



LIVE SESSION - 4



# Welding Processes



# INTRODUCTION



## PRACTICE QUESTIONS

**Q1. The primary function of the arc welding power source is**

- A. to control the shielding gas composition**
- B. to produce low voltage-high current**
- C. to step-up voltage and sustain ionization**
- D. to avoid electric shock.**

**Q2. Which of the following are the conventional power sources**

- A. Magnetic amplifier**
- B. Primary rectifier-inverter power source**
- C. SCR controlled power source**
- D. Variable inductor**

**Q3. What are the primary functions of the transformer in the conventional power sources**

- A. to convert 3-phase AC current to DC**
- B. to produce low voltage and high current**
- C. to regulate the current in secondary circuit**
- D. all of the above**

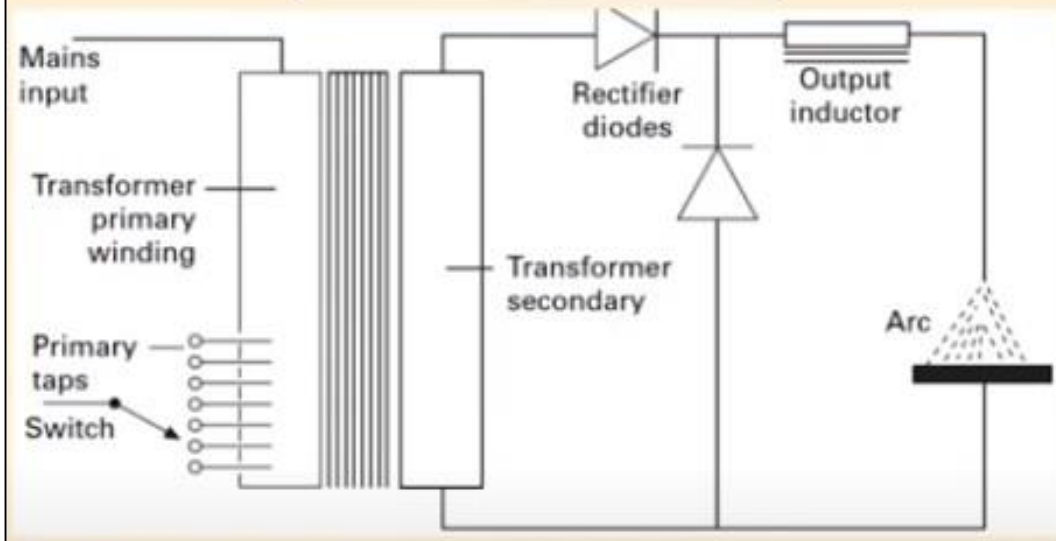
**Q4. In moving iron control power source, output is regulated by**

- A. moving rapidly the iron plates to be welded**
- B. by inserting iron shunt in the arc column**
- C. by moving iron shunt in between secondary rectifier and inductor**
- D. by controlling the position of the iron shunt between primary and secondary coils of the transformer**

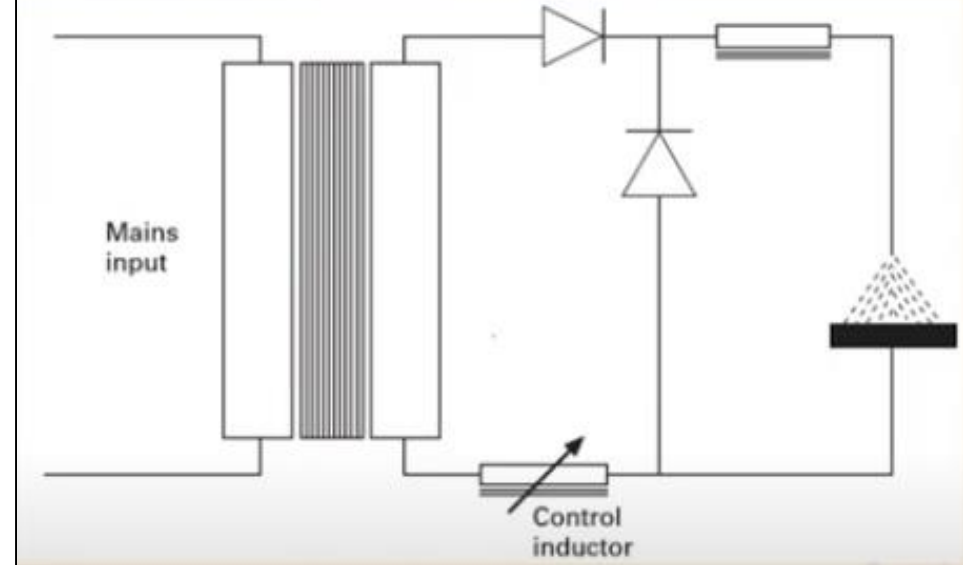
**Q5. The output is continuously regulated in magnetic amplifier power source by**

