NHPC JE | SSC JE

LIVE @ 7PM

BETA (β) FOR MECHANICAL ENGINEERS

MOST EXPECTED QUESTIONS

SET-6

BY RK SIR

DOUBLE VALIDITY LIVE || by Y201 CODE GET MAX DISC

Adda247

PINTU MAHATO 5 hours ago

D... Hoga 0.95 to 0.98

Reply

Vartika Vlogs 21 hours ago

0.9

Reply

Pankaj Mahato 20 hours ago

CCCCCCCCCCCCCCCCCCC❤️❤️❤️❤️❤️

Reply

Mohit Kashyap 9 hours ago

A❤️❤️

Reply

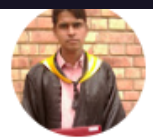
shilpi Kumari ME-09 21 hours ago

Venturi meters wala question ka answer d hoga

Reply

DIBYAJYOTI KAR 20 hours ago

d



Narender Sura 20 hours ago

HW is. A

Reply

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roman 19 hours ago

D

Reply

Vartika Vlogs 21 hours ago

Ccccccc

Reply

RAM KUSHWAHA 13 hours ago

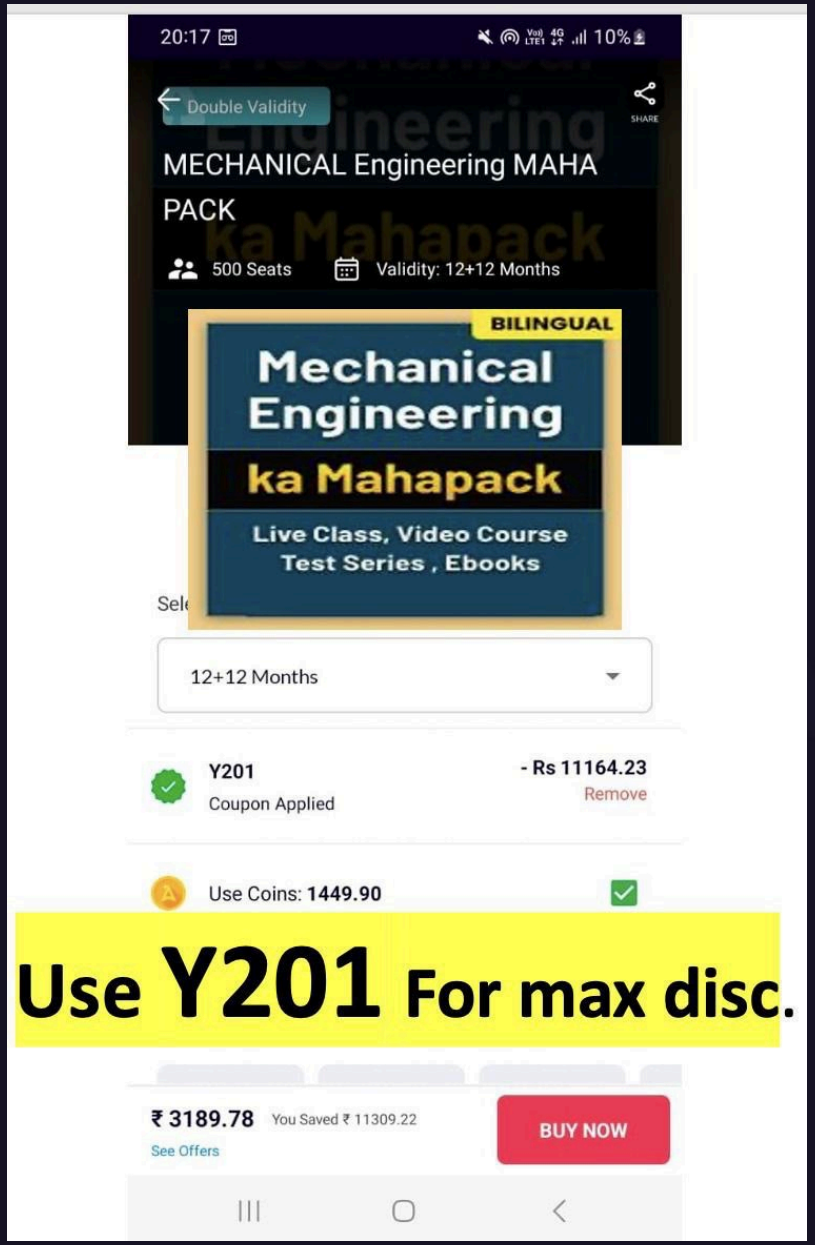
Aaaaaaaaaa

Reply

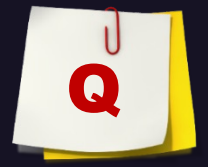
"सफल और असफल लोग अपनी क्षमताओं में बहुत भिन्न नहीं होते हैं। वे अपनी क्षमता तक पहुँचने के लिए अपनी इच्छाओं में भिन्न होते हैं"- जॉन मैक्सवेल

DOUBLE VALIDITY LIVE || by Y201 CODE GET MAX DISC

Adda247



Use Y201 For max disc.



Between two concentrated loads, the shear force diagram for any part of the beam, is a _____.

