



Tertiary & Vocational Education Commission

Welding Technology NCT Equivalence Examination



Instruction:

1. Answer all questions.
2. Each question has two parts and you can answer only one part.
3. This is closed book examination.
4. Read all questions first before attempting to answer.

1.0 Part A

- i. State the difference between brazing and welding.. (03 Marks)
- ii. What equipment do we need for shield arc welding? (03 Marks)
- iii. What are the types of TIG torches? (03 Marks)
- iv. Draw the stress-strain curve for
 - a) The brittle material (02 Marks)
 - b) The ductile material (02 Marks)
- v. What is malleable material? (02 Marks)

1.0 Part B

- i. Explain the meaning of the following terms
 - c) Elastic limit
 - d) Yield point
 - e) Plastic range (06 Marks)
- ii. Describe the classification of electrode used "E7018" (02 Marks)
- iii. When should the MIG or TIG welding processes be used aluminum? (02 Marks)
- iv. What are the components of gas welding system? (03 Marks)
- v. State what is a fillet weld? (02 Marks)

2.0 Part A

- i. Why backing rings are used in making pipe joints. (02 Marks)
- ii. What is meant by "tack" welding? (03 Marks)
- iii. What precautions must be taken when welding over tack weld? (03 Marks)
- iv. Draw the MIG/MAG (GMAW) circuit diagram? (05 Marks)

2.0 Part B

- i. Draw and name Toe ,Root ,Throat thickness and length of the fillet joint (04 Marks)
- ii. Why should joints be prepared before welding? (02 Marks)
- iii. Name 5 types of welding joints. (05 Marks)
- iv. Draw and showing above mention joints and their symbols? (02 Marks)
- v. How do you identify an oxygen and acetylene cylinder? (02 Marks)

3.0 Part A

- i. What is meant by defects in welding? (02 Marks)
- ii. Name 5 causes of welding defects? (05 Marks)
- iii. Name 5 welding defects that cannot be visually inspected? (05 Marks)
- iv. What are the welding defects caused by poor surface cleanings? (03 Marks)

3.0 Part B

- i. How do you control the distortion in a welding process? (02 Marks)
- ii. What are the major causes for under cut? (03 Marks)
- iii. What is the welding jig? (02 Marks)
- iv. Give 3 Nondestructive Testing (NDT) used inspection weld joints? (03 Marks)
- v. Draw a simple sketch to show center line cracks of fillet welds? (03 Marks)
- vi. What is the distortion? (02 Marks)

4.0 Part A

- i. Explain the difference between an employee and employer? (05 Marks)
- ii. What is the planning & explain briefly the importance of planning? (05 Marks)
- iii. What is the WPS and what is the importance? (05 Marks)

4.0 Part B

- i. What are the objectives of plant layout? (05 Marks)
- ii. Name a advantage of a good plant layout? (05 Marks)
- iii. Briefly explain “estimates”? (05 Marks)

5.0 Part A

- i. Briefly explain the types of maintenance. (05 Marks)
- ii. Discuss the advantages and disadvantages of any two of them. (05 Marks)
- iii. State the formats used in a work shop. (05 Marks)

5.0 Part B

- i. What is “WPS”? (05 Marks)
- ii. What are the instructions given in the WPS? (05 Marks)
- iii. What are the advantages of WPS? (05 Marks)