

## *Nursing*

*PAX-RN*

*Pre-Admission Examination (PAX) for Registered Nursing (RN)*

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# Total Questions: 120

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### Question: 1

The word filters, as used in this passage, most nearly means:

- A. Alternates
- B. Reverses
- C. Ignores
- D. Depends

**Answer: C**

Explanation:

The sentence reads, "Your brain filters [your nose] out," which means your brain ignores it.

### Question: 2

The word retina, as used in this passage, most nearly means:

- A. Optical illusion
- B. Part of the eye
- C. Pattern
- D. Blindness

**Answer: B**

Explanation:

Only choice B reflects the meaning of the term retina, which is a part of the eye's anatomy.

### Question: 3

Which of the following statements can be inferred from this passage?

- A. Not all animals' brains filter out information.
- B. Visual perception is not a passive process.
- C. Blind spots cause accidents.
- D. The eyes never reflect reality.

**Answer: B**

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Explanation:

The final sentence reads, "Your brain works hard to make the world look continuous." It follows that visual perception is an active process, not a passive one, making choice B the best answer.

### Question: 4

What is the author's purpose for including the two letters in the middle of the passage?

- A. To demonstrate the blind spot in the visual field.
- B. To organize the passage.
- C. To transition between the last two paragraphs of the passage.
- D. To prove that the blind spot is not real.

**Answer: A**

Explanation:

If the reader follows the instructions given in the paragraph, the O and X in the middle of the passage can be used to demonstrate the blind spot in the visual field. Choice A is the best answer.

### Question: 5

What is the main purpose of this passage?

- A. To persuade the reader to pay close attention to blind spots.
- B. To explain the way visual perception works.
- C. To persuade the reader to consult an optometrist if the O and X disappear.
- D. To prove that vision is a passive process.

**Answer: B**

Explanation:

The passage explains the way that visual perception works. Choice B is the best answer.

### Question: 6

Based on the passage, which of the following statements is true?

- A. The brain cannot accurately reflect reality.
- B. Glasses correct the blind spot caused by the optical nerve.
- C. Vision is the least important sense.
- D. The brain fills in gaps in the visual field.

**Answer: D**

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Explanation:

Much of the information in the passage is provided to show examples of how the brain fills in gaps in the visual field. Choice D is the best answer.

### Question: 7

The author mentions the nose to illustrate what point?

- A. The brain filters out some visual information.
- B. Not all senses work the same way.
- C. Perception is a passive process.
- D. The sense of smell filters out information.

**Answer: A**

Explanation:

The author of the passage mentions the nose to demonstrate how the brain filters information out of the visual field. Choice A is the best answer.

### Question: 8

Which of the following statements can be inferred from the second paragraph?

- A. The brain filters out the sound created by the shape of the ears.
- B. The brain does not perceive all activity in the visual field.
- C. Closing one eye affects depth perception.
- D. The brain evolved as a result of environmental factors.

**Answer: B**

Explanation:

Choice B can be inferred from the second paragraph. The paragraph states that the brain filters out information, which means that the brain does not perceive all activity in the visual field.

### Question: 9

Which of the following best describes the main idea of this passage?

- A. ODD has no cause.
- B. ODD is a complex condition.
- C. Parents with ODD should seek support.
- D. Parents are the cause of ODD.

**Answer: B**

Explanation:

Choice B, "ODD is a complex condition" is the best answer out of the four given. It is the only choice that can be inferred from the passage as a whole.

### Question: 10

As used in this passage, the word oppositional most nearly means:

- A. Uncooperative
- B. Violent
- C. Passive aggressive
- D. Altruistic

**Answer: A**

Explanation:

Choice A is the best choice. Oppositional means uncooperative.

### Question: 11

Which of the following can be inferred from paragraph one?

- A. Most children who speak harshly to their parents have ODD.
- B. Most people exhibit symptoms of ODD occasionally.
- C. Between 16% and 20% of the school population has been abused.
- D. A short temper is a symptom of obsessive-compulsive disorder.

**Answer: B**

Explanation:

Choice B is the best interpretation of paragraph one. The passage states that many people exhibit ODD symptoms from time to time.

### Question: 12

As used in this passage, the phrase feed into most nearly means:

- A. Discourage
- B. Ignore
- C. Encourage
- D. Abuse

**Answer: C**

Explanation:

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Feed into in this sentence means to encourage oppositional behavior.

### Question: 13

As used in this passage, the phrase low frustration tolerance most nearly means:

- A. Patience
- B. Low IQ
- C. Difficulty dealing with frustration
- D. The ability to cope with frustration

**Answer: C**

Explanation:

Someone with low frustration tolerance has a difficult time tolerating or dealing with frustration.

### Question: 14

The author's purpose in writing this passage is to:

- A. Express frustration about ODD.
- B. Prove that parents are the cause of ODD.
- C. Inform the reader about this complex condition.
- D. Persuade the reader to keep students with ODD out of public school.

**Answer: C**

Explanation:

This passage is meant to inform the reader about ODD. Choice C is the best choice.

### Question: 15

According to the passage, which of the following is a cause of ODD?

- A. Excessive television viewing
- B. Poor diet
- C. Severe or unpredictable punishment
- D. Low IQ

**Answer: C**

Explanation:

While some of these answer choices may contribute to ODD, the passage mentions only choice C severe or unpredictable punishment.

### Question: 16

Based on the passage, which of the following statements seems most true?

- A. A variety of parenting techniques can be used to help children with ODD.
- B. Children with ODD must be physically aggressive to be diagnosed.
- C. Parents of children with ODD often engage in risk-taking activities.
- D. Harsh disciplinary measures must be used to control children with ODD.

**Answer: A**

Explanation:

The only statement directly supported by the passage is choice A.

### Question: 17

As used in this passage, the word parasites means

- A. People who live in Paris
- B. Organisms that live on or in another organism
- C. Microscopic insects
- D. People who take advantage of the generosity of others

**Answer: B**

Explanation:

As used in this passage, the word parasites means organisms that live on or in another organism, Choice B. Choice A and C are wrong, since the passage mentions nothing of Paris or insects. Choice D is another definition for parasites, but does not fit the context of this passage.

