
8	Explain the typ	bes of transformer in detail.		
	PART C			
1	Explain the co	ncept of charging with supply from AC source and DC Source		
2	Explain the working principle of Flooded cell battery			
3	What are the sa	afety measures when working with batteries		
4	Explain consta	nt current system and constant voltage system of charging.		

			UNIT-IV	
	PA	RT A		
1	1 Name the faults that occurs in cables.			
2	Why copper is good choice for selecting conductors?			
3	How cables are test periodically?			
4	Wha	at are the ty	ypes of Electrical injuries?	
5	Wha	at are the v	arious classes on insulations?	
6	Wha	at is Class	A cable Insulation?	
7	Wha	at is Class	B cable Insulation?	
8	What is Class E cable Insulation?			
9	Wha	at is Class	F cable Insulation?	
10	Wha	at is Class	H cable Insulation?	
11	Wha	at are the v	arious classes on insulations?	
12	wha	t is the use	e of bow thrusters?	
13	Wha	at is the use	e of Flame test?	
	PA	RT B		
1	Exp	lain any fi	ve insulating materials used for insulation.	
2	Exp	lain the Do	os and Don't when working with electronic equipment.	
3	Exp	lain micro	and macro shock.	
4	Exp	lain the Do	os and Don't when working with electrical equipment.	
5	Exp	lain differe	ent levels of Electric shock.	
6	Exp	lain the Do	os and Don'ts while doing battery maintenance	
7	Wha	at are the p	ractical tips on wiring?	
8	Dra	w and expl	ain bow thrusters.	
	PA	RT C		
1	Exp	lain the dif	ferent classes of insulation used in marine cables with suitable diagram.	
2	Stat	e the FIRS	T AID to be given, when a person gets an electric shock.	
3	Des	cribe in de	tail the different classes of insulation and its operating temperature.	
4	Exp	lain differe	ent type of insulating materials used in marine sector.	

			UNIT-V
	ł	PART A	
1	1 What are called hazardous areas?		
2	What is oil immersion(Ex o) equipment?		
3	What is meant by live line test?		
4	. v	what is work p	ermit?
5	١	Why routine te	est is required?
6	F	Explain electri	c shock
7	1	What is Non-in	ncendive(Ex n) equipment?
8	1	What is intrins	sically safe(Ex i) equipment?
9	I	What is pressu	rised equipment(Ex p) protection?
10	1	What is increa	sed safety (Ex e) equipment?
11	١	Which type of	electrical equipment is allowed inside cargo tanks?
12	J	What is Flame	proof(Ex d) equipment?
13	S	State the factor	rs that contribute to accidents in marine sector?
]	PART B	
1	Ι	Describe the p	recautions before commencing work on electrical equipment.
2	H	Explain the op	eration of Air operated lamps used in Hazardous zone .How safety is ensured?
3	Ι	Describe the ty	ype of fittings for illumination in hazardous zones and explain the maintenance procedure
	C	on explosive p	roof lights.
4	·	Explain the cla	assification of hazardous areas.
5	F	Explain Exe.	
6	F	Explain the Ha	azardous zones on board a ship.
7	F	Explain Exd.	
8	S	State the impo	rtance of proper ventilation when using varnishes and paints having solvents.
	ł	PART C	
1	Ι	Describe the ty	ype of fittings for illumination in hazardous zones and explain the maintenance procedure
	on explosive proof lights?		
2	E	Explain the ca	tagories of electrical equipments used in hazardous zones in ship.
3	3 Explain Exi barrier operation.		
4	I	Discuss about	pressurized equipment and protection in detail with figures.