

Marine VTU Question Paper Set



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10MR841

Eighth Semester B.E. Degree Examination, June/July 2016
Marine Automation

Time: 3 hrs.

Max. Marks: 100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 a. Mention and explain any five characteristics of transducers. (10 Marks)
b. With a neat sketch explain the working of hall effect sensor. (10 Marks)
- 2 a. With a neat diagram explain photoelectric cell photo conductive cell and photovoltaic cell. (12 Marks)
b. With a neat sketch explain the working of viscosity sensor. (08 Marks)
- 3 a. With a neat diagram explain the working of variable capacitance pressure transducer. (10 Marks)
b. With a neat diagram explain bimetallic temperatures sensor. (10 Marks)
- 4 a. Explain the working current to voltage and voltage to current converters. (08 Marks)
Name the different type of filters and explain any two them. (12 Marks)
b.

PART – B

- 5 a. With an example and a neat block diagram explain open loop and closed loop control system. (12 Marks)
b. Explain the P + I + D (proportional, Integral and derivative) controller with system response graph. (08 Marks)
- 6 a. What are logic blocks? Explain AND, OR and NOT functions. (08 Marks)
b. With a neat diagram explain how a control valve operates with the signal from P + I + D controller. (12 Marks)
- 7 a. Write a short note on piston actuators. (08 Marks)
b. With a neat sketch explain diaphragm actuators and mention any four points where positioners are necessary. (12 Marks)
- 8 a. With a neat diagram explain the fuel oil viscosity control. (12 Marks)
b. Explain the working of a feed water control of boiler. (08 Marks)

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10MR831

Eighth Semester B.E. Degree Examination, June/July 2016
Transport and Logistics Management

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Define human resource management and elaborate on the role of a human resource manager today. (10 Marks)
 b. Elaborate on the importance of a 'TEAM' in strategic human resource management. (10 Marks)
- 2 a. Explain Fayol's fourteen principles of management. (15 Marks)
 b. Briefly explain why management is important for businesses today. (05 Marks)
- 3 a. What is managerial economics? Discuss its objectives and its uses. (12 Marks)
 b. What are the essential factors to be considered before installing a cost accounting system? (08 Marks)
- 4 a. What is intermodal transport? What are the four main functions of a intermodal supply chain. (10 Marks)
 b. Define logistics and explain its objectives. (10 Marks)

PART – B

- 5 a. Briefly explain the types of intermodal transport equipment. (10 Marks)
 b. What is bill of lading? What are the typical information that you would find on a typical bill of lading. (10 Marks)
- 6 a. Explain the role of quantitative methods in business and management. (10 Marks)
 b. What is data collection and measurement? Discuss the various methods of data collection. (10 Marks)
- 7 a. Discuss about the main function and features of a port. (10 Marks)
 b. Elaborate on the different types of ports based on its function and geography. (10 Marks)
- 8 a. Discuss the relevance of supply chain software in supply chain management. (14 Marks)
 b. Define a container and explain the five different types of containers. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
 2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

Eighth Semester B.E. Degree Examination, June/July 2016
Control Engineering and Automation

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting
atleast TWO questions from each part.**

PART – A

- 1 a. Derive the transfer function of field – controlled DC motor. (10 Marks)
- b. Reduce the block diagram as show in Fig. Q1(b) to the simplest possible form of find its (10 Marks)
- c. closed loop transfer function.

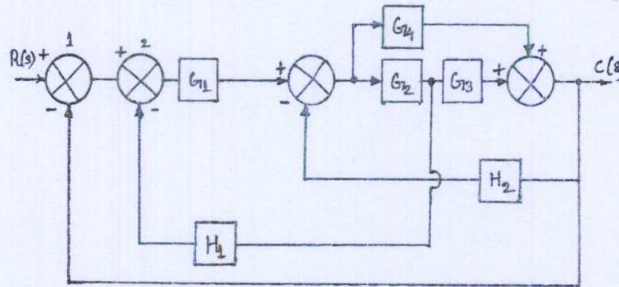


Fig. Q1(b)

- 2 a. Explain Nyquist stability criterion. (10 Marks)
 - b. By applying Routh criterion, discuss the stability of the closed loop system as a function of K for the following open loop transfer function : (10 Marks)
- $$G(s)H(s) = \frac{K(s+1)}{s(s-1)(s^2+4s+16)}$$
- 3 a. Write brief about proportional integrate derivative controller. (10 Marks)
 - b. State of explain stack type controller principle. (10 Marks)
 - 4 a. Sketch and describe the functioning of a diaphragm actuator. (10 Marks)
 - b. Sketch and describe the functioning of a valve positioner. What are the advantages of using of a valve positioner? (10 Marks)

PART – B

- 5 a. With a neat sketch explain variable inductance transducer and capacitance transducer. (10 Marks)
- b. Write about the force–balance transducer. (10 Marks)
- 6 a. Write neat sketch explain. Marine boiler combustion control system. (10 Marks)
- b. Explain steam pressure control and fuel oil temperature control system with neat sketch. (10 Marks)
- 7 a. With a neat sketch, explain direct reversing diesel engine by bridge control method. (10 Marks)
- b. With a neat sketch, explain working of jacket cooling water. (10 Marks)
- 8 a. What is PLC? Explain basic components of the PLC. (06 Marks)
- b. Explain integrated automation control and monitoring [ICAMS] system. (06 Marks)
- c. How does the micro controller operates? (08 Marks)

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10MR81

Eighth Semester B.E. Degree Examination, June/July 2016
Engine Room Management

Time: 3 hrs.

Max. Marks: 100

**Note: Answer FIVE full questions, selecting
at least TWO questions from each part.**

PART – A

- 1 Explain briefly about things to do when a ship leaves a port. (20 Marks)
- 2 Explain overhauling procedures of heat exchangers. (20 Marks)
- 3 Explain procedures for emergency steering operation. (20 Marks)
- 4 With a neat sketch, explain about oil mist detector. (20 Marks)

PART – B

- 5 Explain duties and responsibilities about safety and protection of environment. (20 Marks)
- 6 Explain briefly about watch keeping at port. (20 Marks)
- 7 Explain briefly about maintenance in E/R. (20 Marks)
- 8 Explain about log book entries to be done while entering dock. (20 Marks)

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