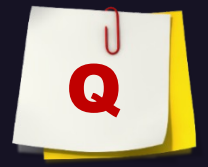
A. parabola

B. line inclined to axis

C. vertical straight line

D. horizontal straight line

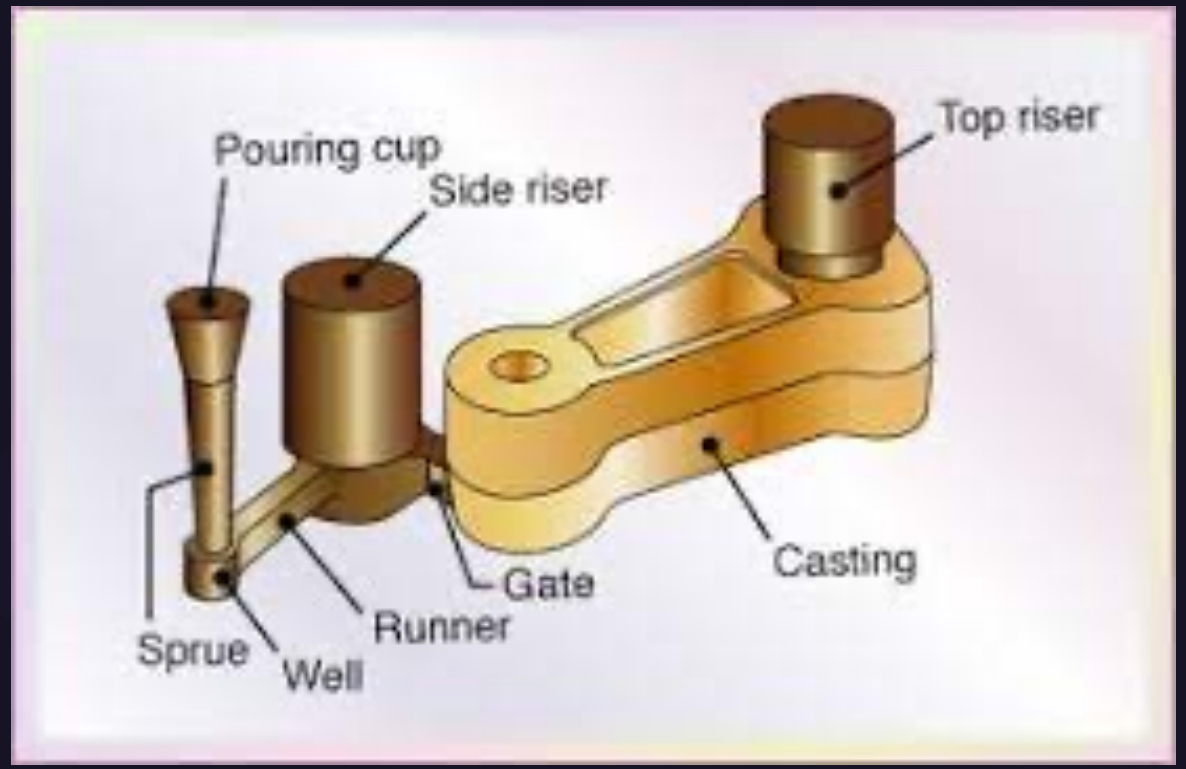
Ans (d)



_____ is used to minimize splash and turbulence when metal is flown into a down sprue.

A. Runner
B. Pouring cup
C. Pattern
D. Riser

Ans B

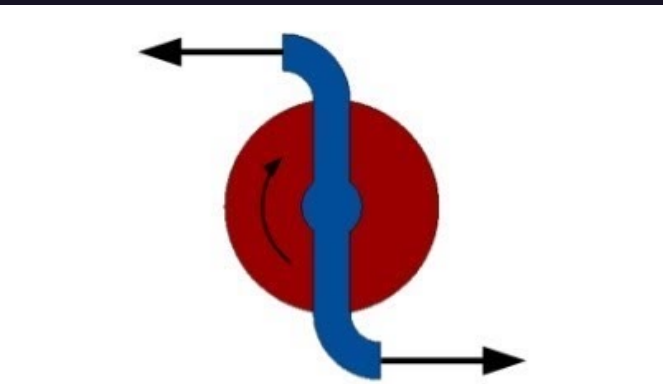


Q

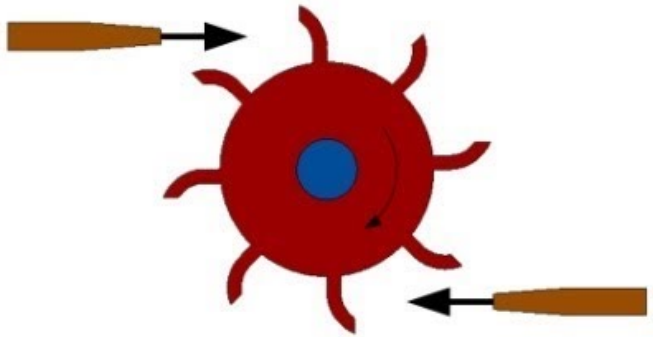
Identify the type of fluid machine in the given figure.

