

PNS SCHOOL OF ENGG AND TECHNOLOGY

INTERNAL EXAM-2022

TH-1(PRODUCTION TECHNOLOGY)

3RD SEMESTER

PART-A

ANSWER ANY FIVE QUESTIONS

$5*2=10$

Q1 DEFINE EXTRUSION PROCESS .

Q2 DEFINE WELDING PROCESS .

Q3 WHAT ARE THE TYPES OF FLAME USED IN OXY-ACETYLENE WELDING?

Q4.WHAT ARE THE USES OF FLUXES IN WELDING?

Q5.DEFINE CASTING PROCESS.

Q6.CLASSIFY CASTING PROCES.

Q7.CLASSIFY ELECTRODES USED IN WELDING PROCESS.

PART-B

ANSWER ANY TWO QUESTIONS

$2*5=10$

Q1.WRITE THE WORKING PRINCIPLE OF IMPACT EXTRUSION PROCESS.

Q2.WRITE THE WORKING PRINCIPLE OF ELECTRIC RESISTANCE ARC WELDING.

Q3.WRITE THE DIFFERENCE BETWEEN TIG AND MIG

INTERNAL ASSESSMENT TH-1

PART-A

Q1. DEFINE EXTRUSION PROCESS

ANS-Extrusion is a manufacturing process which involves forcing the work piece through a pre shaped die to create objects with a specific shape and profile. In extrusion process the billet is placed in a container, pushed through a die opening using a ram or dummy block

Q2 DEFINE WELDING PROCESS

ANS- Welding is the process of joining similar or dissimilar metals and plastics without using fasteners and adhesives.

Q3 WHAT ARE THE TYPES OF FLAME USED IN OXY-ACETYLENE WELDING?

ANS-

THE THREE KINDS OF OXY-ACETYLENE FLAMES, WHICH ARE USED IN ENGINEERING WORKS, ARE AS FOLLOWS:

- 1. OXIDISING FLAME**
- 2. NEUTRAL FLAME**
- 3. CARBURISING FLAME**

Q4.WHAT ARE THE USES OF FLUXES IN WELDING?

ANS-

- IN ADDITION TO PREVENTION OF FORMATION OF OXIDES WELD FLUX ALSO**
- CREATES A PROTECTIVE SLAG OVER THE MOLTEN METAL.**
- REMOVES IMPURITIES FROM THE MOLTEN METAL.**
- REDUCES SPLATTER.**
- PREVENTS HARDENING BY SLOWING DOWN COOLING TIME.**

Q5.DEFINE CASTING PROCESS.

Ans-Casting is a metal shaping method in which molten metal is poured into a mould cavity of desired shape and then allowed to solidify. This solidified part is also known as casting.

Q6.CLASSIFY CASTING PROCES

i-Expandable mold casting

ii-Permanent mold casting

Expandable casting is further classified into Sand casting, investment casting.

Permanent casting is further classified into Die casting, Centrifugal casting, pressure casting

Q7.CLASSIFY ELECTRODES USED IN WELDING PROCESS

ANS- There are two types electrodes used in welding process

1-Consumable electrode

2-Non-Consumable electrode

LONG QUESTION ANSWER

Q1 Difference between TIG and MIG

TIG-

- TIG stands for Tungsten Inert Gas Welding. It is also known as Gas Tungsten Arc Welding (GTAW).
- It is a process in which an electric arc is formed in between a non-consumable tungsten electrode and workpiece metal(s)
- The type of electrode used is non-consumable tungsten electrode.
- It uses constant current welding power supply for the welding

It is most commonly used to weld stainless steels and non-ferrous metals like aluminum, magnesium and copper alloys.

MIG

- MIG stands for Metal Inert Gas Welding. It is also known as Gas Metal Arc Welding (GMAW), Metal Active Gas Welding (MAG)
- It is a welding process in which electric arc is formed in between a consumable wire Electrode and workpiece metal(s)
- The type of electrode used is consumable wire electrodes.
- Most commonly it uses constant voltage, direct current power source for the welding. It can also use constant current system and alternating current.
- The materials which it can weld are aluminum, non-ferrous materials and steels.

