

**Registration No.**

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**B.E./B.Tech. Degree Examinations, December 2016**

**First Semester**

**MR16101-BASICS OF MARINE ENGINEERING**

**(Marine Engineering)**

**(Regulation 2016)**

**QP Code:999100**

**Time: Three hours**

**Maximum : 100 marks**

**Answer ALL Questions**

**PART A - (10 X 2 = 20 marks)**

1. What is cogeneration?
2. Differentiate water tube and fire tube boilers.
3. Define Carburetion
4. Write any two factors to be considered for the selection of lubricating oil.
5. Give the names of refrigerants that are commonly used in refrigeration and air-conditioning systems.
6. What is air-conditioning?
7. What is the difference between hot and cold forging?
8. What is soldering?
9. Mention the applications of belt drives.
10. Write the difference between CAD/CAM and CIM.

**PART B - (5 X16 = 80 marks)**

11. (a) (i) Draw the layout of closed cycle gas turbine power plant and explain the functions of each component. (12)
- (ii) Write the advantages of energy storage. (4)
- (b) (i) Sketch and explain the working of Benson boiler. (12)
- (ii) State the advantages of high pressure boilers. (4)

**(OR)**

12. (a) Explain the working of four stroke petrol engine and compare it with four stroke diesel engine in respect of fuel intake and ignition of fuel. (16)
- (OR)**
- (b) What is the necessity of cooling system? With a neat sketch explain any one method of water cooling system employed in I.C. engines. (16)
13. (a) Explain the working of vapour compression refrigeration system with a suitable diagram. (16)
- (OR)**
- (b) With a neat sketch, describe the working of window air-conditioning system. (16)
14. (a) Explain the following metal forming processes with suitable sketches. (8+8=16)
- (i) Forging      (ii) Drawing
- (OR)**
- (b) (i) Explain the gas welding process with a simple diagram. (12)
- (ii) Explain briefly the brazing process. (4)
15. (a) Describe the main components and function of any one type of drilling machine. (16)
- (OR)**
- (b) With neat sketches, explain the simple and compound gear mechanisms. (16)