

1.	Which of the terms below refers to cutting dead and less desirable trees first and then later cutting of mature trees:
a)	subsistence use
b)	shelterwood cutting
c)	selective cutting
d)	edge effect
e)	rotation use
	Ans: b Difficulty: Easy Link to: 13.3
2.	Which of the terms below refers to cutting all but a few mature trees with good genetic characteristics:
a)	seed-tree cutting
b)	shelterwood cutting
c)	selective cutting
d)	edge effect
e)	rotation use
	Ans: a Difficulty: Easy Link to: 13.3
3.	Which of the terms below refers to the phenomenon in which many species escape from a cut area and seek refuge in the border of the forest:
a)	subsistence use
b)	shelterwood cutting
c)	selective cutting
d)	edge effect
e)	rotation use
	Ans: d Difficulty: Easy Link to: Critical Thinking Issue
4.	The figure below illustrates three different configurations for park land. All three arrangements include the same number of acres. The configuration that would provide the greatest insurance against natural disaster is _____. The configuration that would sustain the greatest biodiversity is _____:

a)	A, B
b)	A, C
c)	B, A
d)	B, C
e)	C, C
Ans: a Difficulty: Medium Link to: 13.9	

5.	Tree diseases are primarily:
a)	viral
b)	bacterial
c)	fungal
d)	insect-related
e)	all of these
Ans: c Difficulty: Easy Link to: 13.4	

6.	The Jamaica Bay National Wildlife Refuge described in the Case Study for this chapter is unique because
a)	it is located in the middle of a vast desert environment
b)	nearly every species of bird found in North America has been found there at least once
c)	it is only a subway ride away from New York City
d)	it is the only wildlife refuge on the Island of Jamaica
e)	it is the only wildlife refuge that prohibits people from entering
Ans: c Difficulty: Easy Link to: Case Study	

7.	Forests differ from many other natural resources in that:
a)	their management is inexpensive
b)	in the U.S., most are publicly owned
c)	they are potentially renewable
d)	there is little government regulation associated with their use
e)	overuse has adverse environmental consequences

	<p>Ans: c Difficulty: Medium Link to: 13.4</p>
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8.	According to the textbook, the nation with the largest forested land surface is:
a)	Brazil
b)	Russia
c)	Canada
d)	USA
e)	Argentina
	<p>Ans: b Difficulty: Easy Link to: 13.7</p>

9.	Causes of deforestation in developing nations include all of the following except:
a)	demand for firewood
b)	indirect deforestation
c)	demand for agricultural land
d)	declining awareness of environmental impacts
e)	demand for hardwoods as a cash crop
	<p>Ans: d Difficulty: Medium Link to: 13.5</p>

10.	In Germany, large areas of forested land have been damaged or lost. This loss is called "Waldsterben". What is the cause of this indirect deforestation in Germany?
a)	fragmentation of the forest
b)	global warming
c)	acid rain
d)	fire
e)	contamination of shallow groundwater
	<p>Ans: c Difficulty: Medium Link to: 13.5</p>

11.	What is the major product of photosynthesis?
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a)	carbon dioxide
b)	water
c)	sugar
d)	nitrogen
e)	proteins
Ans: c Difficulty: Easy Link to: 13.5	

12.	Another term for virgin forest is a(n) _____ forest; a forest that cannot be classified as a virgin forest would be called a(n) _____ forest.
a)	primary; deflowered
b)	old-growth; second-growth
c)	maiden; clear-cut
d)	natural; plantation
e)	youthful; old-age
Ans: b Difficulty: Easy Link to: 13.4	

13.	Silviculture is defined as all the manipulating operations that go into the development and maintenance of a forest stand. Which of the following would not be included among common silvicultural practices?
a)	thinning
b)	clear cutting
c)	pruning
d)	prescribed burning
e)	grazing
Ans: e Difficulty: Medium Link to: 13.4	

14.	What is the main point that the figure below attempts to make:
a)	developing countries use about 50 times more firewood than developed countries
b)	the total use of firewood worldwide is about 3 billion cubic meters

c)	firewood is a more vital fuel for developing countries than it is for developed countries
d)	the major use of wood worldwide is for firewood
e)	about half of the wood used in developing countries is used as firewood
	Ans: c Difficulty: Medium Link to: 13.8