- A. mass magnetization of magnetic coils in control inductors**
- B. placing an inverter in the output circuit**
- C. mass magnetization of primary transformer**
- D. magnetic flux leakage in rectifier.**

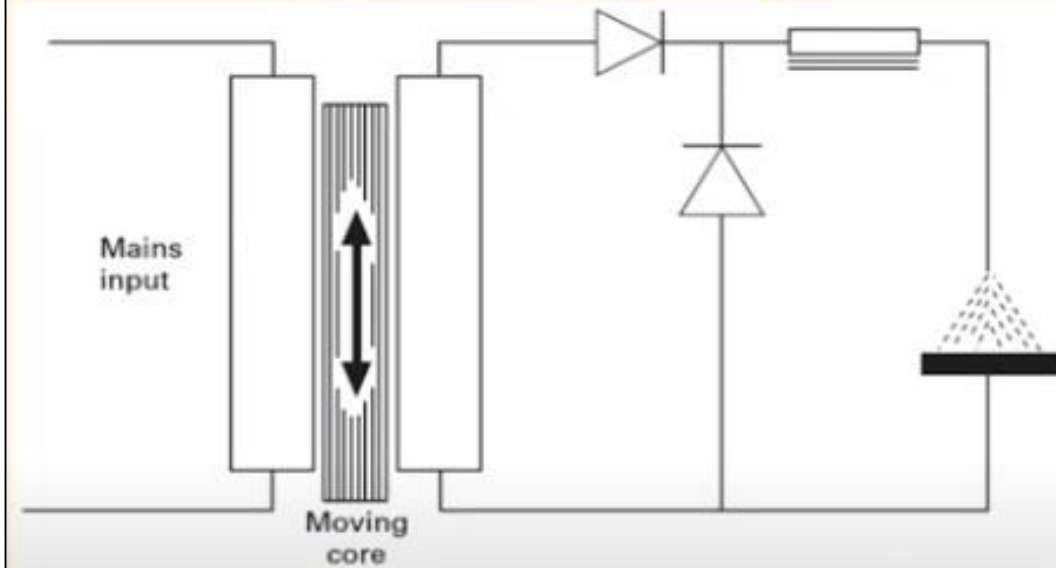
### Tapped transformers



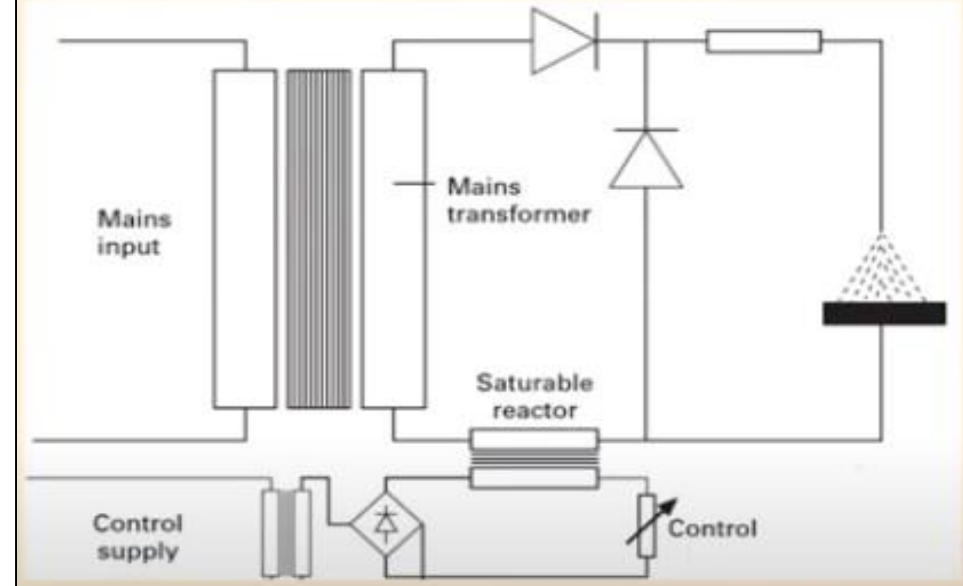
### Variable inductor



### Moving-iron control



### Magnetic amplifier





## PRACTICE QUESTIONS

**Q6. In the primary rectifier-inverter power source transformer is placed**

- A. Power source not used any transformer in the circuit**
- B. in primary circuit**
- C. in secondary circuit**
- D. None of the above**

