A.. A single acting reciprocating pump, running at 60 r.p.m, delivers 0.01 m2/sec of water. The area of the piston is 0.05m2 and stroke length is 40 cm. Then theoretical discharge of the pump will be
(a) 0.015 m3/sec
(b) 0.02 m3/sec
(c) 0.025 m3/sec
(d) 0.03 m3/sec
Ans:- B

In question (A), the co-efficient of discharge would be
(a) 0.9
(b) 0.8
(c) 0.6
(d) 0.5
Ans:- D

In question (A), the slip of the pump would be
(a) 0.02 m3/sec
(b) 0.01 m3/sec
(c) 0.005 m3/sec
(d) 0.003 m3/sec
Ans:- B

Work done in a free expansion process is
a.0
b.minimum
c.maximum
d. positive
In a reciprocating engine
a. crankshaft and flywheel form 2 kinematic links
b. crankshaft and flywheel form 1 kinematics links
c. crankshaft and flywheel do not form kinematic links
d. flywheel and crankshaft separately form kinematic links
A kinematic chain is known as a mechanism when
a.none of the link is fixed
b.one of the links is fixed
c. two of the links are fixed
d.all of the links are fixed

The impact strength of an material is an index of its
a. Toughness

b. Tensile strength
c. Capability of being cold worked
d. Hardness
e. Fatigue strength
Ans :: a

A feeler gauge is used to check
a. Radius
b. Screw pitch
c. Surface roughness
d. Unsymmetrical shape
e. Thickness of clearance
Ans :: e

The possibility of negative slip in reciprocating pump is when
(a) delivery pipe is short
(b) suction pipe is long
(c) pump is running at high speed
(d) all of the above
Ans:- D

The slip in the reciprocating pump will be negative if
(a) Qth > Qact
(b) Qth < Qact
(c) Qth = Qact
(d) none of the above
Ans:- B

Thermal efficiency of a closed cycle gas turbine plant increases by
a.reheating
b.intercooling
c.regenerator
d. all of the above

The power required to drive a single acting reciprocating pump is equal to
(a) w.A.L.N / 4500
(b) w.A.L.N.(hs + hd)4500
(c) A.L.N. (hs + hd)/4500
(d) w.L.N/4500 where w = specific weight of water
Ans:- B
The rate of flow of water through a double acting reciprocating pump is equal to
(a) A.L.N /60

(b) 2 AL.N/60
(c) A.L.N./2Ã—60
(d) 3 A.L.N./60
Ans:- B

The rate of flow of water through a single acting reciprocating pump is equal to
(a) A.L.N /60
(b) 2 AL.N/60
(c) A.L.N./2Ã—60
(d) 3 A.L.N./60
Ans:- A

Petrol commercially available in India for Indian passenger cars has octane number in the range
A 40 to 50
B 60 to 70
C 80 to 85
D 95 to 100The knocking tendency in C.I engines increases with
A decrease of compression ratio
B increase of compression ratio
C increasing the temperature of inlet air
D increasing cooling water temperature

The pump, which works on the principle of water hammer, is known as
(a) centrifugal pump
(b) reciprocating pump
(c) hydraulic ram
(d) none of the above
Ans:- C

The pump which raises water without any external power for its operation, is known as
(a) centrifugal pump
(b) reciprocating pump
(c) hydraulic ram
(d) hydraulic intensifier
Ans:- C

The power at the shaft of a centrifugal pump is 100 KW, and the power available at the impeller is 900 KW. If water horse power is 720 KW, then overall efficiency of the centrifugal pump will be
(a) 90% (b) 80% (c) 75% (d) 72%
Ans:- D

Metal in machining operation is removed by
a. Tearing chips
b. Distortion of metal
c. Shearing the metal across a zone
d. Cutting the metal across a zone
e. Pushing the metal with tool
Ans :: c

Which one of the following methods produces gear by generating process
a. Hobbing
b. Casting
c. Punching
d. Milling
e. Broaching
Ans :: a

The term W.Q.Hm / (75 S.H.P) for a centrifugal pump is known as
(a) mechanical efficiency (b) manometric efficiency (c) overall efficiency (d) none of the above
Ans:- C

If a circular chamber is introduced between the casing and the impeller, then casing is known as
(a) vortex casing (b) volute casing (c) casing with guide blades (d) none of the above
Ans:- A

The rotating part of a turbine is known as
(a) Impeller (b) Guide mechanism (c) Runner (d) None of the above
Ans:- A

In case of Kaplan turbine, velocity of flow at inlet is
(a) less than that at outlet (b) more than that at outlet
(c) equal of that at outlet (d) none of the above
Ans:- C

The main advantage of the draft-tube is to convert
(a) pressure energy into kinetic energy
(b) kinetic energy into pressure energy
(c) pressure energy into electrical energy
(d) none of the above
Ans:- B

The pressure at the exist of the runner of a reaction turbine is generally
(a) more than atmospheric pressure

(b) equal to atmospheric pressure
(c) less than atmospheric pressure
(d) none of the above
Ans:- C