15.	Which one of the following areas would allow the <u>most</u> recreational use by humans:
a)	nature preserve
b)	representative natural area
c)	park
d)	wilderness
e)	upwelling area
	Ans: c Difficulty: Easy Link to: 13.1

16.	For the timber industry, the quality of a forest site is classified by:
a)	the maximum growth of trees in meters per unit time
b)	the number of trees which differ in height, girth, and vigor per unit area
c)	the purity of surface runoff from that site
d)	the maximum timber crop the land can produce in a given time
e)	soil fertility and water supply
	Ans: d Difficulty: Medium Link to: 13.1

17.	In temperate and boreal forests, the age of a tree can be calculated by:
a)	measuring the circumference of the tree trunk
b)	measuring the diameter of the tree trunk
c)	counting the number of the growth rings
d)	measuring the heights of the tree
e)	measuring the depths of the roots

	<p>Ans: c Difficulty: Easy Link to: 13.2</p>
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18.	According to the Environmental Science text, a _____ harvest is the amount of timber that can be removed periodically from a forest without decreasing the capacity of the forest ecosystem to sustain that level of harvest in the future.
a)	second growth
b)	even-aged stand
c)	shelterwood
d)	seed tree
e)	sustainable timber
	<p>Ans: e Difficulty: Easy Link to: 13.3</p>

19.	Which of the following are among the causes of indirect deforestation:
a)	demand for firewood
b)	clearing land for agriculture, timber, and mining
c)	El Niño
d)	designation of land as representative natural areas
e)	acid rain and ozone
	<p>Ans: e Difficulty: Easy Link to: 13.9</p>

20.	Forests have been managed more successfully than fisheries mainly because:
a)	tree populations grow according to the logistic growth model, while fish populations fluctuate dramatically from year to year
b)	since trees have fewer species of predators than fish, the impact of predators on tree population dynamics can be assessed
c)	it is very difficult to know the size of a fish population, but trees are easier to count
d)	the environment of trees is more stable than the environment of fish
e)	tree populations are harvested according to the OSY, whereas fish populations are harvested according to the MSY

	<p>Ans: a          Difficulty: Medium          Link to: 13.9</p>
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21.	The most fundamental difference between a park and a true wilderness area is:
a)	a park is managed
b)	a park has defined boundaries
c)	conservation of species takes place
d)	fewer species are found in a park
e)	human access is excluded in wilderness areas
	<p>Ans: b          Difficulty: Easy          Link to: 13.9</p>

22.	Firewood shortages have been especially severe in:
a)	poor nations of the humid tropics
b)	developed countries
c)	the homes of colonial New England
d)	during the Industrial Revolution
e)	wealthy ski communities of the U.S. West
	<p>Ans: a          Difficulty: Easy          Link to: 13.9</p>

23.	From an ecological point of view, the largest drawback of whole-tree harvesting is:
a)	it is too expensive
b)	it contaminates groundwater
c)	it is a labor-intensive process
d)	most of the chemical elements needed for future growth in the forest are contained in the leaves, bark, small twigs, and roots
e)	it disrupts wildlife
	<p>Ans: d          Difficulty: Medium          Link to: 13.3</p>

24.	As a forest management practice, clear cutting:
a)	typically leads to increased soil erosion

b)	may be important in inducing regeneration of desirable species
c)	is no longer frequently used
d)	is usually best used on steep hill slopes
e)	speeds the re-growth of the next generation of trees

Ans: a  
 Difficulty: Medium  
 Link to: 13.3

25.	A park should function as a biological preserve. What is the most important requirement for such a preserve?
Ans:	A park-island must be large enough to maintain a genetically viable population; otherwise it would undergo genetic drift that could result in the loss of the entire population.
	Difficulty: Medium Link to: 13.9

26.	How can deforestation lead to flooding?
Ans:	Cutting trees destabilizes the soil, and the amount and speed of runoff increases, concentrating and magnifying the flood peak.
	Difficulty: Medium Link to: 13.9

27.	Fragmentation magnifies the effects of deforestation, isolating and disrupting the habitats of forest species. Name two measures to mitigate the effects of fragmentation of forests.
Ans:	leave large, undisturbed tracts of forest leave corridors between fragments a gradual transition between undeveloped and developed land
	Difficulty: Medium Link to: 13.3