**Q7. Compared to transistor series regulator power source, in secondary switched transistor power supply?**

- A. heat dissipation is high**
- B. heat dissipation is low**
- C. requires extensive water cooling**
- D. efficiency is low**

**Q8. The primary rectifier-inverter power source can be used**

- A. only for GTAW**
- B. only for GMAW**
- C. only for manual welding**
- D. for manual and automated, multiprocess.**

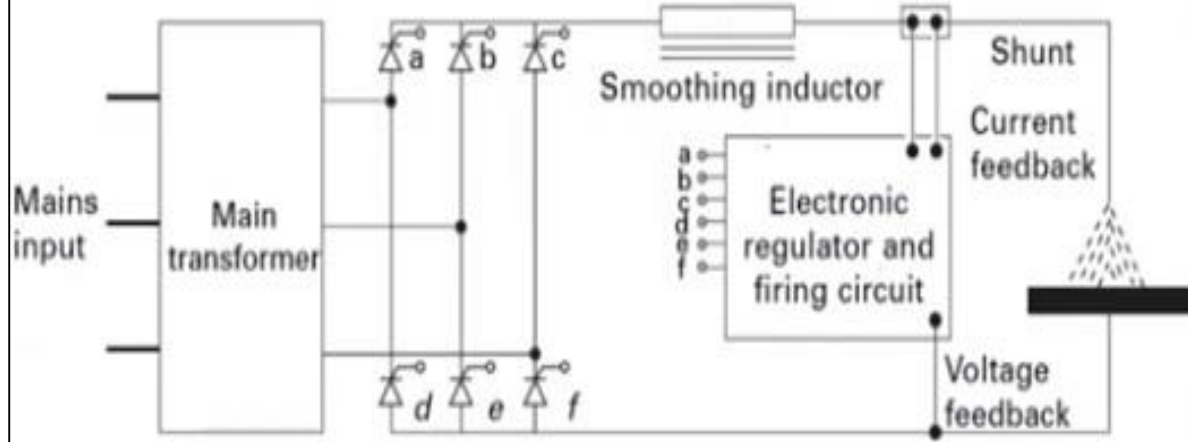
**Q9. Primary rectifier-inverter power source is small and compact in size because**

- A. presence of transformer in primary circuit**
- B. absence of transformer in primary circuit**
- C. cooling is external**
- D. low operating frequency.**

