Pedologist Interview Questions And Answers Guide.



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Pedologist Job Interview Preparation Guide.

Question # 1

What is pedology?

Answer:-

Pedology is the study of soils in their natural environment. It is one of two main branches of soil science, the other being edaphology. Pedology deals with pedogenesis, soil morphology, and soil classification, while edaphology studies the way soils influence plants, fungi, and other living things.

Read More Answers.

Question # 2

What is agrophysics?

Answer:-

Agrophysics is a branch of science bordering on agronomy and physics, whose objects of study are the agroecosystem - the biological objects, biotope and biocoenosis affected by human activity, studied and described using the methods of physical sciences. Using the achievements of the exact sciences to solve major problems in agriculture, agrophysics involves the study of materials and processes occurring in the production and processing of agricultural crops, with particular emphasis on the condition of the environment and the quality of farming materials and food production.

Read More Answers.

Question # 3

Tell me what does Pedology mean?

Answer:-

Pedology is also called "soil science". It is the study of soils, including their chemical and physical properties as they are in their natural environment. It is also one of the two branches of soil science, the other being edaphology. Pedology also encompasses the study of the microbiology of the soil and its physics. Within the viticultural industry, pedology allows vineyard owners to study the growing potential of soil on their land and develop terroir profile goals based on the soil's characteristics.

Read More Answers.

Question # 4

Tell me what is the most important thing about soil?

Answer:-

This is the most challenging question. "Most important" is always answered from the perspective of values.

- * To many farmers, the most important thing about soil is that it produces crops that provide their livelihood.
- * To environmental engineers, the most important thing about soil is its ability to purify itself.
- * To engineers who build things, the most important thing about soil is its ability to support weight or loads. (The leaning Tower of Pisa leans because it was built on soil that could not support its weight.)

* To people concerned about wildlife, the most important thing about soil is its role in providing habitat (food and shelter) for many wild animals and several endangered species.

Read More Answers.

Question # 5

Do you know what kind of daily work do soil scientists do?

Answer:-

Some soil scientists are involved in the daily activities of food production. They test the soil in which the crops are grown and make fertilizer recommendations, as well as managing irrigation scheduling in regions where irrigation is practiced. They also work to conserve the soil resources, developing methods to protect the soil from wind and water erosion. In dryland regions, soil scientists help develop management systems (tillage and crops) that store rainfall in the soil for future crops.

Read More Answers.

Question # 6

Tell me we would like to know how you determine how old soil is?



Answer:-

Soil scientists agree that soils form over time as the climate (temperature, rain, wind, etc.), topography (shape of the landscape), parent material (weathered rocks or stuff deposited by wind, water, ice, or gravity), and living organisms (plants and animals that live in the soil) interact. So, when soil scientists want to know how old a soil is, they look for clues. Though the climate affects how fast weathering and erosion occur, it is usually does not give many clues about how long a soil has been in a given spot. The landscape, parent materials and trees provide better clues. A soil cannot be younger than the oldest trees growing on it. It cannot be older than the materials in which it forms or the landscape on which it is found. Soil scientists work with geologists to determine how old the landscape is, and how long the parent materials have been there. Since most deposition of parent materials occurred before written history began, geologists make educated guesses, estimating the age of the landscape tend to form more rapidly than others. More soil formation occurs on flat landscapes in upland positions than on slopes. Erosion on the slopes limits the rate of soil formation. Soil formation in lowland positions may be slowed by deposition of new materials on the surface by floods or gravity.

Read More Answers.

Question # 7

What are some pros and cons of being a soil scientist?

Answer:-

I get to travel all over the USA and to foreign countries (Canada, Mexico, Japan, China, and counting) to study soil (play in the dirt there, too). I am an associate professor at a university, so my main responsibilities include teaching college students and doing research. I enjoy the lab activities most because we go outside and work with and/or in the soil.