A. Axial flow
B. Inverted flow
C. Radial flow
D. Mixed flow

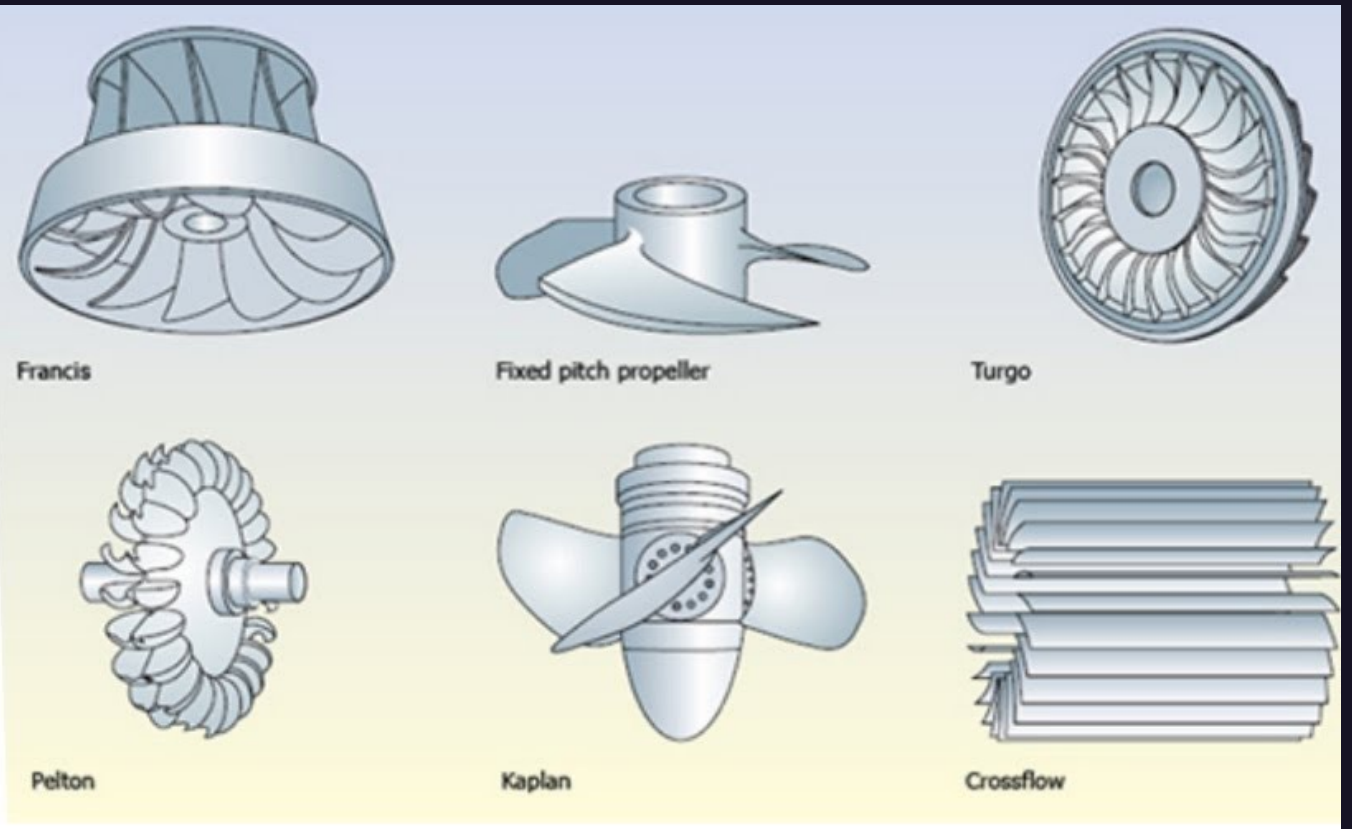
Ans (C)



Reaction Turbine



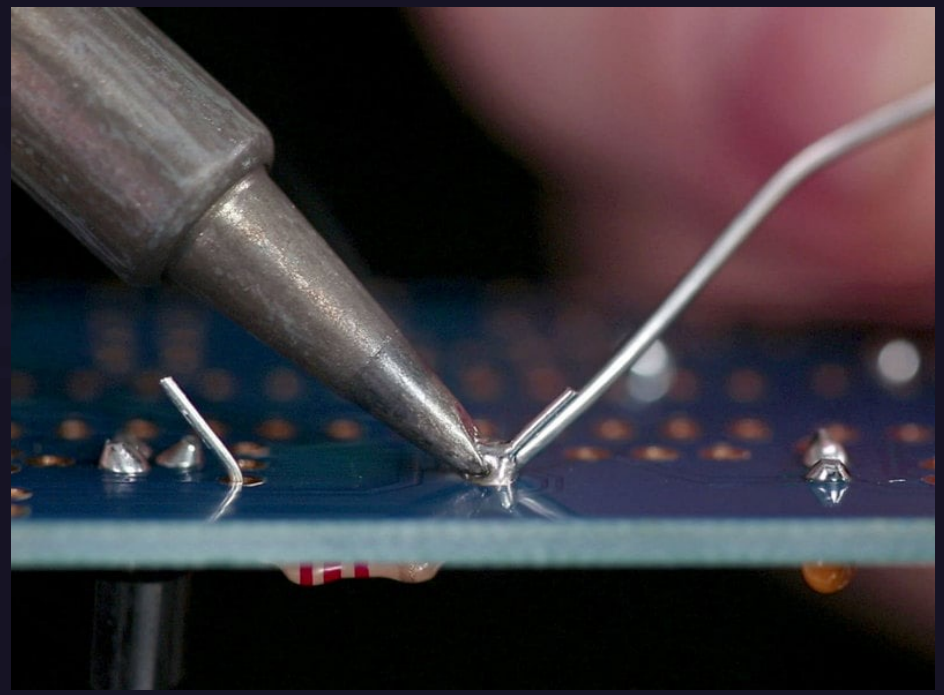
Impulse Turbine



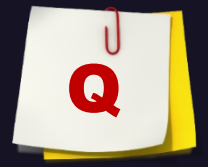
Q

_____ is chemically active at soldering temperatures and promotes the wetting action required for successful joining.

A. Phosphorous
B. Silver
C. Tin
D. Gold



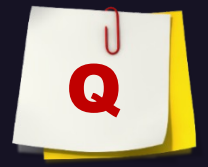
Ans (C)



Which of the following is NOT an obstruction type of flow meter?

A. Orifice meter
B. Nozzle meter
C. Venturi meter
D. Pitot tube

Ans (D)



Sensitiveness of the governor is denoted as _____.

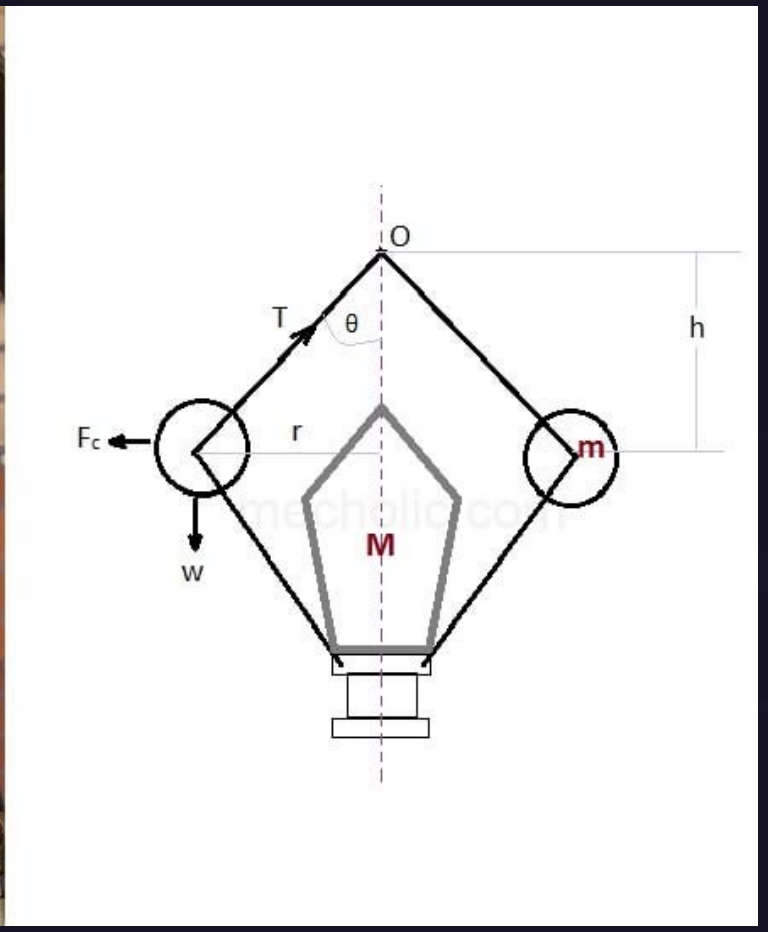
If N1 = Minimum equilibrium speed, N2 = Maximum equilibrium speed, N = Mean equilibrium speed