### Question: 18

According to the passage, adult Roundworms can live in

- A. The arthropod vector
- B. Fecal matter
- C. The subcutaneous tissue of humans
- D. Contaminated water

**Answer: C**

Explanation:

According to the description of Roundworms, they can live in the subcutaneous tissue of humans, Choice C. Choices A, B, and D describe where protozoa live and how they are transmitted.

### Question: 19

You can infer from this passage that

- A. Larval stages of parasites are more dangerous than the adult forms.
- B. Mosquitoes do not transmit parasites.
- C. Worms cannot infect humans.
- D. Clean sanitary conditions will keep you free of protozoa.

**Answer: D**

Explanation:

According to the first paragraph, protozoa are transmitted through food and water contaminated by fecal matter. It can then be inferred that clean sanitary conditions will prevent the spread of protozoa, Choice D. Choice A is an incorrect inference because the passage discusses both larval and adult forms of parasites that infect humans. Choice B is an incorrect inference, since the first paragraph states that protozoa are transmitted by mosquitoes. Choice C is an incorrect inference because the second paragraph is about worms that infect humans.

### Question: 20

According to the passage, which of the following is true?

- I. Protozoa live in the blood or tissue of humans.
- II. Adult helminths cannot reproduce in humans.
- III. Adult thorny-headed worms live in the intestinal tract.

- A. I only
- B. II only
- C. I and II only
- D. 1, 11, and III

**Answer: D**

Explanation:

To answer this question, you will need to verify all three statements in the passage. All three of these statements are true and are supported by the passage.

### Question: 21

Which of the following would be a good title for the passage?

- A. Asthma in the United States
- B. Methods of treating asthma
- C. Old wives' tales



D. Superstitions about asthma

**Answer: D**

Explanation:

Since the passage describes superstitions from days gone by about treating asthma, answer choice D is the correct one. Answer choice A, asthma in the United States, is incorrect because even though that is mentioned in the first sentence, it is not the main idea. Answer choice B, methods of treating asthma, is not the best choice since it is vague about whether the methods are current or from long ago. Answer choice C, old wives' tales, might have been a choice if old wives' tales had been mentioned in the passage, but it is not the best choice.

## Question: 22

The fact that 17 million children and adults in the United States suffer from asthma is probably the opening sentence of the passage because:

- A. It explains why people in times gone by might have found a need to try homemade cures.
- B. It creates a contrast between today and the past.
- C. It lets the reader know that many people have asthma.
- D. It is a warning that anyone could get asthma.

**Answer: A**

Explanation:

The reader can infer from the opening sentence that if so many people have asthma today, many would probably have had asthma long ago as well. Even though the environment today is different than it was long ago, people would still have suffered from the condition. The sentence explains why people long ago may have needed to try homemade methods of treating the condition.

## Question: 23

The main purpose of the passage is to:

- A. Describe herbal remedies
- B. Explain some of the measures for treating asthma from long ago
- C. Define superstitions
- D. Extol the virtues of modern medicine

**Answer: B**

Explanation:

The purpose of the passage is to describe different measures that people took for asthma long ago, before the advent of modern medicine. Answer choice A, herbal remedies, is incorrect because the majority of the "medicine" described in the passage is not herbal. The passage does not,

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as in answer choice C, define superstitions. Nor does it praise modern medicine, as answer choice D suggests.

### Question: 24

According to the passage, which of the following is an example of misusing a drug?

- A. Taking more of a prescription drug than the doctor ordered
- B. Taking an antibiotic to kill harmful bacteria
- C. Experiencing a side effect from an over-the-counter drug
- D. Throwing away a medication that has passed the expiration date

**Answer: A**

Explanation:

Of all the choices listed, only answer choice A is an example of misusing a drug. It is listed as one of the ways that drugs are misused in the middle of the passage. Taking more or less of a prescription drug than the amount that the doctor ordered can be harmful to one's health. The other answer choices are not examples of misuse, nor do they appear in the passage. Make sure all of your answer choices are based on the passage given rather than information you may know or assume from other sources.

### Question: 25

According to the passage, which of the following is NOT true?

- A. Over-the-counter drugs are used for medical issues.
- B. Every year, thousands of people in the United States die due to using drugs the wrong way.
- C. Medical science has come a long way in the last century.
- D. All drugs add longevity to a person's life.

**Answer: D**

Explanation:

The passage does not say that ALL drugs add longevity. It says that drugs that are healthy and used properly add longevity. The word all makes the statement untrue.

### Question: 26

What are the author's primary purposes in writing the essay?

- A. To define and expand
- B. To inform and advise
- C. To present and persuade
- D. To explain and approve

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**Answer: B**

Explanation:

The author's purpose is twofold: to inform the reader about the problems that arise with swimmer's ear and to advise the reader about how to avoid it. At no point does the author define anything, and if there is nothing defined the author cannot expand on it. While the author clearly presents information, the passage is not persuasive in tone; after all, there is nothing to suggest that the author is trying to persuade the reader to believe or do something. Also, while the author does explain the details about swimmer's ear, there is little in the passage to indicate that the author is trying to approve anything.

### Question: 27

Which of the following CANNOT be inferred from the information in the passage?

- A. Water in swimming pools can contain bacteria that causes infections in the ear canal
- B. The infection that causes swimmer's ear leads to swelling in the ear canal
- C. Swimmer's ear starts as a simple infection but can cause more serious problems
- D. Anyone who gets water in his or her ear can expect to develop swimmer's ear

**Answer: D**

Explanation:

The author says that people who get water in their ear while swimming run the risk of developing swimmer's ear. This is not a guarantee, however. Many people get water in their ear and never develop the condition. Answer choice D cannot be inferred. At the same time, the author says clearly that swimmer's ear results from the bacteria that is in the water making its way into the ear canal. The author notes in the first paragraph that swimmer's ear causes "a bit of swelling" and in the second paragraph that the condition results in the ear canal becoming "inflamed." Taken together, these indicate that swimmer's ear leads to a swelling of the ear canal. Additionally, in the first paragraph, the author notes that the condition is usually seen more as inconvenient than serious, and the author points out in the second paragraph that the problems associated with swimmer's ear can escalate and create more serious side effects.

