Scheme – G

Sample Question Paper

Course Name : Diploma in Industrial Electronics

Course Code : IE/IU

Semester : Fifth for IE and Six for IU **17542**

Title Subject : Advanced Industrial Electronics

Marks : 100 **Time: 03 Hours**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

Q1. A) Attempt any Three **(12 Marks)**

a. List the problem of traditional industry .

b. What is NDT ? List the different method of NDT?

c. State any one field application where magnetic crack detection is used and describe it

d. Why magnetic material can be heated faster than non magnetic material by Induction heating process?

Q1. B) Attempt any One **(06 Marks)**

a. Draw the neat diagram of basic setup of EDM. Describe its operation .

b. Compare dielectric heating and induction heating (any six)

Q2. Attempt any FOUR **(16 Marks)**

a. What is intrinsic safety? State its importance and list its standard?.

b. Draw the neat labeled diagram of ultrasonic flow detector and write the function of each block.

c. State the principle of piezoelectric effect, Draw transistorized circuit of oscillator to generate ultra wave and describe.

d. What are the requirements of demagnetization in magnetic field detection?.

e. State two advantages and two disadvantages of EDM

f. Draw and describe its working of High frequency power source used for induction heating.

Q3. Attempt any FOUR **(16 Marks)**

a. Prepare the steps for accident prevention (any 8 points)
b. State the application of ultra sonic testing.
c. Describe the process of cold welding using ultra sonic.
d. Describe in detail the prod magnetization method with neat labeled diagram.
e. What is mean by 1. NC 2. CNC 3. DNC 4. CIM

Q4. (A)Attempt any three **(12 Marks)**

a. List any four feature of modern industry
b. What are the different types of probes and any two material used in testing ? Describe any one method of testing using any one probe?
c. What is part programming ? Explain the use of G and M codes in details?
d. State the six losses taking place in dielectric heating process.

Q4. (B)Attempt any one **(6 Marks)**

a. Draw the block diagram of CNC machine and state its principle of operation.
b. Draw appropriate diagram and state the principle of operation of induction heating process.

Q5. Attempt any FOUR **(16 Marks)**

a. Write any four types of accident and their causes
b. Draw the arrangement of transmission method of ultra sonic flaw detection and describe it.
c. Describe with neat diagram of magna flux method.
d. Describe wet method and dry method for MPT
e. Write any four criteria to select the component for CNC machine.
f. State the factor for selection of frequency required in induction heating.

Q6. Attempt any FOUR **(16 Marks)**

a. State piezoelectric effect and write any four materials which exhibit property.
b. Describe thermal method of ultrasonic wave generation .
c. List eight application of magnetic crack detection.
d. State the principle of EDM with neat sketch.
e. Compare open loop and close loop (any 4)

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Sample Test Paper-I

Course Name : Diploma in Industrial Electronics

Course Code : IE/IU

Semester : Fifth for IE and Six for IU **17542**

Title Subject : Advanced Industrial Electronics

Marks : 25 **Time: 01 Hour**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

Q.1 Attempt any three **(9 Marks)**

a) What is intrinsic safety? State it's importance and list it's standards?

b) Write any four types of accidents and their causes.

c) What is NDT? List the different methods of NDT?

d) Draw the arrangement of transmission method of ultrasonic flaw detection.

Q.2 Attempt any two **(8 Marks)**

a) Compare traditional and modern industry for any four points.

b) List the problems of traditional industry.(any four)

c) Describe principle of cold welding with help of suitable sketch.

Q.3 Attempt any two. **(8 Marks)**

a) Sketch the diagram of TR probe and Write its working .

b) Draw diagram of magnetostriction oscillator and describe working.

c) List eight application of magnetic crack detection

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Sample Test Paper-II

Course Name : Diploma in Industrial Electronics

Course Code : IE/IU

Semester : Fifth for IE and Six for IU **17542**

Title Subject : Advanced Industrial Electronics

Marks : 25 **Time: 01 Hour**

Instructions:

1. All questions are compulsory
2. Illustrate your answers with neat sketches wherever necessary
3. Figures to the right indicate full marks
4. Assume suitable data if necessary
5. Preferably, write the answers in sequential order

Q.1 Attempt any three **(9 Marks)**

a) What are the requirements of demagnetization in magnetic field detection?

b) What do you mean by NC, CNC and DNC?

c) Differentiate open loop and closed loop systems for any three points.

d) State any four advantages of magnetic crack detection over conventional testing method.

Q.2 Attempt any two **(8 Marks)**

a) State the principle of EDM with help of neat sketch and state two applications.

b) Draw block diagram of CNC machine and state two applications.

c) Write advantages and disadvantages of EDM(Two each)

Q.3 Attempt any two **(8 Marks)**

a) Draw Block diagram of EDM and describe working of each block.

b) Describe localized magnetization using Torroid method.

c) Compare dielectric heating and induction heating (any four)