

# INDIAN MARITIME UNIVERSITY

Time Bound Assignment September/October 2020

B Sc (NS) Arrear Examinations

MARINE ENGINEERING, AUTOMATION & CONTROL SYSTEM,

PAPER-II

UG21T3405

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Date: 10/10/2020

Maximum Marks: 70

Time: 3 Hrs

Pass Marks: 35

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**Note: Question No. 1 is compulsory.**

**Answer any 6 questions from remaining 8 questions (each of 10 marks).**

**Scientific Calculator is permitted if required.**

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- Q.1 **(2 x 5 =10 marks)**
- (a) Draw theoretical p-v Diagram of Dual Combustion Cycle.
  - (b) Write any two applications of steam turbine in Merchant vessels?
  - (c) What is Specific fuel consumption of Diesel Engines?
  - (d) What is the function of Deck water Seal in Inert Gas System?
  - (e) What types of Pumps are used for following
    - (i) Main Seawater Cooling system?
    - (ii) Two stroke Propulsion Engine Main Lubricating System?
- Q2.
- (a) Explain with suitable diagram working of 4 stroke C.I Engines **(5 marks)**
  - (b) Name any five important components of 2 stroke Marine Diesel Propulsion Engine **(5 marks)**
- Q3.
- (a) What are the properties of fuel to be considered for selection of Fuel for Marine Diesel engines ? **(5 marks)**
  - (b) Distinguish between Reaction Turbine and Impulse Turbine **(5 marks)**
- Q4.
- (a) What are the various types Propeller? What is propeller slip **(5 marks)**
  - (b) What are various methods of Scavenging employed in Marine Diesel engines? **(5 Marks)**

- Q5. (a) Sketch Jacket cooling water system for a Cross head type Propulsion Engine **(5 marks)**  
(b) Explain working of Gas turbines **(5 marks)**
- Q6. (a) Explain the following terms (i) Transducers (ii) Telemetering **(5 marks)**  
(c) What are the advantages of Hydraulic Control system compared to Pneumatic Control system **(5 marks)**
- Q7. (a) Sketch & Describe Inert Gas system using Boiler Flue gas **(5 marks)**  
(b) What are the various Checks to be carried out in Steering gear system **(5 marks)**
- Q.8 (a) Sketch and Describe Rotary vane steering gear system **(5 marks)**  
(b) Write names of any two important Deck machineries and their functions **(5 marks)**
- Q.9. (a) Describe how a gear pump works? **(5 marks)**  
(b) Sketch and explain any one type of Air Conditioning Plant of Merchant Ships. **(5 marks)**

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