

TED (10)-3003

Reg.No.....

(REVISION-2010)

Signature.....

SECOND SEMESTER DIPLOMA EXAMINATION IN MECHANICAL
ENGINEERING—MARCH, 2011

MANUFACTURING PROCESSES

[Time : 3 hours

(Maximum marks : 100)

PART—A

(Answer the following questions in one or two sentences. Each question carries 2 marks)

- I
1. Mention four thermal properties of materials.
 2. Differentiate between soldering and brazing.
 3. What are the functions of electrode coating using flux ?
 4. What is a hand file ?
 5. Name two precision instruments used for angular measurements. (5×2=10)

PART—B

(Answer any five of the following. Each question carries 6 marks.)

- II
1. Distinguish between ductility and malleability; brittleness and toughness.
 2. What are the different types of patterns? Explain the features of gated pattern.
 3. Draw a neat sketch of a micrometer and mark all parts.
 4. What is TIG welding? How it is done ?
 5. Propose and explain a method for the welding of rails in railway.
 6. Which are the common materials used for pattern making? What are the factors to be considered for the selection of pattern materials ?
 7. Write short notes on combination set and bevel pottractor. (5×6=30)

PART—C

(Answer one full question from each unit. Each question carries 15 marks.)

UNIT—I

- III
- (a) What is meant by non destructive testing? Explain the procedure of performing liquid penetrant test. 8
 - (b) What is creep resistance of materials? Explain the test for finding out the creep strength of materials. 7

OR

- IV (a) Explain the procedure of conducting a tensile test on universal testing machine. Draw a sample of stress-strain curve obtained. 7
- (b) Write short notes on following mechanical properties :
- (i) Hardness (iii) Toughness
- (ii) Impact strength (iv) Resilience. 8

UNIT—II

- V (a) Write short notes on the following gauges :
- (i) Snap gauge (iii) Thread gauge
- (ii) Plug gauge (iv) Taper gauge. 8
- (b) What is a comparator? Name different types of comparators. Briefly explain the uses of a dial gauge. 7

OR

- VI (a) Explain the method of measuring angles of an object by using vernier bevel protractor with suitable example. 8
- (b) What is least count of a measuring instrument? How the least count of micrometer is determined? Find the least count of a metric micrometer having 0.5 mm pitch and 50 thimble divisions. 7

UNIT—III

- VII (a) What are the precautions to be taken while performing overhead welding? 7
- (b) Explain the procedure of performing atomic hydrogen welding. 8

OR

- VIII (a) What is DC welding? What are the equipments used for DC welding? When the polarity is changed in DC welding? 7
- (b) With the aid of neat sketch explain procedure of performing submerged arc welding. 8

UNIT—IV

- IX (a) How the green sand mould is prepared? Explain the procedure. 7
- (b) Describe with sketches, the construction and uses of following carpentry tools :
- (i) Metal jack plane
- (ii) Wheel brace. 8

OR

- X (a) Distinguish between surface gauge and surface plate. Write their uses. 7
- (b) What are the different methods of filing? Explain briefly. 8

CE
33/10/4

ME
41/10/23
26/5/4