28.	Forests benefit people and the environment indirectly through public service functions. Name at least three such public-service functions.
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Ans:	forests inhibit / reduce soil erosion forest moderate the availability of water, improving water supply from major watersheds to cities forests provide habitat for wildlife forests have recreational value (hiking, hunting, bird watching) forests are an important carbon reservoir, and thus they are significant for global climate
	Difficulty: Easy Link to: 13.9

29.	Name the two principal goals of wilderness management.
Ans:	to preserve nature untrammelled by human beings to provide people with a wilderness experience
	Difficulty: Medium Link to: 13.9

30.	Each species of tree has its own niche and is therefore adapted to specific environmental conditions. Name an example of a specific tree niche.
Ans:	in boreal forests tree niches are determined by water content in the soil trees also separate their niches through tolerance to shade some trees require disturbances in the environment, e.g. some seeds require fire or a certain type of soil
	Difficulty: Medium Link to: 13.9

31.	Why is whole-tree harvesting detrimental to the forest over a long period of time?
Ans:	Modern earth-moving machinery removes all growing parts of the trees, above and below the ground. The technique also removes valuable nutrients from the forest and leaves nothing to decay and enrich the soil.
	Difficulty: Medium Link to: 13.4, 13.5

32.	List three ways in which regional deforestation can affect the Earth's atmosphere and climate. alter the surface albedo (reflectivity).
Ans:	decrease flux of water to the atmosphere alter carbon-dioxide balance and flux changes surface roughness, which affects wind speeds
	Difficulty: Medium Link to: 13.7

33.	Why are disease outbreaks in a forest most devastating with the introduction of exotic tree species?
Ans:	The preexisting trees cannot fight diseases the new species bring into the ecosystem because they lack resistance developed over time.
	Difficulty: Medium Link to: 13.4

34.	How do insects affect trees?
Ans:	They eat the buds at the top of the tree and destroy their straight form. They destroy the trees by eating their fruits. They serve as carriers for diseases. They defoliate them.
	Difficulty: Medium Link to: 13.3

35.	What is the difference between phloem and xylem?
Ans:	Phloem transports sugars and other organic compounds down to stem and roots, xylem transports water and inorganic molecules upwards to the leaves.
	Difficulty: Easy Link to: 13.2

36.	A forest along a lake is clear-cut. Soon after, a bloom of algae occurs in the lake. What changes resulting from the clear-cut might account for this algae bloom?
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Ans:	Rapid soil erosion occurs on the clear-cut. With the soil, a lot of nutrients get washed out and transported into the lake. The additional nutrients cause the algae bloom.
	Difficulty: Medium Link to: 13.4, 13.5

37.	List three factors that affect what foresters call the site quality of a parcel of forest.
Ans:	soil fertility water supply local climate
	Difficulty: Easy Link to: 13.4, 13.5

38.	Prescribed fire, also called controlled burning, is increasingly common. Why is this done to certain forest types?
Ans:	Prescribed fire reduces the risk from wildfires, controls certain tree diseases, and increases food and habitat for wildlife. It can also be used to manage the forest for greater production of desirable tree species.
	Difficulty: Medium Link to: 13.4, 13.5

39.	The productivity of a forest differs greatly from setting to setting. Name the three main factors upon which the productivity of a forest depends.
Ans:	soil fertility water supply local climate
	Difficulty: Medium Link to: 13.4, 13.5

40.	How does a coastal climate differ from an inland climate, and in what specific ways?
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Ans:	A coastal climate undergoes less variation between summer and winter than an inland climate. Inland climates have a hot summer and a cold winter. The ocean influences the climate by storing heat.
	Difficulty: Medium Link to: 13.7

41.	What is the difference between the two following timbering methods: selective cutting and thinning?
Ans:	Selective cutting means that individual trees are marked and cut for industrial purposes. Thinning means that smaller and poorly formed trees are removed.
	Difficulty: Easy Link to: 13.4, 13.5

42.	List the principal advantages of strip-cutting in managed forests over other timbering methods.
Ans:	The uncut strips produce seeds and protect regenerating trees in the cut strips from wind and direct sunlight. Corridors of forests that remain can be used for recreation and wildlife habitat.
	Difficulty: Medium Link to: 13.4, 13.5

43.	Why can't the age of a tree in equatorial rainforests be measured by counting the growth rings?
Ans:	Trees in equatorial rainforests do not have such growth rings because these rainforests lack clear seasons. Trees grow all year long, while trees in temperate and boreal forests grow only in spring and summer.
	Difficulty: Easy Link to: 13.2