1. One reason modern horticultural fabrics used in landscaping are said to be better than black polyethylene film is they:
	1. Prevent moisture from penetrating too deeply
	2. Make a better base for rock mulch
	3. Completely control weeds

\*D Allow exchange of gases between soil and air

1. **A privacy fence should be at least feet high if the purpose is to screen the view of neighbors at ground level or others walking near the property at the same elevation.**

**A** 6

\*B 8

1. 4
2. 5
3. **Which of the following watering systems can reduce water usage by as much as 80%.**
4. Hand watering
5. Impulse sprinklers
6. Soaker Hose

\*D Drip or Trickle irrigation

1. **Clay soils require:**
2. A shorter time for absorption of irrigation water than sandy soils
3. More or less time for absorption than sandy soils, depending on the pH of the clay
4. About the same time for absorption of irrigation water as sandy soils

\*D A longer time for absorption of irrigation water than sandy soils

1. **Which would not be part of a lawn irrigation system?**

**\*A differential valve B** PVC pipe

1. backflow valve
2. solenoid valve
3. **Which of the following is microscopic?**

**\*A Nematodes B** Thrips

1. Aphids
2. Spider mites
3. **A pre-emergence herbicide is applied**
4. to broadleaf weeds only
5. after the weeds have germinated and emerged from the soil
6. to grasses only

\*D before the weed seeds germinate

1. **A plant pathologist studies plant:**

**A** Morphology

\*B Diseases

1. Physiology
2. Insects
3. **Scientific names generally consist of two words, the first being the genus and the second being the:**
4. Order
5. Cultivar
6. Family

\*D Specific epitaph

1. **Though not recommended, if 2-cycle engine fuel is actually used in a 4-cycle engine**, \_\_\_\_\_\_\_\_

**\*A the engine will likely smoke a lot, but it will run B** the engine will not start or will be hard to start

1. the engine will be much louder than normal
2. there is no problem, the engine will run just fine
3. **A shade loving border plant is:**
4. Chrysanthemum
5. Zinnia

\*C Impatiens

**D** Marigold

1. **The optimum germination temperature for most bedding plant seeds is:**
2. 50 to 55ºF
3. 60 to 65ºF

\*C 75 to 85ºF

**D** 65 to 75ºF

1. **Which of the following is true about lady bug beetles? They:**

\*A Eat aphids

1. Often feed on vegetable plants
2. Are bright green and blend-in with the foliage
3. Sometimes sting gardeners
4. **An important step in properly composting landscape refuse is to:**
5. Treat each layer with pesticide to control insects and weeds
6. Make only small piles to keep the material cool

\*C Thoroughly moisten each layer of material

**D** Exclude as much air as possible from the compost pile

1. **When Alan finished sharpening his rotary mower blade, he noticed that his mower vibrated and shook so bad that he could hardly control it. What was wrong?**
2. The spark plug was loose
3. The blade was made from inferior metal

\*C The blade was out of balance

**D** The blade has been overheated, affecting its temperament

1. **Water availability, temperature extremes, and should be considered when selecting trees for the landscape.**

\*A Soil type

1. Buildings present
2. Topography
3. Slope
4. **When installing a landscape, which step (from the following list) should be completed FIRST:**
5. Build retaining walls and garden walkways
6. Plant the trees and shrubs
7. Add amendments to the soil

\*D Install the drainage system

1. **Which of the following groups contains only deciduous plants?**
2. River Birch, Southern Magnolia, *Ilex vomitoria*
3. Live Oak, Loquat, *Dermatophyllum secundiflorum*

**\*C Cedar Elm*, Carya illinoinensis*, Red Oak D** *Pinus thunbergiana*, Sycamore, Redbud

1. **Soil around the foundation of a house is often more alkaline than surrounding soil due to which of the following?**
2. chemicals applied to prevent termites
3. leaching from the home’s paint

**\*C leaching from the masonry mortar on the home and the masonry debris from construction D** decaying wood scraps that were buried around the foundation during construction

1. **Liriope and Ajuga are generally classified as:**

**A** Small flowering shrubs

\*B Groundcovers

1. Small evergreen shrubs
2. Semi-evergreen shrubs
3. **A large perennial that provides a general effect of mass and grows in excess of five feet is:**

**A** Dianthus

**\*B Pampas grass C** Hosta

**D** Mexican Feather grass

1. **Which of the following describes plants that lose their leaves during the winter?**
2. Herbaceous
3. Evergreen
4. Coniferous

\*D Deciduous

1. **The viability of a group of seeds is measured by:**

**A** Permeability of the seeds

**\*B The germination percentage C** Maturity of the seeds

**D** The number of seeds per pound

1. **An “x” in the botanical name of a plant means the plant:**

**A** Has been grafted

\*B Is a true hybrid

1. Comes true to type from only seed propagation
2. Comes true to type from seed and vegetative propagation
3. **The use of plant materials and landscaping techniques to conserve soil moisture and to reduce water usage is:**
4. Waterscaping
5. Natural landscaping

**\*C Xeriscaping D** Bogscaping

1. **Soil texture refers to:**
2. The ratio of sand to clay in the soil
3. The amount of humus in the soil

\*C The size of the soil particles

**D** The arrangement of soil particles

1. **Plants usually do not grow well in poorly drained soils because:**

**A** Plant roots become engorged with water in poorly drained soils

\*B Oxygen content is low in poorly drained soils

1. The organic matter content of poorly drained soils is too high
2. Poorly drained soils warm too quickly in spring
3. **Underground stems with scale-like fleshy leaves (leek and onion) are called:**
4. Roots
5. Stolons
6. Tubers

\*D Bulbs

1. **Light energy, carbon dioxide, and water enter into the process of photosynthesis, through which:**
2. Respiration results
3. Chlorophyll is formed
4. Amino acids are formed

\*D Carbohydrates are formed

1. **Which of the following definitions best describes “auxin?”**
2. A naturally occurring plant chemical produced to deter disease organisms
3. The capital of Texas and the home of the USDA

**\*C A naturally occurring plant hormone that promotes plant growth D** A chemical used as a plant growth retardant

1. **Which of the following groups contains only evergreen plants?**

**\*A American Arborvitae, Camellia, Japanese Yew**

**B** Azalea, Ginkgo, Chinese Holly

1. Bald Cypress, Purpleleaf Plum, Pecan
2. Sweet Gum, Crape Myrtle, Sycamore
3. **If a two-cycle engine on a weed trimmer uses a 24:1 fuel ratio, you should mix:**

