

## **Question Bank (G-scheme)**

**Name of subject: ADVANCED INDUSTRIAL ELECTRONICS    Unit Test: I**

**Subject code: 17542**

**Course: IE**

**Semester: V**

### **Chapter 1 (12marks)**

**3 marks**

1. state the role of alarm annunciator in industry?
2. What is intrinsic safety? State its importance.
3. Enumerate various problems encountered in traditional industry?
4. Give features of modern industry?
5. Enlist any 4 problems of traditional industries. State any four advantages of modern industry.

### **CHAPTER 2 (20 marks)**

**3 marks**

6. state and explain thermal effect of ultrasonic.
7. state the types of probes used in ultrasonic flaw detection. State material used.
8. State Piezoelectric effect. Mention the difference materials which exhibit this property.
9. what is NDT? State two advantages of NDT and application.
10. State the properties of ultrasonic waves.

**4 marks**

11. Draw neat block diagram of ultrasonic flaw detector with echo pulses wave form in CRO.
12. Define ultrasonic and state at least 2 members of ultrasonic generation with their frequency?
13. What is magnetostriction effect? State its application.
14. draw neat diagram of magnetostrictive oscillator to generate ultrasonic waves?
15. Draw diagram of ultrasonic **flow** detector. State the advantages of ultrasonic applications.
16. Explain any two applications of ultrasonic in detail.
17. Draw and explain with neat diagram U.S. cleaning.

### **CHAPTER 3 Magnetic crack detection (20 marks)**

**3 marks**

18. Explain Magna glow method.
19. Explain the principal of magnetic detection.
20. explain dry and wet method of testing.
21. What are the steps in MPT
22. What are the two orientation of magnetic field

**4 marks**

23. Describe the different methods by which magnetization can be used to detect cracks in a magnetic material.
24. Explain the need of Demagnetization in magnetic field detection
25. Explain principle of magnetic particle testing with diagram.
26. List types of magnetization method used for MPT?
27. List different method of Magnetization .Explain any one with Diagram
28. Explain the steps involved in Dry method MPT.
29. Explain with neat diagram longitudinal and circular magnetization.
- 30.** List different types of Magnetization methods. Explain in detail the prod magnetization.