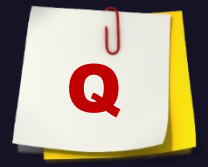
A. (N2 - N1) / (NZ + N1)

B. (N2 – N1) / N

C. (N2 + N1) / N

D. N / (N2 – N1)

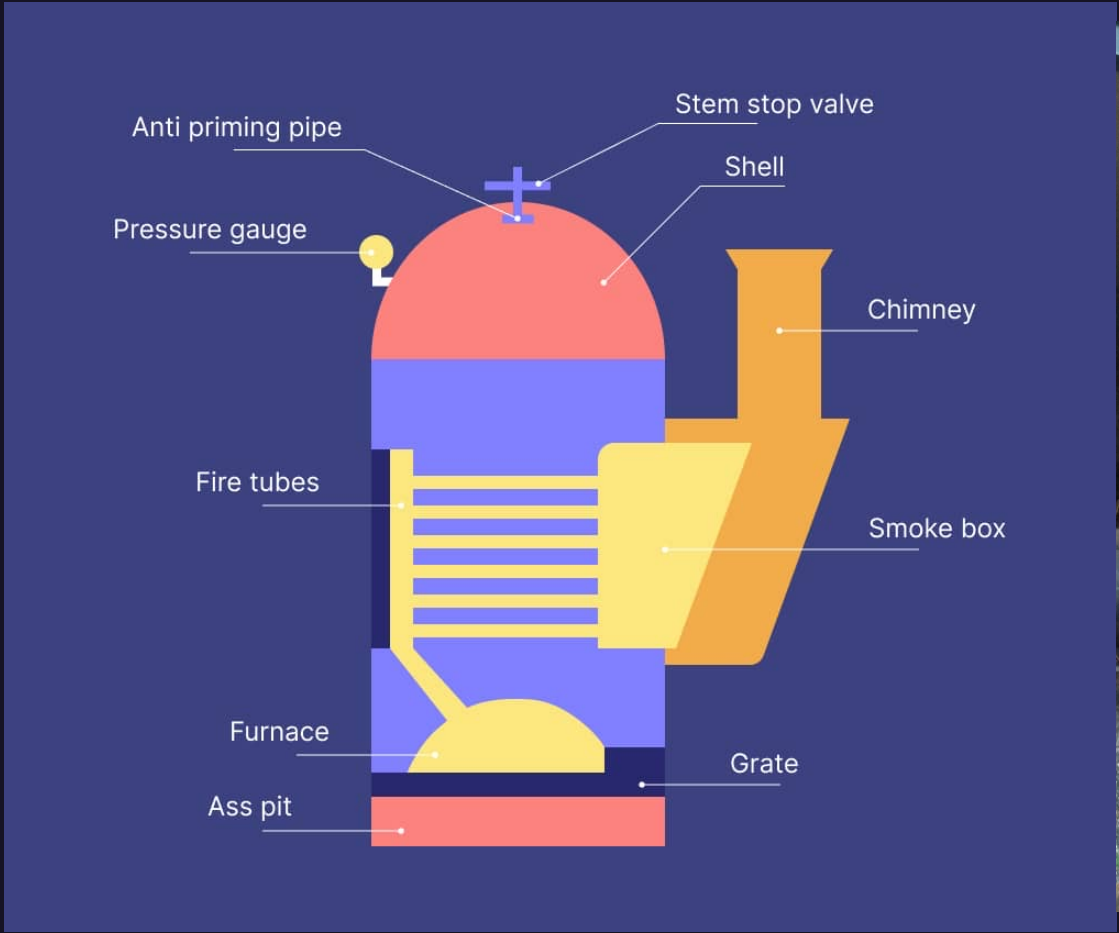


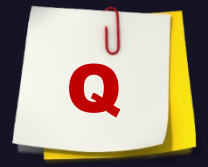


Identify the odd one out of the following options with respect to the position of the boiler.

A. Locomotive boiler
B. Cochran boiler
C. Cornish boiler
D. Lancashire boiler

Ans (B)





Typical heat factor for TIG welding is taken as _____.

A. 0.3
B. 0.4
C. 0.7
D. 0.2

Ans (C)