**A** 24 parts oil to 1 part gasoline

\*B 24 parts gasoline to 1 part oil

1. 24 parts gasoline to 1 part engine cleaner
2. Equal amounts of gasoline and oil
3. **Plants sold in the landscape trade are sold by the name.**

\*A Botanical

**B** Order and family

**C** Order and genus

 **D** Family

1. **Mrs. Thompson loves spring flowering bulbs. Which of the following would you suggest for Mrs. Thompson to plant?**
2. *Gardenia jasminoides*
3. *Coleus x hybridus*

**\*C *Narcissus cvs.***

**D** *Lonicera japonica*

1. **The process in which water, grass seed, fertilizer, cellulose fiber and a glue type material are mixed together and sprayed onto the soil to establish turf is called .**

**\*A hydroseeding B** top dressing

1. Pressure spray
2. Seed Injection
3. **Which of the following best describes seed scarification?**

**A** placing seed capsules in the sun for natural drying

**\*B removing some of the seed coat with a file, sandpaper, or acid solution C** using a dibble to spot off newly planted seedlings

**D** planting seeds in a nursery flat to a depth of two times the seed’s diameter

1. **Most landscape plants like the soil pH:**

**\*A Slightly acidic B** Strongly acidic

1. Slightly alkaline
2. Strongly alkaline
3. **When planting a bare-rooted tree, the tree should be planted:**

**A** at 6 inches above the original soil level

**\*B Directly even with the original soil level C** At 6 inches below the original soil level

**D** At 2 inches above the original soil level

1. **Three types of ground patterns used in landscape design are**
2. Curved-line, arc-and-tangent, squiggle-line
3. Curved-line, straight-line, squiggle-line

**\*C Curved-line, arc-and-tangent, straight-line D** Straight-line, squiggle-line, arc-and-tangent

1. **A \_\_\_\_\_\_\_\_\_\_\_ is a woody perennial that has more than one main trunk.**

**A** Flower

\*B Shrub

1. Weed
2. Tree
3. **Traditional garden centers, in many cases, have been able to compete with chain department stores by providing?**

\*A Better customer service

1. Better refund policies
2. Lower prices
3. Cleaner stores
4. **Water to help reduce disease in nursery crops**

**\*A Early in the morning B** At night

1. With overhead sprinklers
2. Late in the afternoon
3. **Which tree has the finest textured foliage?**

\*A Bald Cypress

1. Sweet gum
2. Sycamore
3. Southern magnolia
4. **An example of a creeping or prostrate evergreen is:**

**A** *Abelia grandiflora*

**\*B *Juniperus horizontalis* C** *Hibiscus syriacus*

**D** *Lobularia maritima*

1. **Functional roles of plants in the landscape do not include:**
2. Enclosing
3. Screening
4. Developing the structural framework of the design

\*D Greening up

1. **Which of the following can be said about applying an herbicide to a lawn in granular form rather than as a liquid spray?**

**\*A There is little or no drift from the granular form B** The liquid form is much more expensive

1. The amount of active ingredients needed is greatly reduced with the granular form
2. Most broadleaf weeds have developed resistance to liquid herbicide sprays
3. **Shrubs planted in small groups in the landscape are generally placed in:**

**A** Groups of 4

**\*B Odd numbered groups (i.e. 3, 5, 7)**

**C** Even numbered groups (i.e. 2, 4, 6)

**D** Groups of 2

1. **Which one of the following plant hardiness zones is colder than Zone 6?**
2. Zone 7
3. Zone 10

\*C Zone 3

**D** Zone 8

1. **The following plant grows from a tuber:**
2. Impatiens
3. Japanese honeysuckle

**\*C Elephant Ear D** Celosia

1. **The term is used in horticulture to define plant injury sometimes caused by pesticides:**
2. Emulsification
3. Expectoration
4. Photosynchronous

\*D Phytotoxicity

1. **Trees are fertilized with granular fertilizer by spreading it within**

\*A Area covering the outer two-thirds of the distance between the trunk and the drip line and at least 50 percent of the crown radius beyond the dripline.

1. A thirty foot radius from the trunk
2. A four foot radius next to the trunk
3. Only within the distance of from the trunk to the drip line
4. **The four life cycle stages of beetles such as the Japanese beetle are:**
5. Grub, pupae, juvenile, adult
6. Moth, egg, grub, adult
7. Egg, nymph, pupae, adult

\*D Egg, grub, pupae, adult

1. **Large nursery pots are measured by the**

**\*A gallon, sizes are strictly regulated B** height, and sizes are strictly regulated **C** inch, and sizes are strictly regulated

1. gallon, the exact size varies by the manufacturer
2. **Plants that use less water and are tolerant of dry landscape sites are called:**

**\*A Xerophytes B** Epiphytes

1. Dryophytes
2. Monoecious
3. **The nursery landscape trade and related industries are sometimes referred to as the**

\*A Green Industry

1. United environmental industry
2. Outdoor consortium
3. Federated nursery industries
4. **Joe’s Landscaping pays rent, legal fees, utilities and insurance, all of which are classified as**
5. variable costs
6. contingency costs

**\*C overhead costs D** marginal costs

1. **Damping-off is caused by:**

\*A Fungi

1. Viruses
2. Bacteria
3. Nematodes
4. **Lowering the soil grade around a tree removes many of the tree’s roots.**

**A** aquatic

\*B Feeder

1. Aerial
2. Tap
3. **A plant that remains vegetative during its first season of growth and flowers in the second season is a (n):**
4. Propagule
5. Perennial

\*C Biennial

**D** Annual

1. **A landscaper in Amarillo calls a wholesale grower in the Rio Grande Valley to inquire about plant material for a landscape job in his city. The landscaper wants to know if a specific plant material can survive the winter in Amarillo. The wholesale grower should check the following reference:**
2. Critical Zone Hardiness Index
3. UPS Zone Index for safe shipping of plants

**\*C USDA Plant Hardiness Zones D** AAN Hardiness Zone Plan

1. **Larger nursery pots are measured by the:**

\*A Gallon

1. Ounce
2. Inch
3. Height
4. **Plants need essential elements for proper growth and development.**

**A** 8

\*B 17

1. 32
2. 3
3. **Fairy ring in turfgrass is caused by:**

**A** Pollen

\*B Fungi

1. Nematodes
2. Grubs
3. **Plants that evolve and grow naturally in an area are termed plants**
4. Specimen
5. Accent

\*C Native

**D** Exotic

1. **Failure to firm down the soil around a newly planted tree or shrub can result in air pockets. This may cause:**