### Question: 28

Which of the following is NOT a detail from the passage?

- A. People can develop swimmer's ear from being in any body of water during the summer
- B. The medical name for swimmer's ear is otitis externa
- C. Swimmer's ear affects over one million people in the United States each year
- D. Swimmer's ear results from bacteria in the water that gets into people's ear canals

**Answer: A**

Explanation:

Answer choice A is essentially true, but it is not a detail from the passage. Within the passage, the author links swimmer's ear and swimming pools but says nothing about other bodies of water. While the condition might be inferred (however vaguely) to come from other bodies of water, this fact is an implication and not a detail in any of the three paragraphs. The author states in the second paragraph that "otitis externa" is the official name for swimmer's ear. The author notes in the first paragraph that more than two million people in the United States suffer from swimmer's ear annually (and "more than two million" is definitely "over one million"). The author says in the second paragraph that swimmer's ear results from the bacteria in swimming water getting into the ear canal.

### Question: 29

Based on the information in the passage, why is swimmer's ear such a problem for people who spend time in swimming pools in the summer?

- A. People shed body oils, skin, and bacteria when they use swimming pools, and these are a breeding ground for disease
- B. Swimming pool maintenance crews cannot keep up with the increased activity in the pool during the hot summer months
- C. The chlorine in the water is not sufficient to destroy the bacteria from such a large number of people in the pool
- D. Swimmers do not use earplugs as much as they should, and this provides an opportunity for bacteria to get into the ear canal

**Answer: C**

Explanation:

This question asks only for an answer that is based on the information in the passage. In all reality, any of the answer choices might technically be true, but the only fact mentioned by the author is that the chlorine in swimming pools is not enough to keep up with all of the bacteria that develops from extra bodies in the water.

### Question: 30

Based on the information in the passage, which of the following is NOT a recommended course of action for removing water from the ear canal?

- A. Using alcohol to draw the water out
- B. Pressing a towel against the ear
- C. Shaking the head vigorously
- D. Drying the water with a blow dryer

**Answer: C**

Explanation:

The author says clearly in the third paragraph that the "head-banging" routine (or shaking the head vigorously to release any water in the ear canal) is not advised and offers three options: alcohol to draw the water out, a towel to absorb the water in the ear canal, and a blow dryer.

### Question: 31

Jerry held out hope for recovery, in spite of the ominous results from the lab.

Ominous means:

- A. Threatening
- B. Emboldening
- C. Destructive
- D. Insightful

**Answer: A**

Explanation:

The best synonym for ominous as it is used in this sentence is "threatening." An ominous symptom, for instance, is one that suggests the presence of serious disease. The word emboldening means "making bold." A patient who is regaining strength might be emboldened to try new and more difficult activities. The word destructive means "causing damage, chaos, or loss." A destructive condition or behavior has a negative effect on the patient's health. The word insightful means "thoughtful or provocative." As a health practitioner, you should try to be insightful so that you can come up with creative solutions to your patients' problems.

### Question: 32

The occluded artery posed a significant threat to the long-term health of the patient.

Occluded means:

- A. Closed
- B. Deformed
- C. Enlarged
- D. Engorged

**Answer: A**

Explanation:

The closest meaning for the word occluded as it is used in this sentence is "closed." Occluded means "blocked or obstructed." The word is commonly used to describe arteries that no longer allow the passage of blood. The word deformed means "misshapen or out of the normal shape." Any deformed body part is a cause for concern. The word engorged means "overfull, especially of blood or food." The organs of the body may become engorged when they are infected or diseased. Enlarged means "made larger."

### Question: 33

The doctors were less concerned with Bill's respiration than with the precipitous rise in his blood pressure.

Precipitous means:

- A. Detached
- B. Sordid
- C. Encompassed
- D. Steep

**Answer: D**

Explanation:

The word precipitous as it is used in this sentence means "steep." Doctors will often refer to a precipitous change in blood pressure. In general, precipitous changes are dangerous to the health. The word detached means "unconnected or aloof." A common example is a detached retina, a condition in which part of the eye becomes disconnected, and vision is damaged. The word sordid means "dirty" or "vile." The word encompassed means "surrounded or entirely contained within." For instance, a doctor might describe a treatment protocol as encompassing all aspects of the patient's life.

### Question: 34

It is vital for the victim of a serious accident to receive medical attention immediately.

Vital means:

- A. Recommended
- B. Discouraged
- C. Essential
- D. Sufficient

**Answer: C**

Explanation:

The word vital as it is used in this sentence means "essential." Medical workers will often refer to a patient's vital signs, meaning blood pressure, heart rate, and temperature. The word recommended means "preferred by some authority." The recommended course of treatment is the one outlined and prescribed by a doctor. The word discouraged means "disappointed and doubtful of success." Healthcare workers should try to prevent patients from becoming discouraged, since this can further diminish quality of life and chances of recovery. The word sufficient means "having enough to accomplish the necessary task." As an example, a doctor might inquire to make sure that a patient is receiving sufficient fluids or food.

### Question: 35

Wracked by abdominal pain, the victim of food poisoning moaned and rubbed his distended belly. Distended means:

- A. Concave
- B. Sore
- C. Swollen
- D. Empty

**Answer: C**

Explanation:

The word distended as it is used in this sentence means "swollen." Doctors will often refer to a distended abdomen, which accompanies gassiness or bloating. The word concave means "shaped like the inside of a bowl." Many structures of the human body, for instance the inside of the ear and the arch of the foot, are described as concave. A distended body part may be sore, but it is not necessarily so. A distended artery, for instance, may have no accompanying pain. Also, though a distended body part may be empty, this is not always the case. In cases of starvation, the stomach may become distended; however, other body parts may become distended from being full to excess.

