Full name :……………………………………….. Anglais Technique 3LAS

**1** Define the term “welding” Choices:

**a)** Fusion of two metals through mechanical pressure **b)** Joining of materials using a heat source

**c)** Formation of bonds through chemical reactions **d)** Attachment of metals through adhesives

**Give your own definition** …………………………………………………………………………………………………….............................................

**2** Identify two common welding techniques used in industrial applications.Choices:

**a)** TIG welding and MIG welding **b)** Soldering and brazing

**c**) Arc welding and resistance welding **d**) Gas welding and friction welding

**3** What are the two main types of underwater welding? Choices:

**a)** Wet welding and dry welding; wet welding is performed in submerged conditions, and dry welding is done in a dry chamber.

**b)** Submerged arc welding and shielded metal arc welding; both are conducted underwater with similar techniques.

**c)** TIG welding and MIG welding; TIG welding is performed underwater, while MIG welding is done in dry conditions.

**4** What safety measures are particularly crucial for underwater welders, considering the unique challenges of working in submerged conditions? Choices:

**a)** Ear protection and insulated gloves

**b)** Navigation equipment and sonar devices

**c)** Diving suits, umbilical cords, and decompression procedures

**5** What specific challenges do aerospace welders face compared to other welding applications? Choices:

**a**) Tight space constraints and high safety standards; challenges are addressed through specialized training and equipment.

**b**) Lower precision requirements; challenges are addressed through automated welding processes.

**c**) Aerospace welding is similar to other applications, and no unique challenges exist

**6** Describe the basic principle behind gas welding Choices:

**a**) Gas welding relies on combustion; common gases include oxygen and nitrogen.

**b**) Gas welding involves melting metals using a focused laser beam; common gases include argon and helium.

**c**) Gas welding utilizes a flame produced by the combustion of fuel gas and oxygen; common gases are acetylene and oxygen

**7** what safety precautions should be taken when performing gas welding ?Choices:

**a**) Safety goggles and ear protection; proper ventilation prevents gas leaks.

**b**) Fire-resistant clothing and gloves; proper ventilation ensures removal of combustion by-products.

**c**) Respirators and steel-toed boots; proper ventilation reduces the risk of electric shock.

**8** Explain the TIG welding process Choices:

**a**) TIG welding involves a non-consumable tungsten electrode and an inert shielding gas, such as argon.

**b**) TIG welding relies on a laser beam for melting metals and uses helium as a shielding gas.

**c**) TIG welding is a submerged welding process using water as a shielding medium.

**9** What are the advantages of TIG welding over other welding processes ?Choices:

**a**) TIG welding is faster and suitable for heavy fabrication.

**b**) TIG welding provides high precision and is often used in aerospace and automotive applications.

**c**) TIG welding is primarily used for underwater welding due to its versatility.

**10** Describe the fundamental principle of laser beam welding and how it differs from traditional welding methods. Choices:

**a**) Laser beam welding uses electrical currents to melt metals; it is similar to arc welding.

**b**) Laser beam welding employs a focused beam of coherent light to melt and join metals without direct contact; it differs from traditional methods by its non-contact nature.

**c**) Laser beam welding relies on gas combustion for heat; it is similar to gas welding.

**11** Define the term “**welding defect**” and provide an example of a common weld defect ……………………………………………………………………………………