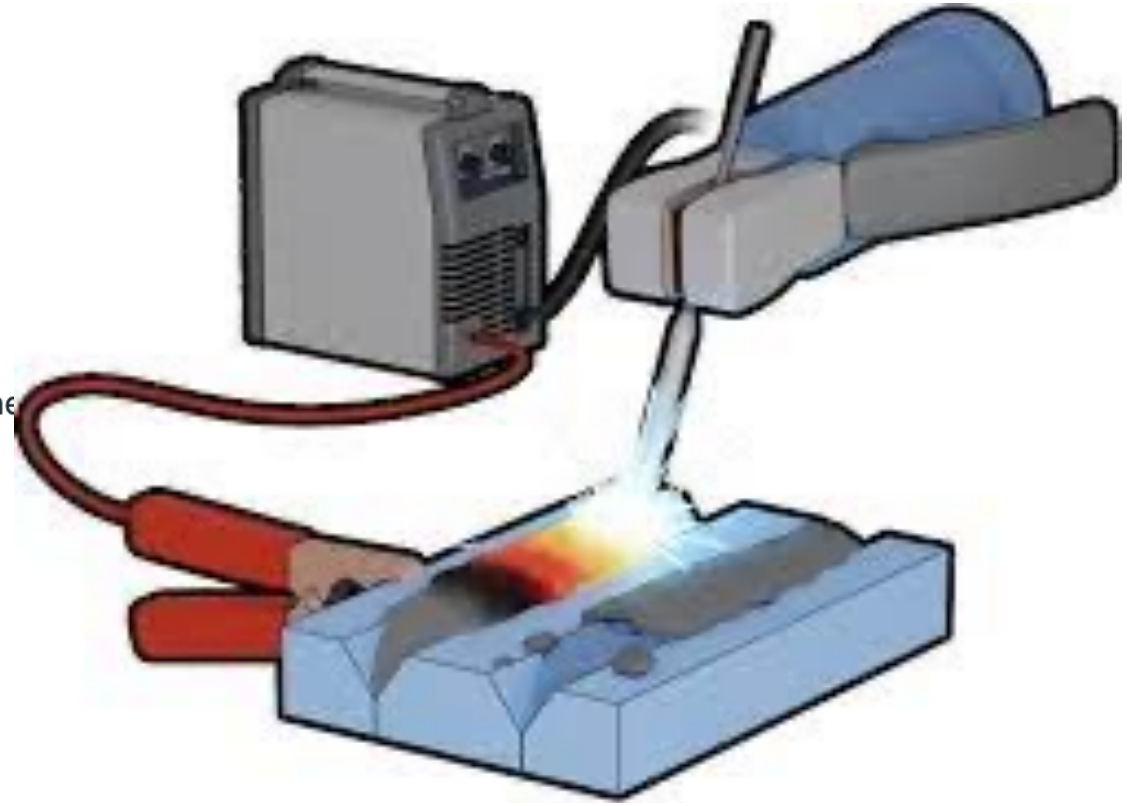
Arc energy (AE) is the energy supplied by the welding arc to the workpiece before the efficiency of the process is considered.

Heat input (HI) considers the effect that process efficiency has on the energy that actually reaches the workpiece to form the weld.

Heat input is written as

HI = ϕ × AE

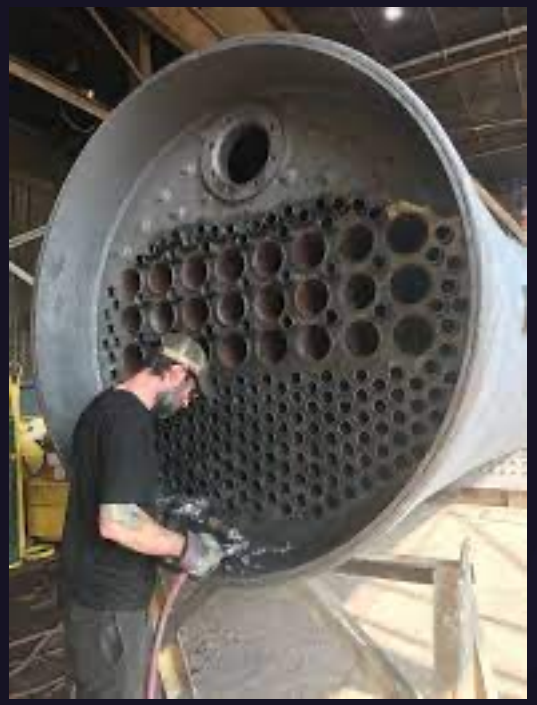
Where ϕ is the Efficiency factor or Heat factor.



Each arc welding process has a different value of heat factor (ϕ).

To simplify the rating systems, all heat factors relate to the heat factor of the process.

Process	Heat Factor (ϕ)
Submerged Arc Welding (SAW)	1
Shielded Metal Arc Welding (SMAW)	0.8
Flux-Cored Arc Welding (FCAW)	0.8
Metal Inert Gas or Gas Metal Arc Welding (GMAW)	0.8
Tungsten inert gas welding (TIG)	**0.6-0.7**
Plasma arc welding (PAW)	0.6-0.7



Tap water if used in boilers could directly promote _____.

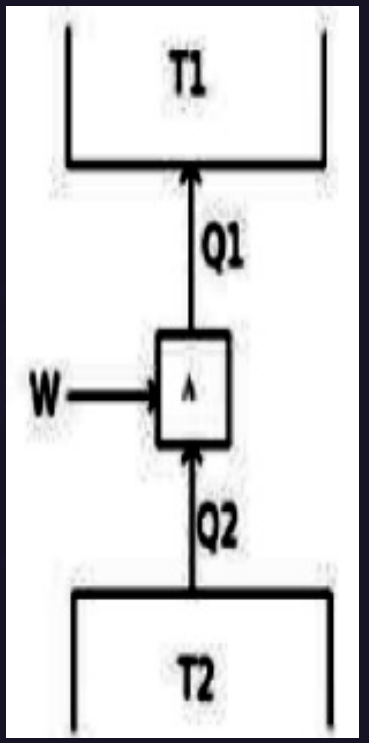
A. scaling
B. loss of mechanical property
C. loss of hardness
D. corrosion

Ans (A)

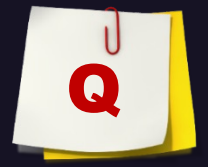
Q

The COP of component given in the figure is _____.

A. W/Q2
B. Q2/W
C. Q1/W
D. W/Q1



Ans (B)



Ideal fluids are _____.

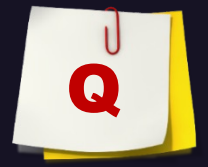
A. viscous and incompressible

B. non-viscous and incompressible

C. viscous and compressible

D. non-viscous and compressible

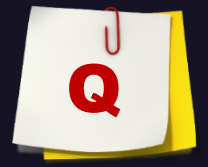
Ans (B)



Which of the following is NOT a type of riveted joint?