### Question: 36

Despite the absence of overt signs, Dr. Harris suspected that Alicia might be suffering from the flu. Overt means:

- A. Concealed
- B. Apparent
- C. Expert
- D. Delectable

**Answer: B**

Explanation:

The word overt as it is used in this sentence means "apparent." Overt signs are those that can be seen by someone other than the person who is experiencing them. A rash is an overt sign; a stomachache is not. The word concealed means "hidden." Concealed signs cannot be perceived with the senses; a rise in blood pressure, for instance, is a concealed sign of illness. The word expert, used as an adjective, means "knowledgeable about a particular subject." When dealing with an unfamiliar situation, for instance, a doctor might call in an expert practitioner. The word delectable means "tasty or delicious."

### Question: 37

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The medication should only be taken if the old symptoms recur.  
Recur means:

- A. Occur again
- B. Survive
- C. Collect
- D. Desist

**Answer: A**

Explanation:

The word recur as it is used in this sentence means "occur again." Doctors often refer to the recurrence of a disease or symptom. In some cases, the recurrence of a disease indicates that the treatment used in the past was ineffective. Recur has the same root as occur, with the prefix re-, meaning "back or again." To survive means "to remain alive." To collect means "to bring together into one place." To desist means "to cease or stop doing something." A doctor might advise a patient to desist from a certain behavior in order to improve his or her health.

### Question: 38

At first, Gerald suspected that he had caught the disease at the office; later, though, he concluded that it was endogenous.  
Endogenous means:

- A. Contagious
- B. Painful to the touch
- C. Continuous
- D. Growing from within

**Answer: D**

Explanation:

The word endogenous as it is used in this sentence means "growing from within." Doctors occasionally refer to endogenous cholesterol, which comes from inside the body rather than from the diet. Contagious means "capable of spreading from person to person." A person with a contagious disease needs to be kept away from other people. Often, diseases are only contagious for a limited time. Continuous means "proceeding on without stopping." If a patient is suffering from continuous back pain, for instance, he or she is experiencing the pain at all times.

### Question: 39

Though chemotherapy had sent her cancer into remission, Glenda remained lethargic and depressed.  
Lethargic means:

- A. Nauseous



- B. Sluggish
- C. Contagious
- D. Elated

**Answer: B**

Explanation:

The word lethargic as it is used in this sentence means "sluggish." Lethargy is a symptom of many forms of illness. It is also a side effect of chemotherapy. Nauseous means "sickened, or suffering from an upset stomach." Nausea is a common side effect of chemotherapy as well; it is just not the one described in this sentence. Contagious means "capable of spreading from person to person." Many viral and bacterial infections are contagious. Elated means "ecstatic," or "wildly happy." It is usually a good thing when a patient is elated, although manic-depressive patients may alternate between excessive elation and near-suicidal sadness.

### Question: 40

In order to minimize scarring, the nurse reused the site of the previous injection.

Site means:

- A. Syringe
- B. Location
- C. Artery
- D. Hole

**Answer: B**

Explanation:

The word site as it is used in this sentence means "location." Doctors will often refer to the site of an injection or a planned surgery. A syringe is "the device used to inject or withdraw fluid from the body." Medical personnel who specialize in withdrawing blood from patients are called phlebotomists. An artery is "a blood vessel that carries blood away from the heart to nourish the rest of the body." Although the site to which the author is referring in this sentence is a hole, it will not always be so. For this reason, "hole" cannot be the best definition for site.

### Question: 41

As a veteran of many flu seasons, the nurse knew how to minimize her exposure to the disease.

Exposure means:

- A. Laying open
- B. Prohibition
- C. Connection
- D. Dislike

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**Answer: A**

Explanation:

The word exposure as it is used in this sentence means "laying open." The most common usage of this term is in reference to the sun, although exposure to toxic chemicals is also a major health concern. A doctor will often ask a patient to limit his or her exposure to some environmental element, Prohibition is "the act of forbidding." Often, a doctor will place a prohibition on certain behaviors or foods if they are believed to adversely affect health. The words connection and dislike have no relation to exposure.

### Question: 42

Dr. Grant ignored Mary's particular symptoms, instead administering a holistic treatment for her condition.

Holistic means:

- A. Insensitive
- B. Ignorant
- C. Specialized
- D. Concerned with the whole rather than the parts

**Answer: D**

Explanation:

The word holistic as it is used in this sentence means "concerned with the whole rather than the parts." Doctors try to consider the patient's health from a holistic perspective; that is, they try to improve health in its entirety rather than to eliminate specific symptoms. The word insensitive means "not responsive." The word ignorant means "lacking knowledge." Healthcare workers cannot be ignorant of the latest findings and information in their field. The word specialized means "adapted to or trained in a specific discipline or task." Because of the technological complexity of modern medical practice, most careers in health care are specialized.

### Question: 43

The dermatologist was struck by the symmetric patterns of scarring on the patient's back

Symmetric means:

- A. Scabbed
- B. Painful to the touch
- C. Occurring in corresponding parts at the same time
- D. Geometric

**Answer: C**

Explanation:

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The word symmetric as it is used in this sentence means "occurring in corresponding parts at the same time." Some illnesses will cause symmetric rashes, meaning that both the right and left sides of the body are afflicted with similarly shaped inflammation. The word scabbed means "covered with wounds." The word geometric is used to describe "things that resemble the classic geometric shapes, such as the circle, square, or triangle." On occasion, a doctor may use this word to describe the pattern of a wound or rash.