**A** Over-watering problems

**\*B Drying of plant roots C** Disease

**D** Soil heaving in winter

1. **If a container-grown nursery crop has been over watered for a long period, a grower might expect to find the roots in the following condition:**
2. The roots growing through the drain holes in the bottom of the container
3. The roots dead or absent at the top of the container but healthier in the bottom of the container
4. The roots may be extra thick and bright white in color

\*D The roots dead or absent at the bottom of the container but healthier in the top portion of the container

1. **Food produced in the leaves moves to other parts of a plant through the .**
2. Xylem
3. Veins

\*C Phloem

**D** Arteries

1. **Magnesium, calcium, and sulfur:**

**A** Can be found in incomplete fertilizers

**\*B Are essential elements needed for plant processes C** Are only needed by some plants

**D** Are micro-elements

1. **Which is most likely not a benefit from using mulch?**
2. Reduced water loss from the soil
3. Reduced disease
4. Moderated soil temperatures

\*D Reduced insects

1. **What is one reason the container grown sector of nursery crop production has increased in recent years?**

**A** the plants develop circling root systems

**\*B factors affecting plant growth can be maintained at optimum levels C** container plants require less care

**D** soilless media is beneficial to plant growth

1. **When planting B&B plants:**
2. The burlap should be pulled up and tied securely to the trunk for protection
3. The burlap should be allowed to dry completely before planting
4. The burlap should be completely removed from the ball

\*D The tie string should be cut from the trunk of the plant

1. **Which type of insecticide would be most effective against sucking-type insects?**

**A** Aerosol

\*B Systemic

1. Dust
2. Contact
3. **When should soil NOT be tilled?**
4. When it is dry
5. During spring warm-up

**\*C When it is wet D** During late fall

1. **What type of watering conditions would cause the clustering of turf grass roots at the top of the soil? Assume that there has been little or no rainfall.**
2. infrequent soaking
3. applied once a week

**\*C frequent, light watering D** rarely watering

1. **Plant diseases caused by rain splashed microorganisms from the ground can be reduced by**

**A** using only clean topsoil as backfill

\*B applying mulch around and underneath plants

1. removing all mulch from around and underneath the plant
2. removing all mulch outside the dripline
3. **The turfgrass least tolerant of shade is:**
4. St. Augustine
5. Fescue
6. Zoysia

\*D Bermudagrass

1. **Natural soil is arranged in layers referred to as**
2. soil texture
3. sand, silt and clay

**\*C soil horizons D** soil rings

1. **Which of the following is a group of small-growing trees?**

**\*A Crape myrtle, Eastern redbud, Japanese black pine B** Pecan, Sweet Gum, Ginkgo

1. Sweet Gum, Sycamore, Southern Magnolia
2. Red Oak, Bald Cypress, Live Oak
3. **The terms triploid, diploid and haploid refer to the**

**\*A number of chromosomes B** formation of leaves

1. number of flowers per stem
2. number of bud breaks expected after pruning
3. **Site features to consider when conducting a site survey include:**
4. Natural features, existing vegetation, soil conditions, and client analysis
5. Topography, client analysis, natural features, and climate
6. Natural features, climate, existing vegetation, and client analysis

\*D Topography, soil conditions, natural features, and existing vegetation

1. **The soil pH level primarily controls:**

**A** Activity of soil-borne diseases **B** Moisture absorption by roots **C** Soil temperature

\*D Availability of essential plant nutrients

1. **Fertilizers should be added to soil**

**A** according to the package instructions and only in the water

**\*B based on soil test results C** at 1/2 the rate of fertilizer **D** every year

1. **When pruning cuts are made on woody trees, one should not cut into or behind the . This area is where healing callus originates.**
2. internode
3. interstitial

\*C collar

**D** axil

1. **All other things being equal, which diameter of pipe or combination of pipes will carry the most water?**

**A** five 1/2” pipes

**\*B one 2” pipe C** three 1” pipes

**D** four 3/4” pipes

1. **PVC pipe used for irrigation is connected to couplings and fittings that are \_\_\_\_\_\_\_\_\_\_ to the pipe.**

**A** Soldered

**\*B Solvent Welded C** Clamped

**D** Wired

1. **One of the best ways to speed up the rooting process of cuttings is to:**
2. Keep the soil cool and the foliage warm
3. Always take cuttings after midday
4. Harden them off by laying them out to dry a few days before sticking

\*D Provide bottom heat

1. **Which of the following is the best definition of an F1 hybrid?**

**A** the first cross between the offspring of A, B, C, D, and E generations

**\*B the first generation of seedlings from genetically different parents C** a plant that is genetically inferior to all other cultivars

**D** a plant that is genetically superior to all other cultivars

1. **Which of the following is a group of terms related to landscape design principles?**
2. Hogarth, symmetrical, curvature
3. Stratify, random, curvature
4. Thresh, rounding, complexity

\*D Focalization, proportion, simplicity

1. **Which of the following serves as a food reservoir for the developing embryo within the seed of a monocot?**
2. Plumule
3. Radical
4. Testa

\*D Endosperm

1. **Of the grasses listed below, which grass is most commonly used on golf greens in Texas?**

\*A Hybrid Bermudagrass cultivars

1. Fescue
2. Mondo grass
3. St. Augustine grass
4. **Who is responsible for establishing the binomial system for naming plants**

**A** Aristotle

\*B Linnaeus

1. Bernuli
2. Weinberg
3. **In most plants, a hormone called auxin is produced by the terminal bud. It moves downward into the shoot and inhibits the growth and development of lateral buds. This is called:**
4. Lateral dominance
5. The apex auxin complex

\*C Apical dominance

**D** Terminal bud inhibition

1. **The basic underlying principle of using a mist propagation system is that it .**
2. Cools the propagation medium to promote root formation and development
3. Keeps the propagation medium uniformly moist and supplies moisture to the base of the cuttings
4. Keeps the plant material cool

\*D Increases humidity around the cutting and reduces transpiration

1. **Plants showing symptoms of nitrogen deficiency will show which of the following symptoms?**

**A** Tiny brown spots between the leaf veins

**\*B Yellowing of the entire leaf C** Abnormally long internodes **D** Purple veins in the leaves

1. **A landscaper should call 811 before beginning certain landscape projects to:**
2. obtain a permit before digging
3. request a check of proper zoning

