Q. Code: 691307

Reg. No. | | | | | | | | | |

B.E. / B.TECH. DEGREE EXAMINATIONS, DEC 2019

Seventh Semester

MR16702 – MARINE ELECTRICAL TECHNOLOGY

(Marine Engineering)

(Regulation 2016)

Time: Three Hours **Maximum : 100 Marks**

Answer **ALL** questions

PART A - (10 X 2 = 20 Marks)

		CO	RBT
1.	List out the various components available in main switchboard of ships?	1	R
2.	What are the effects of inclination?	1	U
3.	Mention advantages of earthed neutral systems?	2	U
4.	State the causes for circuit fault in ship?	2	U
5.	State properties of filament used in a incandescent lamp?	3	U
6.	What are the sources of heat generation in the Cables?	3	U
7.	Differentiate Thruster and Water Jet propulsion?	3	AP
8.	Identify some alarm indication system used in ships.	3	AP
9.	What is trickle charging?	4	U
10.	What are the safety measures observed for the batteries?	4	U

PART B - (5 X16 = 80 Marks)

11.	(a)	(i)	Explain the working of a three phase four wire AC distribution system?	**(8)**	1	U
		(ii)	Discuss the selection of AC and DC generators for the use of ships?	**(8)**	1	U
			(OR)			
	(b)	(i)	List the measures to be taken to save the electrical equipments in hazardous areas?	**(8)**	1	U
		(ii)	Write short notes on Electrical shock and First Aid?	**(8)**	1	U

12.	(a)	(i)	Explain how earthing is carried out in ships for electrical equipments?	**(8)**	**2**	**U**
		(ii)	State the different types of circuit breaker and explain any one in detail.	**(8)**	**2**	**U**
			(OR)			
	(b)	(i)	Describe how manual and auto synchronizing lamps used for parallel operation of generator?	**(8)**	**2**	**U**
		(ii)	Describe the motor protection scheme.	**(8)**	**2**	**U**
13.	(a)		Elaborate the different type of insulation classes in detail?	**(16)**	**3**	**U**
			(OR)			
	(b)	(i)	Elaborate be in detail various types of alarm indication systems used in ships.	**(8)**	**3**	**U**
		(ii)	Explain various lighting schemes used in ships.	**(8)**	**3**	**U**
14.	(a)	(i)	Discuss in detail the working of Diesel Electric propulsion systems?	**(8)**	**3**	**U**
		(ii)	Discuss about AC single speed and induction motor drives?	**(8)**	**3**	**U**
			(OR)			
	(b)	(i)	With neat circuit diagram explain the working of cyclo converter in electric propulsion.	**(8)**	**3**	**U**
		(ii)	Discuss Advantages and Disadvantages of DC constant current systems	**(8)**	**3**	**U**
15.	(a)		Deduce the electrical characteristics of Lead acid and Nickel Cadmium Batteries. Also explain its insulation and safety measures?	**(16)**	**4**	**AP**
			(OR)			
	(b)		Describe in detail about planned preventive maintenance, life, breakdown and condition maintenance in ship.	**(16)**	**4**	**AP**