### Question: 44

Despite an increase in the volume of his urine, the patient still reported bloating.  
Volume means:

- A. Quality
- B. Length
- C. Quantity
- D. Loudness

**Answer: C**

Explanation:

The word volume as it is used in this sentence means "quantity." Doctors will refer to an increase in the volume of urine or some other body product as an indication of health. Volume is calculated as length x width x height (or depth); it is a three-dimensional measure. Length, on the other hand, is "a two-dimensional measure of distance." Quality means "degree of excellence." Quantity can be measured in any kind of units. Loudness might be the right answer if volume were being used in a different way, as "the relative power of a sound." In this sentence, however, the word is not being used to describe a sound.

### Question: 45

The nurse was quite forthright in her conversations with the patient.  
Forthright means:

- A. Frank
- B. Evasive
- C. Animated
- D. Reticent

**Answer: A**

Explanation:

Forthright and frank both mean "open and honest about expressing one's true opinion." Reticent is almost the opposite, as it means, "reserved, not willing to talk very freely." Evasive means, "avoiding an issue or trouble." Animated in this sentence would connote that her conversations are "full of liveliness or energy."

### Question: 46

Elisabeth visited her sister in the hospital every day despite the latter's dyspeptic behavior.  
Dyspeptic means:

- A. Sullen
- B. Erratic
- C. Comatose
- D. Ill-tempered

**Answer: D**

Explanation:

Dyspeptic has the same definition as ill-tempered, meaning in this case "possessing or exhibiting a habitually bad temper." Dyspeptic can also mean, "having acid indigestion." Sullen is a similar term that as used here signifies, "displaying hostile or resentful silence." Erratic has several meanings that could apply here, including "random," "fitful," and "uneven." Comatose literally can mean "in a coma," but it also can be defined as "unable to function."

### Question: 47

The administrator spoke with vehemence about the proposed merger.  
Vehemence means:

- A. Intensity
- B. Passion
- C. Duplicity
- D. Ardor

**Answer: A**

Explanation:

Intensity is a synonym for vehemence, which is defined as "a state or quality of showing intense feeling or conviction." Passion has a number of meanings, some of which are similar to vehemence, notably in the case of "depth of feeling or ardor (another choice)" or "intense enthusiasm." Duplicity means "deceitfulness."

### Question: 48

The unflappable therapist ignored the intruding visitors.  
Unflappable means:

- A. Unflinching
- B. Imperturbable

- C. Proficient
- D. Diligent

**Answer: B**

Explanation:

Unflappable and imperturbable both mean "not easily frightened or unnerved, able to sustain composure." All of the other terms have unrelated meanings. Unflinching means, "showing no signs of hesitation or yielding in purpose." Proficient means, "possessing or displaying extraordinary skill, knowledge, or experience." Diligent is the same as "busy" in the sense of "occupied with often constant activity."

### Question: 49

Mammography is a benchmark for diagnosis of breast cancer.  
Benchmark means:

- A. Test
- B. Pinnacle
- C. Standard
- D. Method

**Answer: C**

Explanation:

Standard has several meanings, one of which is synonymous with benchmark, which is defined as "an example against which things of the same type are judged." Pinnacle is somewhat related, meaning "the highest part or point of something." While mammography is a test, defined as "a procedure or operation done to settle an uncertainty," test is not the best answer. Method means "the way of or procedure for doing something."

### Question: 50

John's chart notes that he has pallid skin.  
Pallid means:

- A. Sallow
- B. Pale
- C. Sanguine
- D. Sickly

**Answer: B**

Explanation:

Pale is an exact synonym for pallid, which in this context means that he lacks a healthy skin

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color. This could indicate infection or disease. Two of these answers are related terms but not synonyms. Sallow is similar, as it means, "lacking the warm skin color indicating good health." Sickly denotes "chronically or regularly suffering from poor health," which is not necessarily true if a person has pallid skin. Sanguine is an antonym for pallid and pale; the word has several meanings, but as related to skin color it means, "possessing a healthy reddish skin color."

### Question: 51

Marie's chart indicates that she should receive diurnal administration of an antibiotic.  
Diurnal means:

- A. Continuous
- B. Nightly
- C. Daily
- D. Parenteral

**Answer: C**

Explanation:

Diurnal is a synonym for daily, which means "done, taking place, appearing, or produced every day." Continuous implies nonstop administration without interruptions. Nightly is a near antonym for diurnal and daily; it means "occurring during the night." Parenteral administration occurs through injection, a drip feed, or implantation.

### Question: 52

You become concerned about a patient because they are in a state of confusion.  
Confusion means:

- A. Agitation
- B. Certitude
- C. Indifference
- D. Bewilderment

**Answer: D**

Explanation:

Bewilderment is one synonym for confusion, which has several meanings of application here. Confusion could mean that the patient is in either a state of mental uncertainty or an emotional state of embarrassment. Agitation is a related word, but it means that the person is in a state of either (1) wild emotion or activity, or (2) uneasiness in anticipation of trouble. Certitude is a near antonym, because it means that the person is in a state of mind in which they are free from doubt. Indifference denotes a lack of interest or desire, which could accompany confusion.

### Question: 53

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A laboratory report indicates that the patient's blood fails to coagulate.  
Coagulate means:

- A. Clot
- B. Deliquesce
- C. Solidify
- D. Separate

**Answer: A**

Explanation:

As a verb, clot is a synonym for coagulate, which means, "to cause a liquid to thicken into a semisolid mass or substance resembling jelly." Deliquesce is a near antonym meaning, "to go from a solid to a liquid state." Solidify is a related but less specific term meaning that something (1) becomes firm or solid, or (2) takes on a definite form. Ideas about how to treat a patient can eventually solidify, for example. As a verb form, separate has several definitions, the closest one applicable in this instance being "to set or force apart." After collection, blood separates into the coagulated clot and the clear serum.

### Question: 54

After listening to Bob's breathing, the doctor indicates that it is cadenced.  
Cadenced means:

- A. Normal
- B. Rhythmic
- C. Irregular
- D. Regular

**Answer: B**

Explanation:

Cadenced is another word for rhythmic, which means that something "has or occurs with a perceptible regularity in rise and fall of sound." Cadenced breathing would be considered "normal," but the latter is a more general word for terms like "typical, average, ordinary, or sane." Regular is a related word with several meanings, the closest being that something follows a set pattern. Irregular would be an antonym to regular.