\*C request assistance in locating underground utilities

**D** submit their environmental impact license number and request EPA approval.

1. **Some plants can release chemicals into the soil that inhibit or stop growth of plants in the surrounding soil. The effect is called .**

**A** Chemical Synpathy

\*B Allelopathy

1. Reduction Oxidation
2. Hormonal Redaction
3. **Which of the following is not a rule-of-thumb traditionally followed by landscapers?**
4. Shrubs should be no closer than 2.5-3 feet from the foundation
5. Home walkways should be wide enough for 2 people to walk side by side

**\*C Shrubs should be planted 6-12” from the foundation D** Landscape plants should be dry at night, if possible.

1. **Recommended service intervals for jobs such as changing the oil in motorized landscape equipment, is usually measured in of operations.**
2. months
3. miles
4. days

\*D hours

1. **Landscape plans generally include all of the following except:**
2. A north orientation marker
3. The mature width of the plant
4. The number of each type of plant to be planted

\*D The mature height of the plant

1. **A plant that produces flowers that have either stamens or pistils, but not both on the same plant is called:**
2. Staminate
3. Angiosperm

\*C Dioecious

**D** Monoecious

1. **Which is NOT a type of leaf arrangement?**
2. opposite
3. alternate

\*C pyramidal

**D** whorled

1. **When selecting ginkgo trees for the home landscape, you should choose:**

**A** Male and female trees

\*B Male trees only

1. Mature female trees only
2. Female trees only
3. **The main objective of root pruning is to**
4. increase water absorption
5. fit the plant in a hole

**\*C develop a compact and fibrous root system D** encourage normal stem growth

1. **A major advantage for producing nursery stock in containers is that it:**
2. Requires less water and fertilization than field-grown crops
3. Requires less labor than field-grown crops

**\*C Allows for transplanting any time during the growing season D** Is less expensive than growing in nursery fields

1. **The landscape design principle of interconnection:**
2. Is the human perception of space and form related to human dimension
3. Is the overall organization and structure of a design

**\*C Occurs when visual components are physically linked together D** Is a visual break in sequence

1. **The best type of sand to use in soil mixtures for container grown plants is:**
2. Beach
3. Fine-textured

\*C Coarse textured

**D** White, fine-textured

1. **What is the function of the axillary bud on the stem?**
2. To provide food storage
3. To help heal wounds of the plant

**\*C To produce a new leaf or stem D** To aid in seed dispersal

1. **To increase the bushiness of a flowering plant while the plant is young, one should:**

\*A Pinch the stem tips of the plant

1. Increase the amount of water the plant receives
2. Apply a growth retardant
3. Increase the nitrogen in the soil surrounding the plant
4. **Plants that have been clipped or pruned into two-dimensional forms are:**
5. Dynamic
6. Balanced

\*C Espalier

**D** Topiary

1. **The Oak Leaf Nursery advertised a group of trees with a trunk caliper of 3 inches. In the trade, it is assumed that this measurement was taken:**

**A** At breast height (4½ feet above the rootball)

**\*B 6 inches above ground level C** 18 inches above ground level **D** At the base of the rootball

1. **A landscaper says that the soil at a home development site will not PERC. What does that mean?**

**A** It will not crack in very cold weather

\*B Water does not pass through the soil at an acceptable rate

1. The soil does not have proper form to resist slipping and cracking
2. The soil particles do not form proper aggregates
3. **When propagating woody cuttings, a growth promoting substance is sometimes applied to the base of the cuttings in order to**
4. conserve moisture in the cuttings
5. speed the healing process
6. speed the development of roots on the cutting

\*D all of these

1. **Some vines use to support themselves as they climb.**
2. Stems
3. Aquatic roots

\*C Tendrils

**D** Tap roots

1. **The best definition of a surfactant is a:**
2. Material to protect leaf surfaces from pesticides by creating a waxy seal over the leaf
3. Type of pesticide formulation with an oily consistency for protecting high pressure spray nozzles from wear

\*C Material added to a liquid spray solution to reduce surface tension between the liquid and leaf surface

**D** Type of soap used to wash off pesticide residue by increasing surface tension between the leaf and residue

1. **Which of the following turf areas is mowed to the lowest height?**

**A** Commercial lawn

\*B Golf green

1. Home lawn
2. Golf fairway
3. **One characteristic of Roundup (glyphosate) that customers sometimes object to is**

**A** That it is extremely toxic to pets

**\*B That it takes several days to kill weeds C** Its long lasting effects

**D** That it temporarily stains the soil surface orange

1. **A color scheme in a garden that produces a carnival-like effect is referred to as being:**
2. Complementary
3. Analogous

**\*C Polychromatic D** Monochromatic

1. **Wisteria, *Campsis radicans*, and Japanese honeysuckle are examples of:**

\*A Vines

1. Groundcovers
2. Trees
3. Shrubs
4. **Which of the following is not an important environmental requirement for germination to occur?**

**A** Moisture

\*B Carbon dioxide

1. Proper temperature
2. Oxygen
3. **In nursery production, a “liner” refers to**
4. A plastic mulch covering
5. A plastic bag

**\*C A rooted cutting or small seedling D** A type of garden tool

1. **Which of the following would be the best response if a client calls you in October and wants to know what to do about a 20-foot Japanese pine that has turned completely brown?**
2. Wait until spring and see if it sprouts green needles again.
3. Do nothing. Pine trees shed naturally in the fall.

\*C Cut it down. It is definitely dead.