A. Tension riveted joint
B. Solid riveted joint
C. Compression riveted joint
D. Tubular riveted joint

Ans (A)



The expression F = μ A (du/dy) denotes _____.

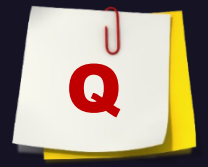
A. Newton's law of force

B. Newton's law of momentum

C. Newton's law of motion

D. Newton's law of viscosity

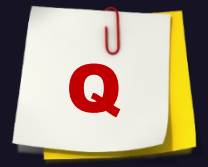
Ans (D)



The area of the turning moment diagram represents the _____.

A. motion proceeded per revolution
B. work done per revolution
C. energy liberated per revolution
D. energy consumed per revolution

Ans (B)

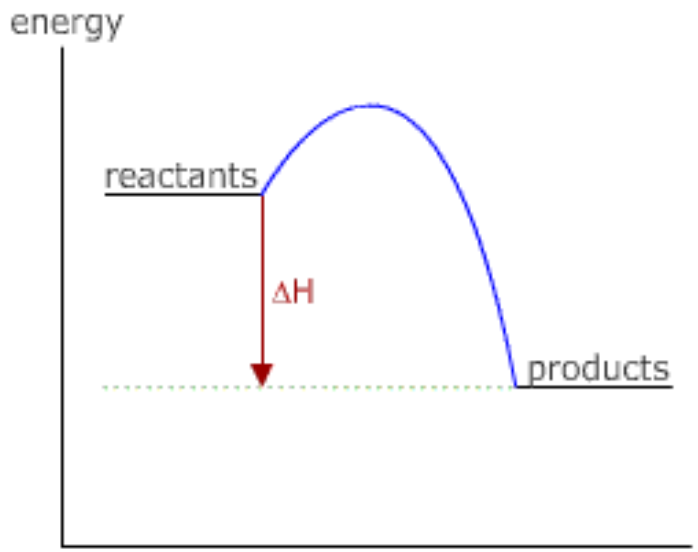


For an exothermic reaction, the change in enthalpy is _____.

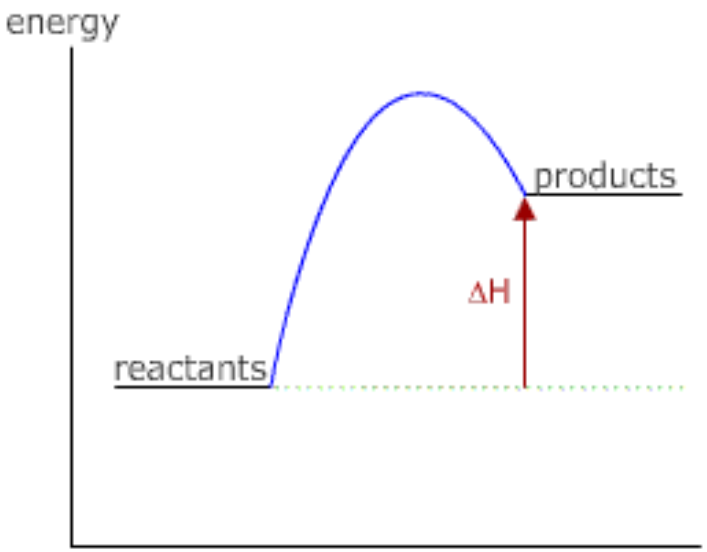
A. positive
B. neutral
C. negative
D. constant

Ans (C)

Exothermic and endothermic reactions



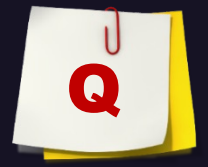
exothermic reaction profile



endothermic reaction profile

The reactants of an exothermic reaction have higher energy than the products. The enthalpy change is negative.

An endothermic reaction has reactants with lower energy than the products. The enthalpy change is positive.



A manometer is generally used to measure _____.

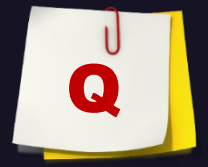
A. moderate pressure
B. high pressure
C. low pressure
D. atmospheric pressure

Ans (B)

The sensitivity of simple manometers can be improved by _____.

A. perpendicular tubes
B. inclined tubes
C. glass bulb
D. inverted tubes

Ans (B)



Flat pivot bearing is also known as _____.

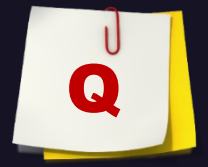
A. foot step bearing

B. collar bearing

C. conical bearing

D. truncated bearing

Ans (A)



Which of following is true for a laminar flow?

A. $f = 60/ R_e$

B. $f = 66/ R_e$

C. $f = 62/ R_e$

D. $f = 64/ R_e$

Ans (D)