### Question: 55

An impending stroke may be indicated by headache, dizziness, double vision, and other deficiencies.  
Impending means:

- A. Eventual

- B. Prophetic
- C. Imminent
- D. Portentous

**Answer: C**

Explanation:

Impending is a synonym for imminent, which suggests signs of immediate occurrence or that a condition will appear or take place soon. Urgency is implied. Portentous is a related term meaning that something "is or shows signs of upcoming evil or calamity." Eventual simply implies that something will occur at a later time, and prophetic means "predictive or being a sign of a later course of action."

### Question: 56

The doctor's explanation of his diagnosis was too obscure.  
Obscure means:

- A. Confounding
- B. Unclear
- C. Ambiguous
- D. Straightforward

**Answer: C**

Explanation:

Obscure and ambiguous can both mean, "having a deliberately veiled or uncertain meaning." Two of the other choices are related words, but they do not imply intent. Confounding means, "thrown into a state of mental uncertainty." Unclear means, "not clearly expressed, seen, or understood." Straightforward is a near antonym of obscure and indicates that something has been done or said in a direct and honest manner.

### Question: 57

The patient strives to act in compliance with her parents' wishes.  
Compliance means:

- A. Complaisance
- B. Defiance
- C. Acquiescence
- D. Deference

**Answer: D**

Explanation:



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Both compliance and deference describe a state of willingness or readiness to yield to others' desires. Complaisance and acquiescence are related terms. Complaisance is very similar in that it means, "a desire to please and carry out the wishes of others." Acquiescence means "agreement in a passive manner." Defiance is an antonym meaning "open or hostile disobedience."

### Question: 58

The patient's chart was rife with errors.  
Rife means:

- A. Devoid
- B. Fraught
- C. Transcribed
- D. Overloaded

**Answer: B**

Explanation:

Fraught is the only true synonym for rife, which means that something is found widely or frequently. Overloaded is related but implies an excess load or burden. Devoid is an antonym meaning, "utterly lacking in something." In this sentence, transcribed acts as a verb, not as an adverb like the other words, and means to "copy, expand from notes, or translate something." Healthcare professionals regularly transcribe gathered information onto the patient's chart, but the word is unrelated to "rife."

### Question: 59

Anna just has been diagnosed with breast cancer, and she faces a quandary.  
Quandary means:

- A. Impasse
- B. Decision
- C. Heartbreak
- D. Dilemma

**Answer: D**

Explanation:

Dilemma is the only synonym for quandary, which means, "a situation in which a person has to decide between two or more unsatisfactory choices." For example, the doctor might have given her treatment choices such as lumpectomy versus mastectomy. Impasse is a related term meaning, "a point at which progress cannot occur or agreement reached." Anna does need to make a decision, which is a "stance determined after consideration," but the word is distinct from quandary. Heartbreak is also an unrelated term, meaning "intense grief."

### Question: 60

The insurance company disavowed the patient's claim.

Disavowed means:

- A. Approved
- B. Disclaimed
- C. Acknowledged

**Answer: C**

Explanation:

Disavowed and disclaimed are synonyms, both meaning "denied responsibility for, knowledge of, or association with." Rejected is related, but means, "denied, declined, or discarded."

Acknowledged is an antonym indicating formal recognition of something. Approved is somewhat related to acknowledged, not disavowed; if used in this sentence, it would mean, "gave official recognition as acceptable."

### Question: 61

What is the name for any substance that stimulates the production of antibodies?

- A. Collagen
- B. Hemoglobin
- C. Lymph
- D. Antigen

**Answer: D**

Explanation:

The name for a substance that stimulates the production of antibodies is an antigen. An antigen is any substance perceived by the immune system as dangerous. When the body senses an antigen, it produces an antibody. Collagen is one of the components of bone, tendon, and cartilage. It is a spongy protein that can be turned into gelatin by boiling. Hemoglobin is the part of red blood cells that carries oxygen. In order for the blood to carry enough oxygen to the cells of the body, there has to be a sufficient amount of hemoglobin. Lymph is a near-transparent fluid that performs a number of functions in the body: It removes bacteria from tissues, replaces lymphocytes in the blood, and moves fat away from the small intestine. Lymph contains white blood cells.

### Question: 62

Which of the following correctly lists the cellular hierarchy from the simplest to the most complex structure?

- A. Tissue, cell, organ, organ system, organism
- B. Organism, organ system, organ, tissue, cell
- C. Organ system, organism, organ, tissue, cell
- D. Cell, tissue, organ, organ system, organism

**Answer: D**

Explanation:

The cellular hierarchy starts with the cell, the simplest structure, and progresses to organisms, the most complex structures.

### Question: 63

If a cell is placed in a hypertonic solution, what will happen to the cell?

- A. It will swell.
- B. It will shrink
- C. It will stay the same.
- D. It does not affect the cell.

**Answer: B**

Explanation:

A hypertonic solution is a solution with a higher particle concentration than in the cell, and consequently lower water content than in the cell. Water moves from the cell to the solution, causing the cell to experience water loss and shrink.

### Question: 64

Which group of major parts and organs make up the immune system?

- A. Lymphatic system, spleen, tonsils, thymus, and bone marrow
- B. Brain, spinal cord, and nerve cells
- C. Heart veins, arteries, and capillaries
- D. Nose, trachea, bronchial tubes, lungs, alveolus, and diaphragm

**Answer: A**

Explanation:

The immune system consists of the lymphatic system, spleen, tonsils, thymus and bone marrow.

### Question: 65

The rate of a chemical reaction depends on all of the following except

- A. Temperature
- B. Surface area
- C. Presence of catalysts
- D. Amount of mass lost

**Answer: D**

Explanation:

The rate at which a chemical reaction occurs does not depend on the amount of mass lost, since the law of conservation of mass (or matter) states that in a chemical reaction there is no loss of mass.