**D** Do nothing. The Japanese pine is just going dormant.

1. **The recommended minimum width for a residential walkway in the public area of the landscape is \_\_\_\_\_\_\_\_ feet.**

\*A 3.5

**B** 7.5

**C** 5

**D** 6.5

1. **A financial plan for the future is called a \_\_\_\_\_\_**

\*A budget

1. net worth statement
2. cash analysis
3. deed
4. **The three major divisions of a soil profile are:**

**\*A topsoil, subsoil, and parent material B** mulch, clay, and parent material

1. topsoil, clay layer, and rock layer
2. topsoil, subsoil, and bedrock
3. **Which of the following is not used to power string trimmers:**
4. Electricity/Battery

**B** A 2-cycle engine

**\*C** Diesel fuel

 **D** A 4-cycle engine

1. **Tree roots that are responsible for most nutrient uptake are found**
2. outside the dripline
3. within the upper 8” of topsoil

\*C in the subsoil

**D** between 18” and 28” in depth

1. **The classifications of soil particles based on size, from largest particle to smallest particle, are sand, silt, and:**
2. Loam
3. Gravel
4. Shale

\*D Clay

1. **In plants, is the process of converting stored energy into energy for plant growth:**
2. Photosynthesis
3. Transpiration

**\*C Respiration D** Pollination

1. **Which fuel is used in chainsaws, string trimmers, and other 2-cycle engines?**

**A** Fuel oil

**\*B Gasoline and oil mix C** Gasoline

**D** Diesel

1. **The road in front of Steve’s house has become traffic congested in recent years. The view, and especially the noise, bothers the family. When Steve discussed this problem with a landscaper, the landscaper mentioned berms. What was the landscaper talking about?**
2. His recent fishing trip where he caught several berms
3. A special type of wall to block the noise and view of traffic on the road

**\*C Tall mounds of soil placed between the house and road to block the noise and view D** Trees planted in multiple rows between the house and road

1. **When taking a soil sample, be sure to take cores at least inches deep.**

\*A 6

1. 14
2. 3
3. 2
4. **Which of the following turfgrasses has the longest winter dormancy period?**
5. Bermudagrass
6. Purple Fountain Grass
7. St. Augustine Grass

\*D Zoysia

1. **Which of the following is a disadvantage of using a time clock to control an irrigation system?**

**\*A The plants are watered at set times, whether they need watering or not. B** Time clocks are very expensive

1. Time clocks are difficult to set.
2. When there is a power outage, the irrigation system runs continuously.
3. **The most commonly used lawn grasses used in the U.S. can be divided into or types.**
4. Perennials or annuals
5. grasses or broadleaved

**\*C warm season or cool season D** spring or summer

1. **The best time to prune azaleas is**

\*A just after they bloom

1. in spring before leaves appear
2. when they are dormant
3. just before they bloom
4. **Hardiness refers to:**
5. The hardness of the soil in which a plant is being planted
6. The strength of the wood of a tree
7. The ability of a plant to grow indoors

\*D The quality of being strong and being able to survive in a certain region

1. **What part of a lawn mower prevents dust from entering the carburetor?**

\*A Air filter

1. Exhaust chute
2. Hydraulic system
3. Crankcase
4. **When mowing Bermuda grass lawns, what is the general range for the proper height of cut?**

**A** 4”

\*B 1.5 to 2.5”

1. 5”
2. 3 to 4”
3. **When trying to save trees on a construction site, cut and fill under the drip line of the trees should be limited to a depth of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ inches.**

**A** 18

\*B 0 (Never cut or fill under the drip line of trees.) C 6

**D** 8

1. **The loss of water in the form of vapor from the surface of plant leaves is referred to as:**

**A** Oxidation

**\*B Transpiration C** Respiration

**D** Condensation

1. **A landscape designer uses many in developing the preliminary design for a project.**
2. Problem statements
3. Perfect plans

**\*C Bubble diagrams D** Site surveys

1. **Hardening-off is a term used in the nursery/landscape industry to mean:**

**A** Allowing herbaceous plants to become woody

\*B Acclimatizing tender plants to harsher, outdoor conditions

1. Coating plants with a protective plastic-type spray prior to transplanting
2. Acclimatizing landscape plants to coldframe conditions
3. **A lawn mower with blades parallel to the surface of the ground is called a(n):**
4. De-thatching mower
5. Reel mower

**\*C Rotary mower D** Electric mower

1. **What information is not contained in the legend on a final landscape plan?**
2. Plant names
3. Specific notes concerning installation
4. Plant quantities

\*D Designer’s name

1. **The approximate range of average annual minimum temperature for Plant Hardiness Zone 7a is:**

**A** 20 to 30 degrees

\*B 5 to 10 degrees

1. **–20 to –10 degrees**
2. –30 to –20 degrees
3. **A post-emergent herbicide is applied**
4. before the weed seeds germinate
5. to broadleaf weeds only
6. just as the weed seeds are germinating

\*D after the weeds have germinated and emerged from the soil

1. **What is one reason midday watering of lawns in the summer is usually not recommended?**
2. Fast evaporation of water from plant leaves may cause disease
3. Homeowners pay a premium for water if they irrigate between the hours of 8 a.m. and 5 p.m.

\*C Much of the water is lost through evaporation

**D** Plant roots do not readily absorb water during the daylight hours

1. **An example of an organic material is**
2. Pea gravel
3. Perlite

\*C Compost

**D** Vermiculite

1. **Similar to the textural appearance of plants, can be used to create spatial illusions in a perennial garden.**
2. Staking
3. Plant growth rate

\*C Color

**D** Shape

1. **Examples of cool season grasses include perennial ryegrass, bentgrass, and:**
2. Zoysia
3. St. Augustine
4. Bermudagrass

\*D Fescue

1. **Which plant is a vine?**

**A** *Colocasia esculenta*

**\*B *Lonicera japonica* C** *Ilex cornuta*

**D** *Pinus thunbergiana*

1. **Which of the following propagation methods usually produces the greatest amount of genetic variation in the offspring?**
2. division
3. grafting
4. tissue culture

\*D seeding

1. **A is a landscape designer’s tool for drawing circles on a landscape plan.**
2. Protractor
3. Scale

**\*C Circle template D** T-square

1. **The synthetic growth regulator, Indole-3-butyric Acid (IBA), is used in the nursery trade as a**

**\*A rooting hormone B** insect control

1. surfactant
2. foliage preservative
3. **Which is the best definition of the term understory, as used in landscaping?**

**A** the bottom level of a two story house

\*B smaller plants that grow under the canopy of a tree

1. shrubs and other plants planted under the eaves of a house
2. the basement of a two story house
3. **Callus is a term usually referring to:**
4. The tissue on the collar of a limb
5. A disease of plant leaves and limbs

**\*C The first tissue to develop on a cutting just before the roots form D** Deformed growth on plant limbs

1. **The most common synthetic root-promoting chemicals used in rooting hormones are:**
2. IBA and AAN
3. ISO and OSB

**\*C IBA and NAA D** CCA and ACD

1. **In the plant name Ilex x merserveae ‘Blue Princess’:**

**A** The genus is Ilex, the “x” means that it is patented, the species is meserveae, and Blue Princess is the variety.

\*B The genus is Ilex, the “x” means it is a hybrid, the species is meserveae, and the cultivar is Blue Princess.