Q2.WORKING PRINCIPLE OF ELECTRICAL RESISTANCE WELDING

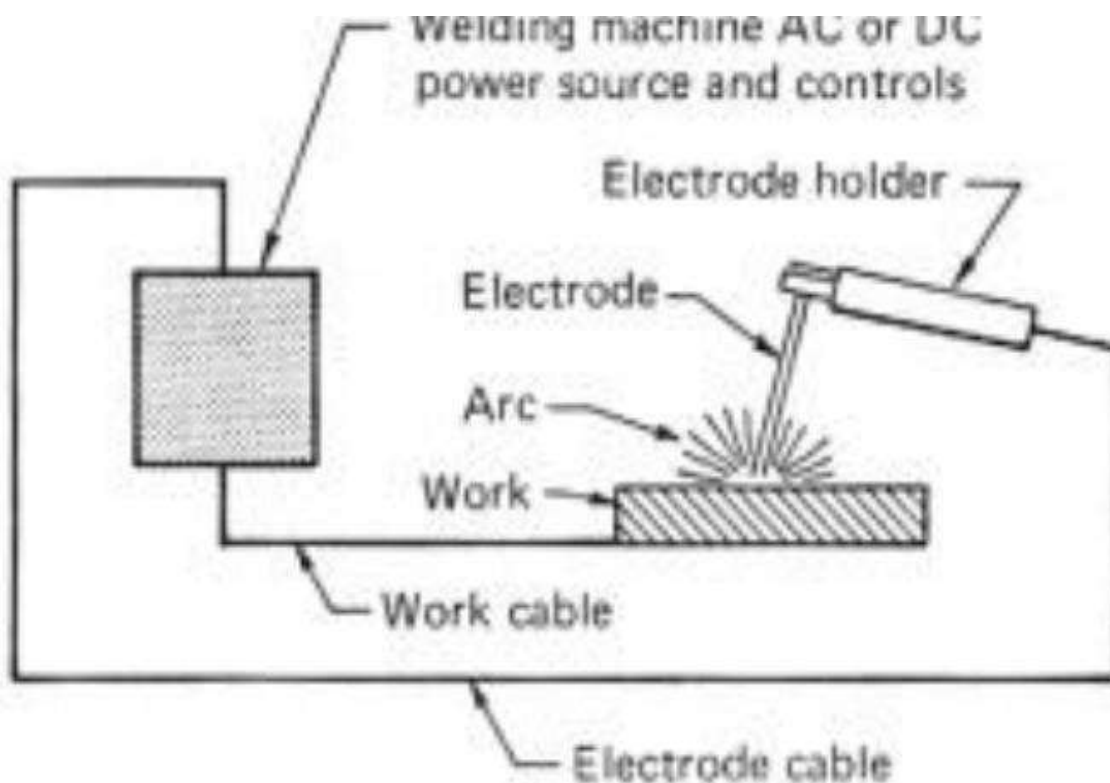
ANS-

-ARC WELDING- IT IS A FUSION WELDING PROCESS WHERE THE HEAT IS GENERATED BY THE APPLICATION OF ARC.

ELECTRIC ARC WELDING

- IN ELECTRIC ARC WELDING THE END OF THE METAL PIECES TO BE JOINED ARE HEATED LOCALLY TO THE MELTING TEMPERATURE, BY CREATING AN ELECTRIC ARC AND THEN ALLOWED TO SOLIDIFY TO FORM THE WELDED JOINT.

- THE ARC IS A FLAME OF INTENSE HEAT, GENERATED BY PASSING ELECTRIC CURRENT THROUGH A HIGHLY RESISTANT AIR GAP BETWEEN THE ELECTRODE AND THE WORKPIECE.



Q3.WRITE THE WORKING PRINCIPLE OF IMPACT EXTRUSION PROCESS

ANS- Impact Extrusion or back ward cold extrusion

- This method is chiefly used for making small work pieces from ductile material.
- The material is placed in the position in to a blind die and a ram with clearance is forced in to the die, making the metal to flow plastically around the ram.
- Because of the impact force the side walls go straight along the punch though they are not confined .
- With the help of this process, collapsible medicine tube and tooth paste tubes are produced . Lead , aluminum, copper , tin and other soft metals are used in this process.