Q

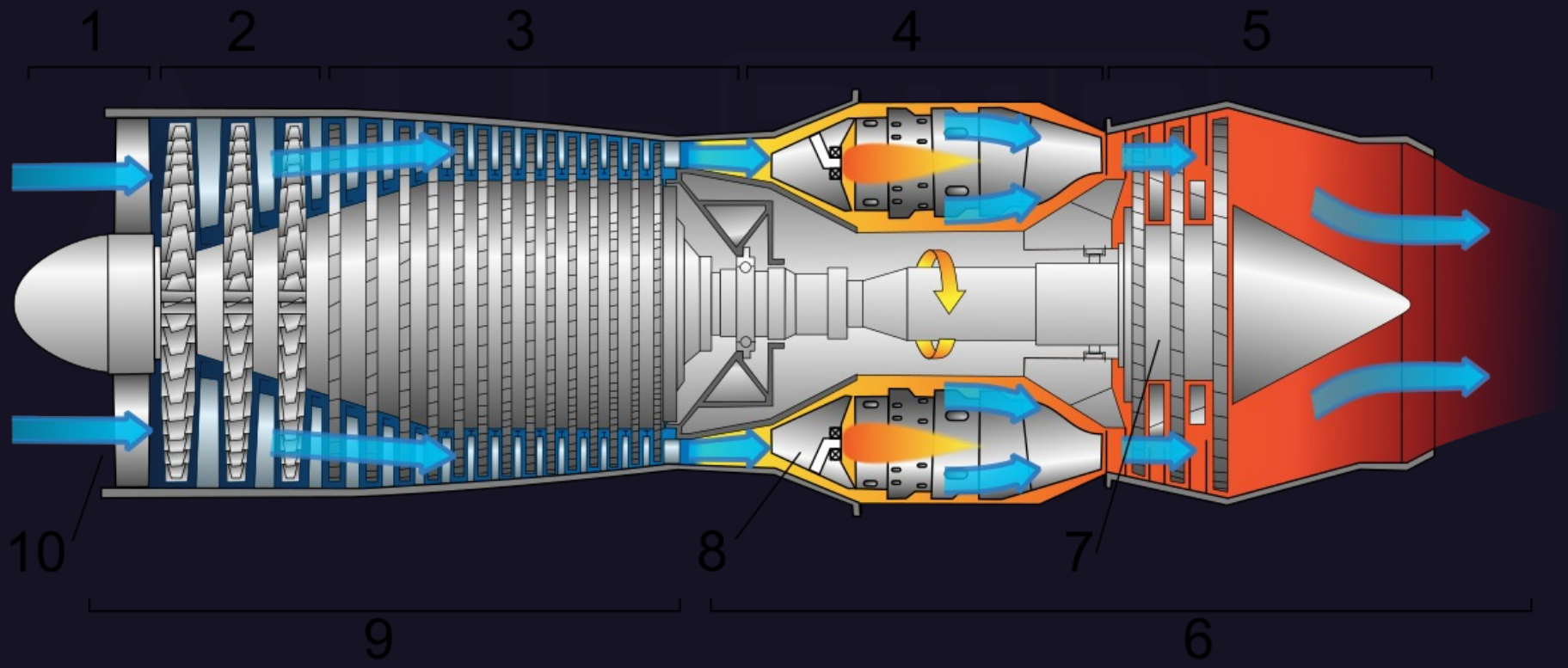
Jet engines employ _____ type of compressor

A. axial flow

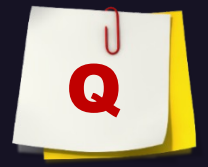
B. rotary flow

C. radial flow

D. centrifugal



Ans (A)

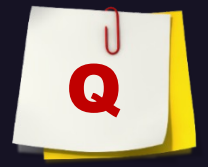


In which of the following heat treatments is the cooling carried out only in the furnace where it is heated?

A. Normalizing
B. Hardening
C. Annealing
D. Quenching

Ans (C)

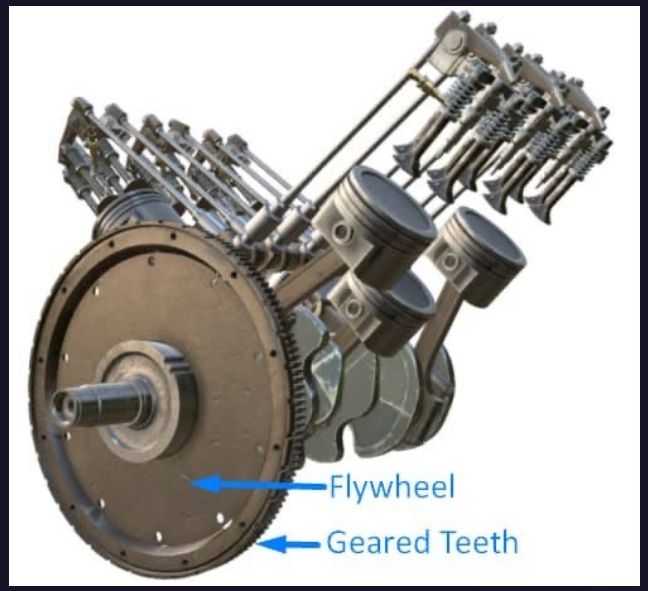
Normalizing	Annealing
1. *During normalizing material (loaded batch) cooled in the air.*	1. *During annealing material cooled in furnace.*
2.The comparatively higher yield points ultimate tensile strength and impact strength.	*2. Comparatively lower yield point, Ultimate Tensile strength, and impact strength.*
3. Relatively harder material than annealed material.	3. Low hardness in comaprison to normalized parts.
4. Less ductile and very less percentage of elongation.	*4. More ductile and percentages of elongation is more.*
5. Economically cheap process.	*5. Economically costly*



The smaller version of the Lancashire boiler is the _____.

A. Stirling boiler
B. Cornish boiler
C. Cochran boiler
D. thimble boiler

Ans (B)

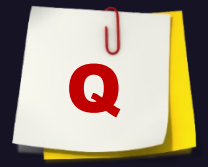


Q

The equation 2(ω1 – ω2) / (ω1 + ω2) represents the _____.

A. coefficient of friction for flywheel
B. mean speed of the flywheel
C. maximum fluctuation
D. coefficient of fluctuation of speed

Ans (D)



Orifices are used to measure _____.

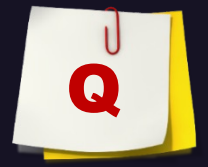
A. velocity

B. flow rate

C. pressure

D. density

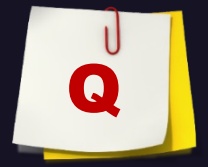
Ans (B)



Which of the following techniques is NOT a type of magnetic particle testing method?

A. Prod technique
B. Plate technique
C. Coil technique
D. Yoke technique

Ans (B)



Identify the odd one out of the following options

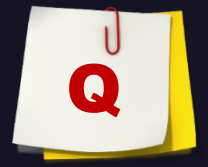
A. Turbulators

B. Pumps

C. Baffles

D. Retarders

Ans (B)



Which cycle consists of two reversible isochores and two reversible adiabatic?

A. Air cycle
B. Otto cycle
C. Diesel cycle
D. Compression cycle

Ans (B)

The angle between the normal to the cam profile and the axis of the follower is called the _____.