### Question: 66

Which of the answer choices provided best defines the following statement?  
For a given mass and constant temperature, an inverse relationship exists between the volume and pressure of a gas?

- A. Ideal Gas Law
- B. Boyle's Law
- C. Charles' Law
- D. Stefan-Boltzmann Law

**Answer: B**

Explanation:

Boyle's law states that for a constant mass and temperature, pressure and volume are related inversely to one another:  $PV = c$ , where  $c$  is a constant.

### Question: 67

Which of the following statements correctly compares prokaryotic and eukaryotic cells?

- A. Prokaryotic cells have a true nucleus, eukaryotic cells do not.
- B. Both prokaryotic and eukaryotic cells have a membrane.
- C. Prokaryotic cells do not contain membrane-bound organelles, eukaryotic cells do.
- D. Prokaryotic cells are more complex than eukaryotic cells.

**Answer: C**

Explanation:

Prokaryotic cells are simpler cells that do not have membrane-bound organelles, whereas eukaryotic cells have several membrane-bound organelles.

### Question: 68

What is the role of ribosomes?

- A. Make proteins
- B. Waste removal
- C. Transport
- D. Storage

**Answer: A**

Explanation:

A ribosome is a structure of eukaryotic cells that makes proteins

### Question: 69

If an organism is AaBb, which of the following combinations in the gametes is impossible?

- A. AB
- B. Aa
- C. AB
- D. Ab

**Answer: B**

Explanation:

It is impossible for an AaBb organism to have the aa combination in the gametes. It is impossible for each letter to be used more than one time, so it would be impossible for the lowercase a to appear twice in the gametes. It would be possible, however, for Aa to appear in the gametes, since there is one uppercase A and one lowercase a. Gametes are the cells involved in sexual reproduction. They are germ cells.

### Question: 70

What is the oxidation number of hydrogen in  $\text{CaH}_2$ ?

- A. +1
- B. -1
- C. 0
- D. +2

**Answer: B**

Explanation:

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The oxidation number of the hydrogen in  $\text{CaH}_2$  is  $-1$ . One of the general rules for determining oxidation states applies specifically to hydrogen: when hydrogen is bonded to a nonmetal, its oxidation state is  $+1$ , but when hydrogen is bonded to a metal, its oxidation state is  $-1$ . An ion is a charged version of an element. The oxidation number for an atom is also referred to as the oxidation state. It can be used to describe the number of electrons that must be added or removed from an atom in order to convert the atom to its elemental form.

### Question: 71

Which hormone stimulates milk production in the breasts during lactation?

- A. Norepinephrine
- B. Antidiuretic hormone
- C. Prolactin
- D. Oxytocin

**Answer: C**

Explanation:

Prolactin stimulates the production of breast milk during lactation. Norepinephrine is a hormone and neurotransmitter secreted by the adrenal gland that regulates heart rate, blood pressure, and blood sugar. Antidiuretic hormone is produced by the hypothalamus and secreted by the pituitary gland. It regulates the concentration of urine and triggers the contractions of the arteries and capillaries. Oxytocin is a hormone secreted by the pituitary gland that makes it easier to eject milk from the breast and manages the contractions of the uterus during labor.

### Question: 72

What is the typical result of mitosis in humans?

- A. Two diploid cells
- B. Two haploid cells
- C. Four diploid cells
- D. Four haploid cells

**Answer: A**

Explanation:

The typical result of mitosis in humans is two diploid cells. Mitosis is the division of a body cell into two daughter cells. Each of the two produced cells has the same set of chromosomes as the parent. A diploid cell contains both sets of homologous chromosomes. A haploid cell contains only one set of chromosomes, which means that it only has a single set of genes.

### Question: 73

Which of the following does NOT exist as a diatomic molecule?

- A. Boron
- B. Fluorine
- C. Oxygen
- D. Nitrogen

**Answer: A**

Explanation:

Boron does not exist as a diatomic molecule. The other possible answer choices, fluorine, oxygen, and nitrogen, all exist as diatomic molecules. A diatomic molecule always appears in nature as a pair: the word diatomic means "having two atoms." With the exception of astatine, all of the halogens are diatomic. Chemistry students often use the mnemonic BrINClHOF (pronounced "brinkelhoff") to remember all of the diatomic elements: bromine, iodine, nitrogen, chlorine, hydrogen, oxygen, and fluorine. Note that not all of these diatomic elements are halogens.

### Question: 74

Which of the following structures has the lowest blood pressure?

- A. Arteries
- B. Arteriole
- C. Venule
- D. Vein

**Answer: D**

Explanation:

Of the given structures, veins have the lowest blood pressure. Veins carry oxygen-poor blood from the outlying parts of the body to the heart. An artery carries oxygen-rich blood from the heart to the peripheral parts of the body. An arteriole extends from an artery to a capillary. A venule is a tiny vein that extends from a capillary to a larger vein.

### Question: 75

How does water affect the temperature of a living thing?

- A. Water increases temperature.
- B. Water keeps temperature stable.
- C. Water decreases temperature.
- D. Water does not affect temperature.

**Answer: B**

Explanation:

Water stabilizes the temperature of living things. The ability of warm-blooded animals, including human beings, to maintain a constant internal temperature is known as homeostasis. Homeostasis depends on the presence of water in the body. Water tends to minimize changes in temperature because it takes a while to heat up or cool down. When the human body gets warm, the blood vessels dilate and blood moves away from the torso and toward the extremities. When the body gets cold, blood concentrates in the torso. This is the reason why hands and feet tend to get especially cold in cold weather.

### Question: 76

What is another name for aqueous HI?

- A. Hydroiodate acid
- B. Hydrogen moniodide
- C. Hydrogen iodide
- D. Hydriodic acid

**Answer: D**

Explanation:

Hydriodic acid is another name for aqueous HI. In an aqueous solution, the solvent is water. Hydriodic acid is a polyatomic ion, meaning that it is composed of two or more elements. When this solution has an increased amount of oxygen, the -ate suffix on the first word is converted to -ide. This process can be quite complex, so you should carefully review this material before your exam.

