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B.E. / B.TECH. DEGREE EXAMINATIONS, MAY 2023

Second Semester

MR18202 – BASICS OF MARINE ENGINEERING*(Marine Engineering)***(Regulation 2018/2018A)****TIME: 3 HOURS****MAX. MARKS: 100**

COURSE OUTCOMES	STATEMENT	RBT LEVEL
CO 1	Ability to identify the sources of renewable and nonrenewable energy towers.	3
CO 2	Ability to explain the working principles of 2 Stroke and 4 Stroke Marine Engines	3
CO 3	Ability to explain the working cycle of Refrigeration and Air- Conditioning used in marine Engineering	3
CO 4	Ability to explain different metal forming and welding processes.	3
CO 5	Ability to explain different machines and drives	3

PART- A (10 x 2 = 20 Marks)

(Answer all Questions)

	CO	RBT LEVEL
1. What is the function of an anti-priming pipe in a boiler?	1	2
2. What is co-generation? How the electric power is generated?	1	2
3. Write any two factors to be considered for the selection of lubricating oil.	2	2
4. What are all the advantages of two stroke engine over four stroke engine system?	2	2
5. Give the names of refrigerants that are commonly used in refrigeration and air-conditioning systems.	3	2
6. Define scavenging in a two-stroke engine.	3	2
7. What is the difference between hot and cold forging?	4	2
8. State the principle behind gas welding.	4	2
9. Classify belts based on the materials used.	5	2
10. Explain the terms 'CAD' and 'CAM'.	5	2

PART- B (5 x 14 = 70 Marks)

	Marks	CO	RBT LEVEL
11. (a) Discuss ocean thermal energy conversion and discuss open and closed cycle system	(14)	1	3

(OR)

(b) With the help of a neat sketch, describe the working of a thermal power plant.	(14)	1	3
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12. (a) What is the necessity of cooling system? With a neat sketch explain any one method of water cooling system employed in I.C. engines. **(14) 2 3**

(OR)

(b) Explain in detail the working of a four-stroke diesel engine/compression ignition engine with neat sketches. **(14) 2 3**

13. (a) Write a note on working principle of split air-conditioning with layout diagram. What are all the advantages of central air-conditioning with unitary system? **(14) 3 3**

(OR)

(b) Draw the layout of a vapour compression refrigeration system. Explain the function of each component of the system. **(14) 3 3**

14. (a) (i) Describe the forging process in detail with neat sketches. **(7) 4 3**

(ii) Explain the gas welding process with a simple diagram. **(7) 4 3**

(OR)

(b) (i) Explain briefly the soldering and brazing process. **(7) 4 3**

(ii) Write down the advantages and disadvantages of manual arc welding. **(7) 4 3**

15. (a) (i) Compare the V belt and flat belt drives. **(7) 5 3**

(ii) What are the important components of a lathe? With a neat sketch explain the working of a lathe. **(7) 5 3**

(OR)

(b) Describe the main components and function of any one type of drilling machine. **(7) 5 3**

PART- C (1 x 10 = 10 Marks)

(Q.No.16 is compulsory)

	Marks	CO	RBT LEVEL
16. Explain design and working of summer air conditioning for Hot and dry and Hot and wet weather.	(10)	3	4