One of the other really fun things I do is meet with school children, usually fourth or fifth graders, and talk about why soil is important to their lives (food, clothes, etc.), and to the environment. I am what I want to be when I grow up - in other words, I enjoy my job.

Read More Answers.

Question # 8

Do you know what Do Bacteria Do?

Answer:-

Bacteria from all four groups perform important services related to water dynamics, nutrient cycling, and disease suppression. Some bacteria affect water movement by producing substances that help bind soil particles into small aggregates (those with diameters of 1/10,000-1/100 of an inch or 2-200um). Stable aggregates improve water infiltration and the soil's water-holding ability. In a diverse bacterial community, many organisms will compete with disease-causing organisms in roots and on aboveground surfaces of plants.

Read More Answers.

Question # 9

Tell me what is Pedology in soil?

Answer:-

Pedology soils is the study of soils in their natural environment. It is one of two main branches of soil science, the other being edaphology. Read More Answers.

Question # 10

What is Soil morphology?

Answer:-

Soil morphology is the field observable attributes of the soil within the various soil horizons and the description of the kind and arrangement of the horizons. C.F. Marbut championed reliance on soil morphology instead of on theories of pedogenesis for soil classification because theories of soil genesis are both ephemeral and dynamic.

Read More Answers.

Question # 11

Who is pedologist?

Answer:-

* A scientist who studies origins, composition and distribution of soils and the materials from which soils are formed.

* A scientist who specializes in pedology.

* A scientist who studies soil as a component of natural systems.

Read More Answers.

Question # 12

Tell me what is the biggest animal that lives in dirt?

Answer:-

There are many animals that make homes or dens in the soil, starting with many too small to see with your eye. Many worms and insects spend part or all of their lives in the soil. Many rodents (mice, rats, gophers, prairie dogs, groundhogs, rabbits and hares) live in the soil, as do many reptiles (snakes, lizards, toads and tortoises). Several predators dig dens in the soil (foxes, badgers ...) and some live under rocks or in caves (bobcats, coyotes, cougars, wolverines, and even bears, to name a few). Worms are probably the largest animal that spend their entire life in the soil - there are some earthworms in Australia that are 2 m long! Most of the larger animals sleep in a den in the soil, but spend much of their time roaming around looking for food.

Read More Answers.

Question # 13

Tell me what personal qualifications would be helpful for a person who wanted to be a soil science?

Answer:-



I think most soil scientists enjoy being outdoors, but some of the soil chemists, physicists, and biologists I know spend most of their time in the lab. A soil scientist needs to have an interest in science, and also needs to pay attention in math classes. A soil scientist takes the information from math, chemistry, physics, and biology, and applies it to soil.

Read More Answers.

Question #14

Tell me what is your daily routine? How many hours a day/week do you work? Do you ever have to take work home or work outside of the workplace?

Answer:-

My daily routine is varied. As a professor, during the semesters when I am teaching 3 classes and 2 or 3 labs, most of my time is consumed in preparing for lectures or labs, and conducting the lectures and labs. Often about 16 to 20 hours a week is spent with students in classes or labs. Another 10 hours a week is usually spent preparing for them. Additional work is involved in preparing assignments and exams and grading them. I also have work that I do for the university, serving on committees and things that takes an hour or two a week. I a few hours each week with undergraduate students answering questions and helping them understand things they did not grasp during the lectures, and with graduate students, providing guidance on their research projects. I probably average 50 to 60 hours a week when all those things are combined. Sometimes I take work home, usually it is grading papers, or reviewing a manuscript (the scientific report of a research project). In addition to working with schools occasionally (usually about 500 plus students per year), I also give presentations on soil for local meetings, usually for farmers or for Master Gardeners groups.

Read More Answers.

Question #15

Do you know where did the first soils come from?

