In the Thermal Conductivity Experiment, The specimens were heated up using .hot water

True

False

In the Impact of a Water Jet Experiment, The force on the plate would be the .same if the plate in vertical or inclined

True

False

In the Losses in Pipe Bends Experiment, The minor losses are due to friction and pipe fitting.

- True
- False

In the Thermal Conductivity Experiment, The thermal conductivity of the material is inversely proportional to its cross sectional area.

- True
- False

In the Losses in Pipe Bends Experiment, The friction factor is a function of Reynolds number.

- True
- False

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In the Hydrostatic Pressure Force on a Plane Surface Experiment, The pressure forces on the four surfaces other than the rectangular area were ignored .because they are too small

True

False

In the Thermal Conductivity Experiment, The temperature gradient with the steel .specimen is higher than that within the copper specimen

True

False

In the Thermal Conductivity Experiment, The input heat was measured by a .wattmeter

True

False

In the Flow Through a Nozzle Experiment, The pressure at the throat was always .higher than the critical pressure

True

False

In the Flow Through a Nozzle Experiment, The nozzle's purpose is to create a .higher pressure fluid flow at the expense of the velocity

True

False

In the Losses in Pipe Bends Experiment, The minor losses are due to friction and pipe fitting.

True

False

In the Losses in Pipe Bends Experiment, The minor loss coefficient K varies with .the flow rate

- True
- False

In the Hydrostatic Pressure Force on a Plane Surface Experiment, The rider .weight balances the weight of the toroid in the dry situation only

- True
- False

In the Impact of a Water Jet Experiment, For a constant mass flow rate, the force .created by the jet is a function of the cross sectional area of the jet

- True
- False

In the Hydrostatic Pressure Force on a Plane Surface Experiment, The pressure forces on the four surfaces other than the rectangular area were ignored because they are too small.

- True
- False

In the Hydrostatic Pressure Force on a Plane Surface Experiment, The level
.water in the tank was measured using a regular sca

True

False

In the Losses in Pipe Bends Experiment, Losses in gate values are affected by the
.degree of their opening

True

False

the Hydrostatic Pressure Force on a Plane Surface Experiment, The location of
.the center of pressure is not the same if different fluids are used

True

False

In the Flow Through a Nozzle Experiment, The pressure through the nozzle is measured using the small pressure gage.

- True
- False

In the Thermal Conductivity Experiment, The experiment was considered a one dimensional heat transfer problem because of the small cross sectional area of the specimens.

- True
- False

In the Impact of a Water Jet Experiment, The force generated by the jet is calculated by taking moment about the center of the jet.

- True
- False

24. In Heat Pump and Air Cooler experiment, the mass flow rate of working fluid is measured using a pitot tube.
(2 Points)

- true
- false

In the Flow Through a Nozzle Experiment, The pressure ratio is the ratio of the .inlet pressure to the throat pressure

Pratio = Pback (outlet) / Pchest(inlet)

True ○

False ∅

In the Flow Through a Nozzle Experiment, The chest pressure has to be constant for a given mass flow rate of working fluid.

7.

- True
- False

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23. In Heat Pump and Air Cooler experiment, the mass flow rate of working fluid is measured using a pitot tube.
(2 Points)

- (•) true
- ( ) false

10. In Heat Pump and Air Cooler experiment, the fan cons
consumed by the compressor.
(2 Points)

- [x] true
- [ ] false

11. In flow through nozzle experiment, the mass flow rate
(2 Points)

- [ ] decreases as back pressure decreases
- [ ] decreases as chest pressure increases
- [x] is maximum if Mach number at throat reaches 1
- [ ] is minimum if Mach number at throat reaches 1
- [ ] none of the above

?

13. Choose the wrong statement below:
(2 Points)

- The second-law efficiency of all reversible processes is 10
- The thermal efficiency of all reversible heat engines is 10
- The thermal efficiency of a heat engine cannot be greater
- The second-law efficiency of a process is 100% if no entro
- The coefficient of performance of a heat pump can be gre
- Increase the velocity of a fluid at the expense of stagnatio
- The saturated pressure and temperature of a pure substan

5. The phase of H_2O at 100°C and 2.5 bar (1 Point)

- saturated mixture
- saturated liquid
- saturated vapor
- superheated steam
- compressed liquid

24. During a throttling process of an ideal gas: (2 Points)

- The temperature remains constant
- The entropy remains constant
- The pressure remains constant
- The volume remains constant.
- none of the above

