

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): SECTION 1: Machinery & Equipment Systems Questions 1-5

A ____ is designed into most hydraulic systems to prevent damage due to excessive pressure.

(A): Directional control valve

(B): Relief valve

(C): Lift control valve

(D): Flow control valve

(Correct): B

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): Determine the FHP (Fluid Horsepower) of a hydraulic pump when it is pumping 60 gal/min at 1000 psi. Formula $hp = PQ/1714$

(A): 114

(B): 25.71

(C): 35.00

(D): 17.50

(Correct): C

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): Section 2: Electrical Systems Questions 6 - 10

The continuous load supplied by a circuit should not exceed 80% of the branch circuit rating. After how many hours of continuous operation is a load considered to be a continuous load?

(A): One-half hour

(B): One hour

(C): Two hours

(D): Three hours

(Correct): D
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): When selecting conductor size, the smaller the AWG number, the:
(A): Smaller the current-carrying capacity
(B): Smaller the cross-sectional area
(C): Larger the current-carrying capacity
(D): Thinner the insulation
(Correct): C
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): Section 3: Energy Systems Questions 11 - 15

The most common method of increasing valve clearance on a small, air-cooled engine is to:
(A): Grind the valve stem end
(B): Knurl the valve guide
(C): Grind the valve face
(D): Ream the valve guide
(Correct): A
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): When measuring valve clearance in a small gas engine, the cylinder should be set at _____ for proper adjustment.
(A): $\frac{1}{8}$ " after top dead center on the compression stroke
(B): $\frac{1}{8}$ " before top dead center on the compression stroke
(C): $\frac{1}{8}$ " after top dead center on the exhaust stroke
(D): $\frac{1}{8}$ " before top dead center on the exhaust stroke
(Correct): A
(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): The _____ is an engine part that opens and closes the valves in sync with the cycles of the engine.

(A): Camshaft

(B): Connecting rod

(C): Crankshaft

(D): Flywheel

(Correct): A

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): Section 3: Energy Systems Questions 16 - 20

Which of the following terms is used to describe the continuous running time for which a welder was designed?

(A): Duty rating

(B): Running specification

(C): Duty cycle

(D): Ambient cycle

(Correct): C

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): Section 5: Environmental and Natural Resource Systems Questions 20 - 25

As a general rule, the _____ type of spray nozzle is most preferred for broadcast application of contact herbicides, for an even uniform spray pattern.

(A): Flat fan

(B): Hollow cone

(C): Solid cone

(D): Flood type

(Correct): A

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): When calibrating sprayers for uniformity, it is best to catch and record the number of ounces sprayed by each nozzle over a _____ second period, then replace any nozzle whose output differs more than _____ percent from the average of all nozzles on the sprayer boom.

(A): 15; 5

(B): 20; 10

(C): 25; 15

(D): 30; 20

(Correct): A

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): A pesticide label specifies that 2.5 pints of pesticide concentration, mixed with 30 gallons of water, are to be applied per acre. How many gallons of pesticide concentration are required to treat a 160-acre field? Note: 128 ounces = 1 gal 16 ounces = 1 pint

(A): 32 gallons

(B): 50 gallons

(C): 64 gallons

(D): 3200 gallons

(Correct): B

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): Which of the following is not a positive displacement pump?

(A): Centrifugal

(B): Roller

(C): Piston

(D): Diaphragm

(Correct): A

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): The greatest wear causing factor associated with a hydraulic system is:

(A): Moisture
(B): Dirt
(C): Rust
(D): None of the above
(Correct): A
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): A power take off (PTO) shaft rated for 1000 RPM's comes from the factory with how many splines?
(A): 6
(B): 7
(C): 14
(D): 21
(Correct): D
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): 14. When installing electrical cable in a wet location, which of these type cables is permissible for this type of installation?
(A): Type NM Romex
(B): Type AC
(C): Type UF
(D): Type THHN
(Correct): B
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): Which of the following formulas are used to determine the relationship of voltage, resistance, and current?
(A): Bernelli's Law
(B): Homer's Law
(C): Newton's 2nd Law
(D): Ohm's Law
(Correct): D
(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): When designing an electrical circuit, what is the proper name used to designate a 4-way switch.

(A): Snap switch

(B): Single pole single throw

(C): Double pole single throw

(D): Double pole double throw

(Correct): D

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): One horsepower (HP) is equivalent to which of the following?

(A): 33,000 ft. lb/sec

(B): 550 ft. lb/min

(C): 33,000 ft. lb/min

(D): 550 ft. lb/hr

(Correct): C

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): 28. A 10 horsepower single cylinder engine is operating at 5000 feet above sea level. What approximate horsepower is produced by the engine if the engine's power is decreased 2.5 percent for each 1000 feet of elevation above sea level?

(A): 6.65 hp

(B): 7.52 hp

(C): 8.75 hp

(D): 9.62 hp

(Correct): C

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): The process whereby bonding metals and alloys that melt at temperatures below 840 degrees F is known as?

(A): Soldering

(B): Bronzing
(C): Fusing
(D): Brazing
(Correct): A
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): Which of the following gas types would not be considered as acceptable for use as a shielding gas in MIG or TIG welding applications?
(A): Argon
(B): Oxygen
(C): Carbon Dioxide
(D): Helium
(Correct): B
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): In the Oxy/Fuel welding process, what type of flame would be characteristic of a slight excess of acetylene?
(A): Neutral flame
(B): Oxidizing flame
(C): Carburizing flame
(D): None of the above
(Correct): C
(Points): 2

(Type): multiplechoice
(Category): 0
(Random answers): 0
(Question): As a result of its' ability to dissipate heat rapidly, most welding tips used in the Oxy/Fuel process are made of which of the following metal types?
(A): Brass
(B): Copper
(C): Aluminum
(D): Steel
(Correct): B
(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): Soil compaction is the:

(A): Physical consolidation of the soil by an applied force that destroys structure and reduces porosity.

(B): Ability for water to penetrate the pores in the soil

(C): Force that makes the soil stick together

(D): Amount of of salt in a soil

(Correct): A

(Points): 2

(Type): multiplechoice

(Category): 0

(Random answers): 0

(Question): During logging operations a logging company can harvest 78% of the population, and 6% of the harvest must be left as ground litter for erosion control. If the total tree population is 1500, how many trees must be left as ground litter?

(A): 60

(B): 70

(C): 80

(D): 90

(Correct): D

(Points): 2