1. The family is Ilex, the “x” means it is a tetraploid, the genus is meserveae, and the species is Blue Princess.
2. The species is Blue Princess, the “x” means that its origin is unknown, the variety is meserveae, and the genus is Ilex.
3. **Which of the following statements is NOT true?**

\*A Frost is most likely to form when there is low, heavy cloud cover and a slight cool breeze.

1. Frost is more likely to form in low lying areas or pockets, when temperatures are at the freezing point
2. The heat given off from water sprinkled over plants may prevent frost from forming if the temperature is only slightly below freezing.
3. Frost may form if the sky is clear, the air is calm and the night temperature is only slightly below freezing?
4. **Which insect eats out trails between the leaf surfaces?**
5. Spider mites
6. Aphids

**\*C Leaf miners D** Thrips

1. **Once they are beneath the bark surface, are difficult to control.**
2. Mealybugs
3. Aphids

\*C Borers

**D** Thrips

1. **When installing a landscape, which step (from the following list) should be completed LAST?**

**A** Build retaining walls and garden walkways

**\*B Plant the trees and shrubs C** Install the drainage system **D** Add amendments to the soil

1. **There are five common methods of night lighting for landscapes. They are:**
2. Cross, down, up, reverse, and slope lighting
3. Bright, dim, subdued, marginal, and transparent lighting

**\*C Walk, silhouette, shadow, up, and down lighting D** Moderate, bright, dim, regular, and flash lighting

1. **The analysis of fertilizer is guaranteed by the manufacturer and regulated by the:**
2. International Fertilization Council
3. Texas Nursery Landscape Association

\*C United States Department of Agriculture

**D** Texas Department of Agriculture

1. **Which of the following is a major reason for mulching landscape plants?**
2. Attracts earthworms
3. Supplies nutrients
4. Increases anti-aerobic activity in the soil

\*D Moderates soil temperature and conserves soil moisture

1. **The factor used as an indication of grade and general vigor of Hybrid Tea Rose plants sold at retail is the number of healthy**
2. terminal buds
3. leaves below the petioles

\*C canes

**D** lateral roots

1. **Which signal word for pesticide labels indicates the lowest level of toxicity?**
2. Warning
3. Danger

\*C Caution

**D** Careful

1. **Leaves that show interveinal chlorosis probably suffer from:**
2. Water Stress
3. Chlorine damage

**\*C Iron deficiency D** Nitrogen excess

1. **Benefits of landscaping include which of the following?**

**A** cooling of air and providing oxygen

1. filtering of water and prevention of erosion
2. absorbing pollution from the air and reducing noise levels

**\*D** **landscaping does all of these**

1. **Which of the following statements is true about applying dry fertilizer to a lawn?**

**A** Dry fertilizer should only be applied late in the day

**\*B It is a good practice to water-in dry fertilizer applied to a lawn C** Apply dry fertilizer just after a rain

**D** Apply dry fertilizer in the early morning when the grass is wet from the dew

1. **An area of the landscape that includes space for such items as a clothes line and garbage cans is the area:**
2. Recreational
3. Private
4. Public

\*D Service

1. **Warm season turf grasses include which of the following?**
2. Pampas grass
3. Fescue

**\*C Bermudagrass D** Bluegrass

1. **Which of the following is important in producing a uniform size and quality container grown nursery crop?**
2. Leave a uniform water space at the top of each crop
3. Use the same soil mix for the entire crop
4. Tamp the soil to the same degree of firmness in each pot

\*D All of these are important in nursery crop uniformity

1. **Divide and separate fall blooming perennials:**

**\*A In early spring B** Mid summer

1. In late spring
2. Early fall
3. **For maximum effectiveness, mulches should be applied about deep.**

**A** 10-12 inches

\*B 3-4 inches

1. 1 inch
2. 8-10 inches
3. **Cuttings in the rooting bench should be:**

**A** Kept dry during the day and moist at night

**\*B Kept constantly moist C** Fertilized regularly

**D** Scarified before watering

1. **Blue spots along the cutting edge of a rotary mower blade after sharpening indicate**

**\*A The blade was overheated during sharpening B** There are dull spots remaining on the blade

1. The metal was distorted while sharpening
2. The blade was made of inferior metal
3. **Low-growing landscape plants should:**

**A** Not be used in the landscape

**\*B Be placed in front of intermediate growing plants C** Be planted under large trees

**D** Be placed behind intermediate growing plants

1. **The statement on a bag of fertilizer that lists the percentages of nitrogen, phosphorous, and potassium contained in the fertilizer is called a(n) analysis.**
2. Chelated-Release
3. Micro-element
4. Essential element

\*D Fertilizer

1. **A method of fertilizer application is**

**\*A Side dressing B** Leaching

1. Sterilization
2. Pasteurizing
3. **Which of the following is the proper recommendation for pruning trees at planting:**

**\*A Pruning should be limited to shaping the plant by removing dead or damaged limbs B** Trees should not be pruned at all – the latest trend is to let them develop naturally

1. Trees should not be pruned until the third year after planting
2. Trees should be cut back to at least one-half their size to prevent stress on root systems
3. **Plowing or tilling a bed or lawn when it is excessively wet may:**

**\*A Damage the structure of the soil B** Stratify the soil

1. Kill beneficial organisms in the soil
2. Change the soil texture
3. **Some seeds are produced in the fall and remain on or in the ground until they germinate in the spring. Exposing seeds to the winter cold and moist soil is nature’s method of \_\_\_\_\_\_\_\_\_\_\_\_\_ the seed.**

**A** Sporulating

\*B Stratifying

1. Acidifying
2. Scarifying
3. **drawings show an object as seen by the eyes at eye-level.**
4. Base map
5. Section
6. Plan

\*D Perspective

1. **Which LD-50 rating listed is the most potentially lethal to a human, based on animal studies?**

**A** 945

**B** 10000

\*C 84

**D** 1750

1. **A glyphosate is a non-selective herbicide that will kill:**
2. Both annual and perennial weeds
3. Perennial weeds
4. Annual weeds

\*D Any green plant that it contacts

1. **In the name Acer palmatum ‘October Glory,’ ‘October Glory’ is a if it did not occur as a natural mutation**

\*A Cultivar

1. Variety
2. Genus
3. Species
4. **Horticultural chemicals should be stored in which of the following?**
5. The garage refrigerator
6. A cool room such as the basement of a house
7. A refrigerated storage cabinet