17. In single stage air compressor, in which of the following processes the work done on system is minimum?
(2 Points)

- isometric
- isentropic
- polytropic
- isothermal

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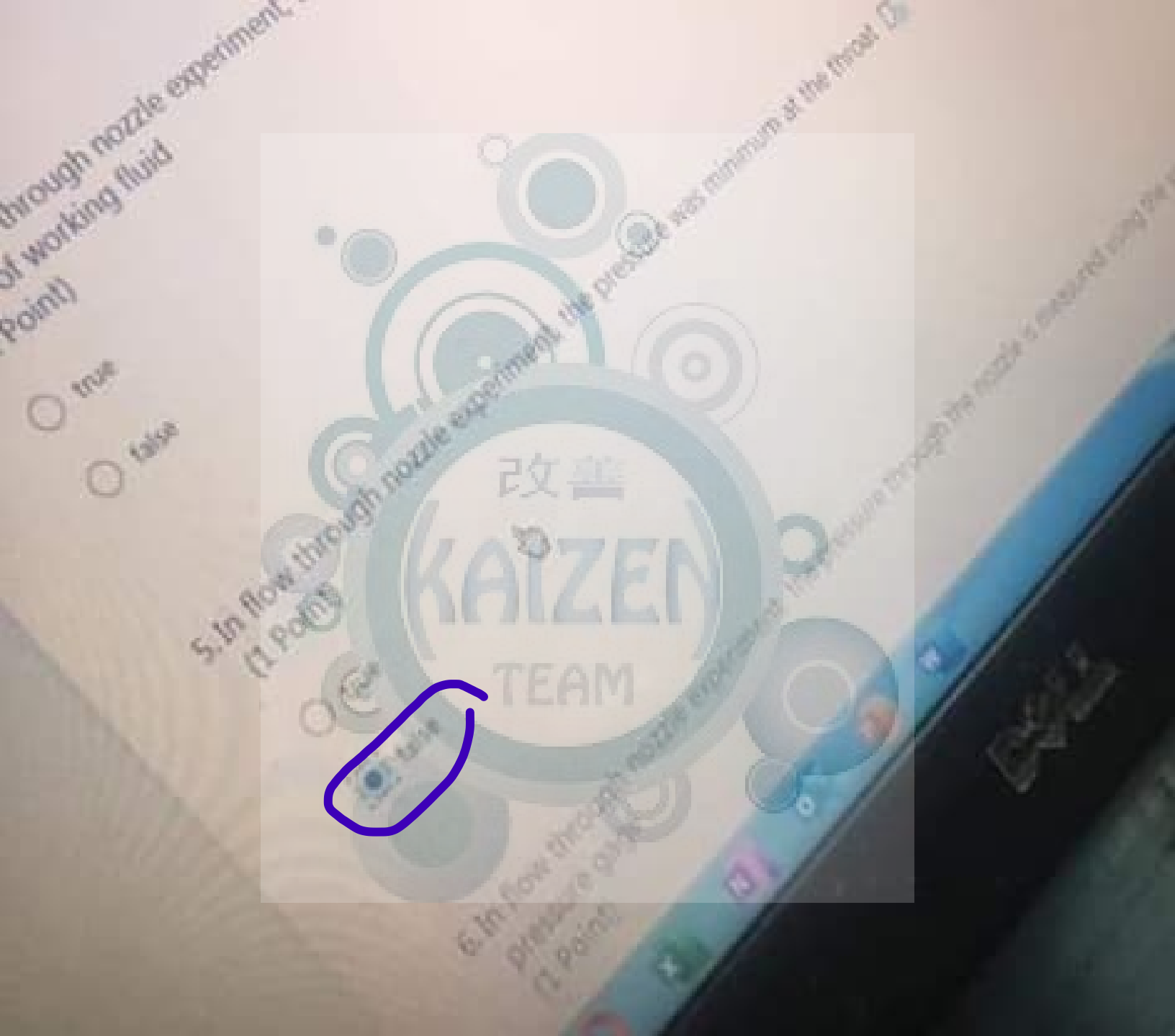
through nozzle experiment(
of working fluid
Point)
true
false
5. In flow through nozzle experiment, the pressure was minimum at the throat. (1 Point)
true
false
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12. In flow through nozzle experiment, the mass flow rate of air
(2 Points)

- decreases as back pressure decreases
- decreases as chest pressure increases
- is maximum if Mach number at throat reaches 1
- is minimum if Mach number at throat reaches 1
- none of the above

15. Choose the wrong statement below:
(2 Points)

- The second-law efficiency of all reversible processes is 100%.
- The thermal efficiency of all reversible heat engines is 100%.
- The thermal efficiency of a heat engine cannot be greater than its second-law efficiency.
- The second-law efficiency of a process is 100% if no entropy is generated during that process.
- The coefficient of performance of a heat pump can be greater than 1.
- Increase the velocity of a fluid at the expense of stagnation pressure.
- The saturated pressure and temperature of a pure substance are dependent

11. In Heat Pump and Air Cooler experiment, the working fluid is air
(1 Point)

- [x] true
- [ ] false

12.] In losses in pipes experiment, if the following data were measured: mass flow rate of 0.2 kg/s, density of water is ρ = 1000 kg/m3, diameter of small pipe size 14 mm, dynamic viscosity of water is μ=1× [10] ^(-3) N.s/m^2, roughness of the pipe surface is ε= 0.0015 mm. The Reynolds number is
(1 Point)

- [ ] 2100.12
- [x] 18189.14
- [ ] 57142.86
- [ ] 36378.27
- [ ] None of the above

13.] In losses in pipes experiment, if the following data were measured: mass flow rate of 0.2 kg/s, density of water is ρ = 1000 kg/m3, diameter of small pipe size 14 mm, dynamic viscosity of water is μ=1× [10] ^(-3) N.s/m^2, roughness of the pipe surface is ε= 0.0015 mm. The friction coefficient is
(2 Points)

- 0
- 0.036
- 0.033
- 0.027

14. If the following data were measured for the expansion section in losses in pipes experiment: mass flow rate of 0.25 kg/s, the density of water is ρ = 1000 kg/m3, diameter of small pipe size 14 mm, dynamic viscosity of water is μ=1× [10] ^(-3) N.s/m^2, the minor head loss is 0.1 m. The loss coefficient K is

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1.116

4.464

0.595

0.744

None of the above

15. The theoretical T-P saturation slope [i.e. [(dT/dP)] _sat] at absolute pressure of 3 bar in K/kPa is
(1 Point)

0.114

0.090

0.158

0.075

None of the above

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