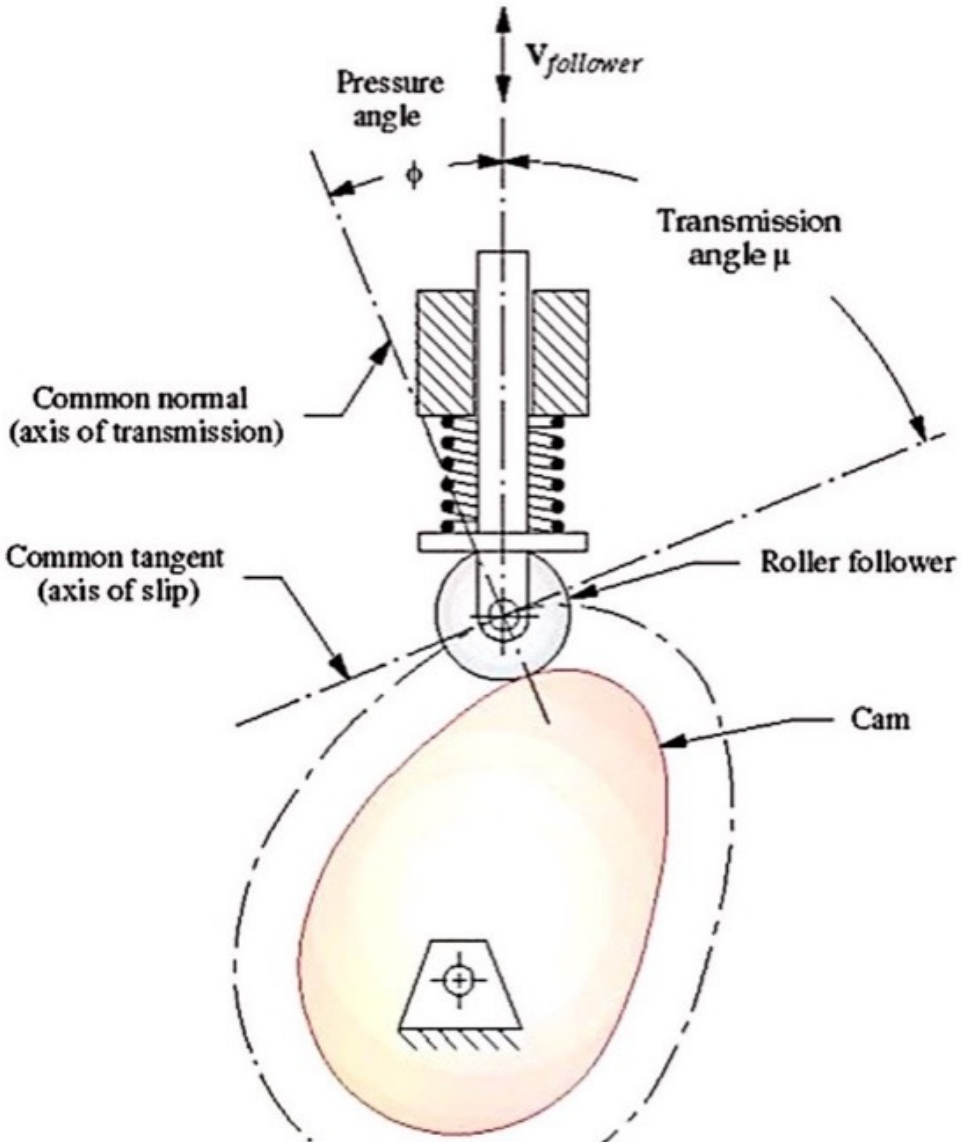
A. contact angle

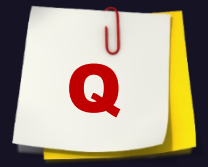
B. pressure angle

C. inclination angle

D. origin angle

Ans (B)

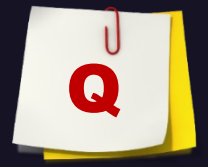

$V_{follower}$
Pressure angle
ϕ
Transmission angle μ
Common normal (axis of transmission)
Common tangent (axis of slip)
Roller follower
Cam



Rivets are specified by their length, _____ head and type.

A. strength
B. colour
C. diameter
D. weight

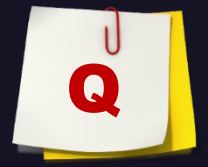
Ans (C)



The force required to keep unit length of the surface film in equilibrium is called _____.

A. cohesion force
B. surface tension
C. friction force
D. viscosity force

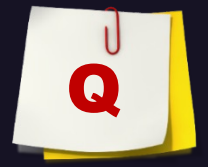
Ans (B)



Newton's _____ is also known as the law of inertia.

A. zeroth law of motion
B. third law of motion
C. first law of motion
D. second law of motion

Ans (C)



Heavy trucks use the _____ cooling system.

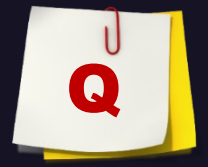
A. forced-circulation

B. thermosiphon

C. evaporative

D. air

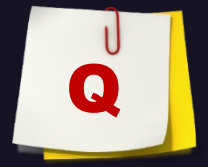
Ans (A)



The addition of _____ increases the melting point temperature of the tungsten electrode.

A. thorium
B. copper
C. aluminum
D. iron

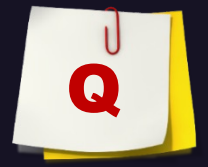
Ans (A)



Which of the following is NOT a type of SMAW process electrode coating?

A. Rutile
B. Basic
C. Martensitic
D. Acidic

Ans (C)



Parting line is between _____.

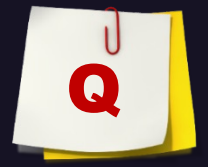
A. runner and riser

B. riser and pouring basin

C. flask and runner

D. cope and drag

Ans (D)



The flow is _____ during the opening of a valve in a pipeline.

A. laminar
B. uniform
C. unsteady
D. steady

Ans (C)

The force of friction always acts in a direction _____ to that in which the body tends to move the body.

A. opposite
B. perpendicular
C. inclined
D. similar

Ans (A)