\*D A free-standing, locked building

1. **Which of the following plants is commonly grafted or budded?**

\*A Roses

1. Yew
2. Pansy
3. Gingko
4. **Freshly cut bark chips and sawdust should not be used as a soil amendment because they**
5. release toxic elements into the soil
6. hold too much water around the plant

**\*C rob the soil of nitrogen during decomposition D** are infested with disease

1. **A group of plants located along the perimeter of a landscape use area is called a planting.**
2. Foreground
3. Foundation
4. Corner

\*D Border

1. **Generally, during the summer months in Texas, a lawn needs about inch(es) of water a week, either as rain or irrigation.**

\*A 1

1. 3
2. 4
3. 2
4. **The landscape profession for which you are most likely to need a license is:**
5. landscape contractor
6. landscape maintenance supervisor
7. landscape designer

\*D landscape architect

1. **A layer of partially decomposed stems. roots, and leaves of grass which develops above the soil’s surface in the lawn is called**

**A** mulch

\*B thatch

1. inorganic matter
2. mineral matter
3. **Leaf miners lay their eggs:**

**A** On the main stem

**\*B Inside the leaves C** On flower buds

**D** On top of leaves

1. **An individual or firm hired to install or construct a portion of a large landscape job is called a:**
2. Contract specialist
3. Contractor
4. Maintenance specialist

\*D Subcontractor

1. **One function of stomates is to:**

**A** Photosynthesize

**\*B Give off water vapor C** Produce pollen

**D** Prevent disease

1. **When referring to the USDA Plant Hardiness Zone map, one can determine the:**
2. Humidity and microclimatic changes for an area
3. Maximum expected temperature for an area
4. Soil characteristics for an area

\*D Minimum expected temperature for an area

1. **Which of the following shrubs would be most suited for a hot, dry, steep bank in the landscape?**
2. Moss Rose
3. Lantana

**\*C Creeping juniper D** English Ivy

1. **Fred was about to drive the tractor down the street to another landscape job when Alan said, “Hey, you had better put that orange triangle on the back of that tractor before you get run-over.” Alan was referring to the:**

**\*A Slow-moving vehicle sign B** Emergency vehicle sign

1. Farm vehicle sign
2. Wide-load sign
3. **Brown patch, dollar spot, and gray snow mold are all diseases of:**
4. Trees
5. Azaleas

**\*C Turfgrasses D** Evergreens

1. **Rod plans to start a wholesale nursery growing Japanese maples. It will take him two years to produce the first saleable crop. Which of the following will be most affected?**
2. production scheduling
3. inventory
4. net worth

\*D cash flow

1. **A friable soil is one that:**
2. Requires humus and fertilizer to be productive
3. Is high in clay particles

**\*C Is loose and of good structure and texture D** Is rich in N, P, and K

1. **Fireblight is a disease that most often affects susceptible plants:**
2. In recently installed landscapes
3. In landscapes over four years old

**\*C During periods of rapid succulent growth D** During the winter

1. **Which of the following is an indication of a fertile soil?**
2. small brown pebbles
3. a grey or yellow subsoil
4. grubs

\*D earthworms

1. **When mowing turf, it is recommended that no more than of the leaf blade be removed at each cutting.**
2. two thirds
3. one half

\*C one third

**D** one eighth

1. **An area that has a slightly different climate conditions than the surrounding land, such as the north side of a house which provides shelter from excess sun and wind, is called a**

\*A micro-climate

1. terrain specific locale
2. macro-climate
3. climate modified locale
4. **Dead, decaying plant and animal material in the soil is referred to as**
5. the microorganisms that are present in the soil
6. soil reaction
7. soil texture

\*D organic matter

1. **Which of the following is a deciduous vine?**

**A** Mandevilla

**\*B Chinese wisteria C** English Ivy

**D** Rosemary

1. **A major advantage for using slow-release fertilizer in container-grown nursery stock is that it:**

**A** Can easily be leached from the soil if too much is applied

**\*B Supplies nutrients over a long period of time with one application C** Can be applied without expensive equipment

**D** Can be injected through the irrigation system

1. **Some of the salt buildup in containerized plants can be removed by:**
2. withholding water
3. adding lime to the irrigation water

\*C leaching

**D** adding fertilizer

1. **The ideal soil is composed of**
2. 25% solid material, 25% air, 50% water
3. 25% air, 25% nutrients, 50% water
4. 25% solid material, 25% water, 50% air

\*D 25% water, 25% air, 50% solid material

1. **Lawn sprinkler systems are installed so they provide even coverage. This is accomplished by:**

**A** Using sprinkler heads with a square pattern throughout the landscape

**\*B Spacing the heads so that each sprinkler sprays to the next sprinkler C** Spacing sprinklers based on needs specified in the soil test

**D** Using one size pipe throughout the landscape

1. **In a landscape design, properly located plants and structures.**

**A** Need to be constantly pruned and maintained

\*B Can reduce heat intensity

1. Are not essential for a good landscape design
2. Block the view of the front door
3. **Which of the following government organizations would want to talk to you if you shipped nursery plants across state lines without a license?**
4. OSHA
5. FBI
6. IRS

\*D USDA

1. **The hardscape in a landscape design is defined as:**

**A** Landscapes filled with mostly hardwoods

**\*B Structures, paving, fencing, etc, incorporated into a landscape C** The initial, rough landscape drawing

**D** A space with a large area of concrete

1. **A transplanted tree or shrub should be set into the ground:**

**\*A At the same depth at which it was originally growing B** 50 percent deeper than it was originally planted

1. With the top of the container slightly covered
2. So that the top roots are exposed to the air
3. **In landscaping terms, if the mower blade is set too low and the turf is not level, the mower may the turf in spots.**
4. Slice
5. Aerate

\*C Scalp

**D** Scorch

1. **To make the living area of a landscape appear larger, a designer should include plants that feature:**

**\*A Cool-colored flowers such as blues, purples, lavenders B** A combination of warm- and cool-colored flowers

1. Warm-colored flowers such as reds, oranges, yellows
2. All white flowers
3. **pruning is a pruning technique concerned primarily with the removal of branches that could lead to damage or weaken a plant’s health and appearance.**

**A** Crotch

**\*B Natural target C** Random

**D** Canopy

1. **Mowing the lawn in a different direction each time helps reduce the chance of**
2. spreading disease and insects
3. excess wear on one part of the mower blade

