COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

B.TECH. DEGREE VIII SEMESTER EXAMINATION IN MARINE ENGINEERING JULY 2020

MRE 1803 MARINE MACHINERY SYSTEM DESIGN

(*2013 Scheme*)

Time: 3hrs [36 Minutes for Answering and Scanning/Uploading the page of the Answer Sheet per module]

Max. Marks: 100 (20 per module)

INSTRUCTIONS

1. You have to answer only one question per module.
2. Answer may not exceed one page of an A4 size paper in a standard handwriting, as far as possible.
3. If at all an answer goes beyond one page, (due to your handwriting) another page can also be used. In such a situation, the page number should be given as 1/2, 2/2.
4. You have to put dated signature along with Register Number, Subject Code, Module/Group Number (as given in the Question Paper) in each page.
5. You have to put the Question Number correctly.
6. After answering the question, you have to scan and upload the answer page.

MODULE - I

(Answer ***ANY ONE*** question)

I(1). Compare forging with casting. Which process is used for propeller shaft and Why? (20)

OR

I(2). Write short note with sketches on the following: (20)

(i) Rolling
(ii) Direct extrusion
(iii) Arc welding

MODULE - II

(Answer ***ANY ONE*** question)

II(1). State the procedure for recording crank shaft deflections on a 2-Stroke engine. (20)

OR

II(2). State types of lubrication citing with examples on ship-board equipments. (20)

MODULE - III

(Answer ***ANY ONE*** question)

III(1). Explain the working of a thrust block on a vessel. (20)

OR

III(2). List out types of heat exchangers on board a vessel and their use on board. Explain the arrangement for expansion with temperature rise. (20)

MODULE - IV

(Answer ***ANY ONE*** question)

IV(1). List out procedure for starting diesel generator and putting on load in manual mode. (20)

OR

IV(2). What is function of the gravity disc in a centrifugal purifier? How do you select a gravity disc for Intermediate Fuel Oil of density 950 Kg/M^3? (20)

MODULE - V

(Answer ***ANY ONE*** question)

V(1). List the differences in the construction of engines with cam-shaft and without cam-shaft. Draw a sketch of Fuel Injection Valve Actuator (FIVA). (20)

OR

V(2). Why a dip tube is provided in a CO_2 cylinder. Calculate number of CO_2 cylinders that would be required for an engine room with gross volume up to casing: 5000 M^3. (20)

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