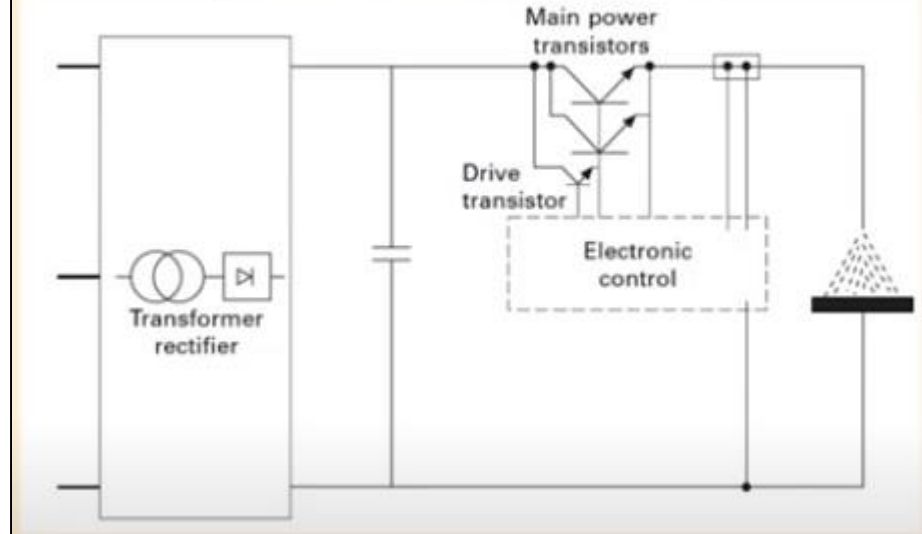
**Q10. Among all the commercially available welding power sources, the most compact and light weight welding power source is**

- A. magnetic amplifier system**
- B. transistor series regulator system**
- C. primary rectifier-inverter system**
- D. SCR phase control system**

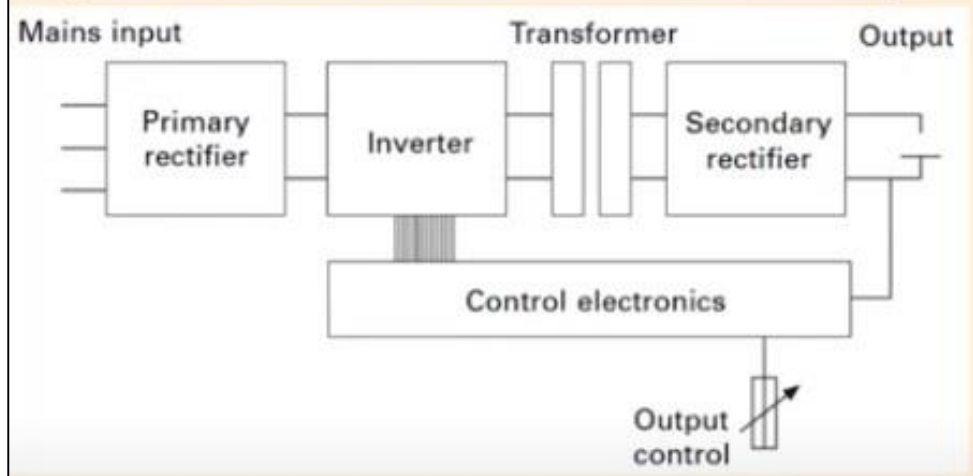
### Silicon-Controlled Rectifier phase control circuit



### Transistor series regulator



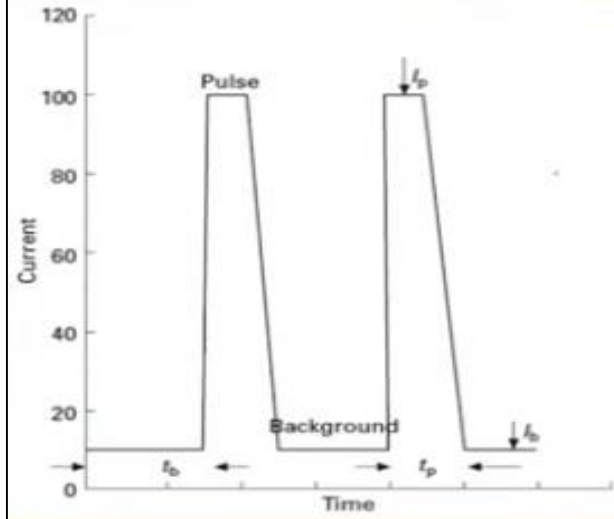
### Primary rectifier-inverter power supply

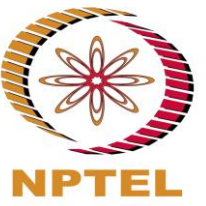


### Primary rectifier-inverter power supply



### Pulsed GTAW





Thank you.....