**\*C soil compaction and undesirable grain set D** causing excess wear on one area of the mower

1. **Informal landscapes:**
2. Contain geometric patterns and perfect balance
3. Include sheared and sculpted hedges

**\*C Are constructed with asymmetrical balance and curved lines D** Usually contain straight, not curved, lines

1. **Mr. Roberts told his horticulture class that the temperature for rooting shrubs should be no lower than**

70 ºF. He was referring to the:

**A** Air temperature above the bench

**\*B Temperature of the rooting media C** Air temperature at bench level

**D** Temperature of the mist water

1. **A scale of 1:20 means that:**
2. 5’ of landscape equals 6” of blueprint
3. 2’ of landscape equals 1 1/2” of blueprint

**\*C 1” of blueprint equals 20’ in the landscape D** 1” of blueprint equals 30” in the landscape

1. **Which landscape tool is used to prune branches an inch or larger in diameter**
2. ax
3. hand pruner
4. pruning knife

\*D pruning saw

1. **When planting ground covers grown in compressed peat containers:**
2. Be sure to remove the plant completely from the peat container
3. Leave the container as is

**\*C Make several cuts down the sides of the container before planting D** Leave ½ inch of compressed peat container exposed above the soil line

1. **A landscaper has to decide whether to put in a groundcover instead of turfgrass on a site with the following characteristics. Which characteristic is the most important factor in making this decision?**
2. The site has only 3 inches of topsoil
3. The site is in full sun
4. The site faces East

\*D The landscape area has a 25% slope

1. **A plant that dies to the ground at the end of each growing season but comes back from the same root- stock year after year is most accurately described as a(n):**

**\*A Herbaceous perennial B** Perennial

1. Annual
2. Biennial
3. **The best time to spray a glyphosate is:**

**\*A When weeds are in active growth B** Just before weed seeds germinate **C** Just before a rain

**D** When weed growth is mature

1. **A systemic insecticide refers to an insecticide that**
2. kills on contact
3. is applied as a fumigant

**\*C is absorbed through the roots and leaves of a plant D** does not come in a granular form

1. **If a house is painted in several colors you might be worried about the colors of the house and the plant flower color clashing. One flower choice that would be safest to use is**
2. blue
3. pink
4. red

\*D white

1. **Which is most important to the financial health of a nursery/landscape business?**

**A** Margin cost

\*B Net profit

1. Gross sales
2. Cost margin
3. **Many insect traps attract insects with:**

**\*A Pheromones B** Fresh flowers

1. A strong insecticide
2. Dried flowers
3. **A propagator in a nursery business is responsible for:**
4. Increasing new accounts by spreading propaganda
5. Carrying out an extensive plant breeding program and applying for plant patents
6. Making sure the area used for pulling orders of container grown landscape-size plants is well stocked

\*D Starting new plants from seeds, cuttings, grafting, or other means and planning the propagation schedule

1. **Large trees used to frame a one story, ranch style home can make the home seem than it really is.**
2. closer to the viewer
3. larger
4. wider

\*D smaller

1. **To preserve the germination ability of most seeds, store them in a:**

**A** Cool environment after scarification

\*B Cool, dry environment

1. Warm, moist environment after stratification
2. Warm, dry environment
3. **is an example of a parasitic plant.**

**A** Mildew

\*B Mistletoe

1. Bacteria
2. Rust
3. **The scientific name for Heavenly Bamboo is:**

**A** *Ligustrum japonicum*

**\*B *Nandina domestica***

**C** *Pyracantha coccinea*

**D** *Raphiolepsis indica*

1. **When servicing the spark plug on a lawn mower, the electrode should be before reinstalling it in the mower.**
2. cleaned, dried, and the electrode gap closed
3. cleaned and coated with oil
4. cleaned and filled with oil

\*D cleaned and dried

1. **Which of the following is a drawback to planting English Ivy or Virginia Creeper on the side of a wood, brick, or vinyl-sided house?**
2. these plants are groundcovers and are hard to train on walls
3. the leaves turn brown in the fall and are unsightly

**\*C the adhesive tips of the ivy damage the siding or leave unsightly blemishes D** it is difficult to prune ivy on siding

1. **B&B in the nursery/landscape trade means:**

**A** Burlapped in a bag

**\*B Balled and burlapped C** Bagged in burlap

**D** Bare-rooted and bagged

1. **Training plants into three-dimensional ornamental forms, such as animals, is called:**

\*A Topiary

1. Heading back
2. Bonsai
3. Espalier
4. **Nutsedge is difficult to control by hand-pulling, hoeing, or tilling because nutsedge:**

A constantly produces underground seeds that are difficult to kill.

B propagates by spores that easily spread in the air when the plant is disturbed.

**\*C propagates from underground tubers and rhizomes.**

D. can grow easily from leaf-piece cuttings left after hoeing or tilling.

1. **The “puff balls” found on dandelions that are easily blown away by the wind, are actually:**

A Spores

B Sepals

**\*C Seeds**

D Anthers

1. **The description “produces large numbers of new plants, spreads easily, tolerates many soil types, grows rapidly, displaces native and slower growing plants, and spreads rampantly” best describes \_\_\_\_\_\_\_\_ plants.**

A oriental

**\*B invasive**

C native

D continental

1. **For control purposes, insects can be categorized into two major feeding types. These two types are:**

A leaf and xylem feeders

**\*B chewing and sucking feeders**

C abrasion and epidermis feeders

D shredding and thatching feeders

1. **To help ensure grass seeds are evenly distributed during planting:**

A use a drop spreader with a setting of seven

B sow one-half of the seed by hand and one-half of the seed with a spreader

C use a rotary spreader with a setting of nine

**\*D sow one-half the seed in one direction and sow one-half at right angles to the first direction of seeding**

1. **Which of these terms is used in horticulture to describe spray materials being blown from the target area to non-target plants, etc?**

A Non-targeted

B Expansion

**\*C Drift**

D Run-off

1. **Many landscape equipment engines require a little extra fuel in the carburetor to start. Most models use a(n) \_\_\_\_\_\_\_\_\_\_\_\_\_\_ to supply the extra fuel for starting.**

A exhaust valve or flywheel

**\*B primer bulb or choke**

C fuel cell or fuel slide

D cylinder or fuel ring

1. **Which of the following are most pressing current issues for the landscape maintenance industry:**

A Invasive insects and plants

**\*B Labor availability, exhaust and noise pollution**

C Turf decline and herbicide resistance

D Battery powered equipment, power blower and string trimmer safety