Answer:-

The first soils began to form as soon as parent material was available, either through deposition of particles by wind, water, ice, or gravity, or through weathering of rocks. One of the most important processes in topsoil formation is the accumulation of humus (organic matter) that occurs as plants grow, die, and are decomposed, and as earthworms, termites, ants, and other organisms rework the material. A by-product of this process is that individual particles are joined together to form aggregates. Aggregates are groups of individual soil particles held together by organic matter or other forces, and are the foundation of soil structure. At first, these changes may be rapid, but they tend to slow as time progresses. Soil scientists would expect more dramatic differences in the first 10 years after deposition, than in the next 10 years, than in the last ten years of the first century after the deposition, etc.

Read More Answers.

Question #16

Tell us what different particles does dirt contain? How much of each particle are in 1/2 a cup of dirt?

Answer:-

Soil particles are defined as less than 2 millimeters in diameter. Particles larger than that are called gravel or rocks.

Soil particles come in three sizes:

- * Sands are the largest, and are coarse and gritty. They allow water and air to move into and through the soil because there are large pores (holes) between them.
- * Silts are the middle-sized soil particles, and are smooth. They feel much like flour or baby powder. They hold water that plants can use.

* Clays are the smallest soil particles, and are fine and sticky. They hold a lot of water, but do not give as much to the plants as silts. They also hold nutrients. They help hold soil together in clods which scientists call aggregates. Clays can be molded and shaped, much like modelling clay or Play-Dough.

* An ideal soil would have equal amounts of sand, silt, and clay particles. But most soils are not ideal. Some are mostly sand, others are mostly clay or silt, depending on where they are found. The about equal mixtures of soil particles are called loams.

Read More Answers.

Question # 17

Tell me what school did you go to to earn a degree in soil science and how long did it take?

Answer:-

I have a bachelor's degree (B.S.) in agriculture and a master's (M.S.) degree in Plant Science from West Texas University (now known as West Texas University, where I now teach). My degree is in soils and is from Iowa State University. As you might imagine, it took quite a while to get all those degrees (almost 13 years). Soils degrees are usually only available at land grant universities that have agriculture programs, though universities with environmental science programs are developing soils programs now, too.

A recent job announcement with the USDA Natural Resources Conservation Service had the following definition of a soil scientist: a degree in soil science or closely related discipline that included 30 semester hours or equivalent in biological, physical, or earth science, with a minimum of 15 semester hours in such subjects as soil genesis, pedology, soil chemistry, soil physics, and soil fertility.

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Question # 18

What is edaphology?

Answer:-

Edaphology is one of two main divisions of soil science, the other being pedology. Edaphology is concerned with the influence of soils on living things, particularly plants. The term is also applied to the study of how soil influences humankind's use of land for plant growth as well as man's overall use of the land. General subfields within edaphology are agricultural soil science, known by the term agrology in some regions and environmental soil science. Pedology deals with pedogenesis, soil morphology, and soil classification.

Read More Answers.

Question # 19

Tell me what is the meaning of Edaphology?

Answer:-

Edaphology is one of two main divisions of soil science, the other being pedology. Edaphology is concerned with the influence of soils on living things, particularly plants.



Read More Answers.

Question # 20

What is soil horizon?

Answer:-

A soil horizon is a layer generally parallel to the soil crust, whose physical characteristics differ from the layers above and beneath. Each soil type usually has three or four horizons. Horizons are defined in most cases by obvious physical features, chiefly colour and texture. These may be described both in absolute terms particle size distribution for texture, for instance and in terms relative to the surrounding material (i.e., "coarser" or "sandier" than the horizons above and below). The differentiation of the soil into distinct horizons is largely the result of influences, such as air, water, solar radiation and plant material, originating at the soil-atmosphere interface. Since the weathering of the soil occurs first at the surface and works its way down, the uppermost layers have been changed the most, while the deepest layers are most similar to the original parent material.

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Question # 21

Suppose we have found that the ocean floor contains sediments, and decayed animal/plant material. Is this considered to be SOIL?

