

USN

--	--	--	--	--	--	--	--	--	--

10MR841

**Eighth Semester B.E. Degree Examination, June/July 2018**  
**Marine Automation**

Time: 3 hrs.

Max. Marks: 100

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

**PART – A**

- 1 a. What are the static and dynamic characteristics of transducer? Explain in detail. (12 Marks)  
b. Explain in detail the working of hall effect sensor. (08 Marks)
- 2 a. Explain the construction and working of different types of manometer. (12 Marks)  
b. Write a brief note on photo conductive cells. (08 Marks)
- 3 a. Explain variable capacitor pressure transducer. (10 Marks)  
b. With neat sketch explain working principle of bi-metallic temperature sensors. (10 Marks)
- 4 a. Explain with neat sketch working of electro-pneumatic converter. (10 Marks)  
b. Explain the working of current to voltage and voltage to current converters. (10 Marks)

**PART – B**

- 5 a. Explain open loop and closed loop control system with the help of block diagram. (12 Marks)  
b. Briefly explain proportional control. Integral control and derivative control. (08 Marks)
- 6 a. Explain relay and its types in detail. (12 Marks)  
b. Briefly explain stacked type controllers. (08 Marks)
- 7 a. Explain with a neat sketch pneumatic valve positioner. (12 Marks)  
b. Write a note on diaphragm operated pneumatic valve. (08 Marks)
- 8 a. Explain the working principle of viscosity sensor with neat labelled sketch. (08 Marks)  
b. Explain feed water circulation system in boiler with the help of block diagram. (12 Marks)

\* \* \* \* \*

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on this examination sheet.  
2. Questions which are marked with \* will be treated as malpractice.