Answer:-

Every definition I know defines soil as part of a terrestrial (land-based) system, rather than an aquatic (water-based) system. The materials on the ocean floor may be future sedimentary rocks that could, after an uplift or a recession of the sea level, eventually weather to become parent materials in which a soil forms, but they are not soil.

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Question # 22

Tell me what is some of the technology you use when you are working?

Answer:-

Soil scientists work with many types of technology, from extremely simple (hands, picks, and water bottles) to extremely complex. Some of the advanced technologies include: geographic positioning systems, geographic information systems, laser surveying systems, infrared thermometry, multispectral imagery, X-ray spectroscopy (mineralogists), several types of spectrophotometers (atomic absorption, plasma emission, etc.; fertility and environmental specialists), respirometers (biologists studying the activity of soil organisms), time domain reflectometry and various types of psychrometry

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Question # 23

Tell me how long does it take to make a foot of soil?

Answer:-

No one is old enough to have observed how long it took to form a foot of soil. With the right conditions, a foot of topsoil may form in less than one hundred (100) years. These conditions would include a fresh deposit of loose material (as might happen during or after a flood) in which the soil could form, a stable landscape position so that soil formation is not interrupted, and a favorable climate that encourages the growth of grass (plants with fibrous root systems form topsoil faster than trees with taproots). When the original material is bedrock, like sandstone or limestone, that must first weather into small particles before the soil can form, and the process is much slower.

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Question # 24

What is pedogenesis?

Answer:-

Pedogenesis also termed soil development, soil evolution, soil formation, and soil genesis is the process of soil formation as regulated by the effects of place, environment, and history. Biogeochemical processes act to both create and destroy order (anisotropy) within soils. These alterations lead to the development of layers, termed soil horizons, distinguished by differences in color, structure, texture, and chemistry. These features occur in patterns of soil type distribution, forming in response to differences in soil forming factors.

Read More Answers.

Question # 25

Is dirt/soil only on the surface of the earth? How deep down does dirt/soil go?

Answer:-

Soil is only found on the earth's surface. The depth of a soil depends mostly on how much rain falls on the soil, and how old the soil is. Some soils are only a few inches (or centimeters) thick - on mountains, in some deserts, and in arctic regions. Other soils can be more than 6' feet (two meters) deep. Though sometimes soils are deeper, we usually do not consider them as soil because roots of most plants are concentrated in the top 2 or 3 meters. Topsoil is usually the top 15 to 30 centimeters of soil. The subsoil then may go down to 2 or 3 meters.

Read More Answers.

Question # 26

Do you know what is the average salary of Pedologist?

Answer:-

I am not sure what the average salary of a soil scientist is, as that probably depends a lot upon the region of the country in which they live. Most beginning soil scientists would probably start with a salary of about \$30,000 (give or take \$4,000) for regional differences in the USA.

Read More Answers.



Question # 27

What is agronomy?

Answer:-

Agronomy is the science and technology of producing and using plants for food, fuel, fiber, and land reclamation. Agronomy has come to encompass work in the areas of plant genetics, plant physiology, meteorology, and soil science. It is the application of a combination of sciences like biology, chemistry, economics, ecology, earth science, and genetics. Agronomists of today are involved with many issues, including producing food, creating healthier food, managing the environmental impact of agriculture, and extracting energy from plants. Agronomists often specialise in areas such as crop rotation, irrigation and drainage, plant breeding, plant physiology, soil classification, soil fertility, weed control, and insect and pest control.

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Question # 28

Explain who is a Pediologist?

Answer:-

Pediatrician translates to "physician for children" which at least makes some sense. A "pediologist" would be an "expert on children".

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Question # 29

What is soil classification?

Answer:-

Soil classification deals with the systematic categorization of soils based on distinguishing characteristics as well as criteria that dictate choices in use.

Question # 30

What is soil science?

Answer:-

Soil science is the study of soil as a natural resource on the surface of the Earth including soil formation, classification and mapping; physical, chemical, biological, and fertility properties of soils; and these properties in relation to the use and management of soils.

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