### Question: 77

Which of the heart chambers is the most muscular?

- A. Left atrium
- B. Right atrium
- C. Left ventricle
- D. Right ventricle

**Answer: C**

Explanation:

Of the four heart chambers, the left ventricle is the most muscular. When it contracts, it pushes blood out to the organs and extremities of the body. The right ventricle pushes blood into the lungs. The atria, on the other hand, receive blood from the outlying parts of the body and transport it into the ventricles. The basic process works as follows: Oxygen-poor blood fills the right atrium and is pumped into the right ventricle, from which it is pumped into the pulmonary artery and on to the lungs. In the lungs, this blood is oxygenated. The blood then reenters the heart at the left atrium, which when full pumps into the left ventricle. When the left ventricle is full, blood is pushed into the aorta and on to the organs and extremities of the body.



### Question: 78

Which of the following is NOT a product of the Krebs cycle?

- A. Carbon dioxide
- B. Oxygen
- C. Adenosine triphosphate (ATP)
- D. Energy' carriers

**Answer: B**

Explanation:

Oxygen is not one of the products of the Krebs cycle. The Krebs cycle is the second stage of cellular respiration. In this stage, a sequence of reactions converts pyruvic acid into carbon dioxide. This stage of cellular respiration produces the phosphate compounds that provide most of the energy for the cell. The Krebs cycle is also known as the citric acid cycle or the tricarboxylic acid cycle.

### Question: 79

What is the name for the reactant that is entirely consumed by the reaction?

- A. Limiting reactant
- B. Reducing agent
- C. Reaction intermediate
- D. Reagent

**Answer: A**

Explanation:

A limiting reactant is entirely used up by the chemical reaction. Limiting reactants control the extent of the reaction and determine the quantity of the product. A reducing agent is a substance that reduces the amount of another substance by losing electrons. A reagent is any substance used in a chemical reaction. Some of the most common reagents in the laboratory are sodium hydroxide and hydrochloric acid. The behavior and properties of these substances are known, so they can be effectively used to produce predictable reactions in an experiment.

### Question: 80

Within which part of the brain is sensory information interpreted?

- A. Cerebrum
- B. Hindbrain
- C. Cerebellum

D. Medulla oblongata

**Answer: A**

Explanation:

The cerebrum contains the parietal lobe, which is the part of the brain that interprets sensory information. The cerebrum is the largest part of the brain. The cerebrum is divided into two hemispheres, connected by a thin band of tissue called the corpus callosum. The cerebellum is positioned at the back of the head, between the brain stem and the cerebrum. It controls both voluntary and involuntary movements. The medulla oblongata forms the base of the brain. This part of the brain is responsible for blood flow and breathing, among other things. The hindbrain refers to a section of the brain including the medulla oblongata, pons, and cerebellum.

### Question: 81

What kind of bond connects sugar and phosphate in DNA?

- A. Hydrogen
- B. Ionic
- C. Covalent
- D. Overt

**Answer: C**

Explanation:

The sugar and phosphate in DNA are connected by covalent bonds. A covalent bond is formed when atoms share electrons. It is very common for atoms to share pairs of electrons. Hydrogen bonds are used in DNA to bind complementary bases together, such as adenine with thymine or guanine with cytosine. An ionic bond is created when one or more electrons are transferred between atoms. Ionic bonds, also known as electrovalent bonds, are formed between ions with opposite charges. There is no such thing as an overt bond in chemistry.

### Question: 82

What is the mass (in grams) of 7.35 moles of water?

- A. 10.7 g
- B. 18 g
- C. 132 g
- D. 180.6 g

**Answer: C**

Explanation:

The mass of 7.35 mol water is 132 grams. You should be able to find the mass of various

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chemical compounds when you are given the number of moles. The information required to perform this function is included on the periodic table. To solve this problem, find the molecular mass of water by finding the respective weights of hydrogen and oxygen. Remember that water contains two hydrogen molecules and one oxygen molecule. The molecular mass of hydrogen is roughly 1, and the molecular mass of oxygen is roughly 16. A molecule of water, then, has approximately 18 grams of mass. Multiply this by 7.35 mol, and you will obtain the answer 132.3, which is closest to answer choice C.

### Question: 83

Which of the following proteins is produced by cartilage?

- A. Actin
- B. Estrogen
- C. Collagen
- D. Myosin

**Answer: C**

Explanation:

Collagen is the protein produced by cartilage. Bone, tendon, and cartilage are all mainly composed of collagen. Actin and myosin are the proteins responsible for muscle contractions. Actin makes up the thinner fibers in muscle tissue, while myosin makes up the thicker fibers. Myosin is the most numerous cell protein in human muscle. Estrogen is one of the steroid hormones produced mainly by the ovaries. Estrogen motivates the menstrual cycle and the development of female sex characteristics.

### Question: 84

How are lipids different than other organic molecules?

- A. They are indivisible.
- B. They are not water soluble.
- C. They contain zinc.
- D. They form long proteins.

**Answer: B**

Explanation:

Unlike other organic molecules, lipids are not water soluble. Lipids are typically composed of carbon and hydrogen. Three common types of lipid are fats, waxes, and oils. Indeed, lipids usually feel oily when you touch them. All living cells are primarily composed of lipids, carbohydrates, and proteins. Some examples of fats are lard, corn oil, and butter. Some examples of waxes are beeswax and carnauba wax. Some examples of steroids are cholesterol and ergosterol.

### Question: 85

Which of the following orbitals is the last to fill?

- A. 1s
- B. 3s
- C. 4p
- D. 6s

**Answer: D**

Explanation:

Of these orbitals, the last to fill is 6s. Orbitals fill in the following order: 1s, 2s, 2p, 3s, 3p, 4s, 3d, 4p, 5s, 4d, 5p, 6s, 4f, 5d, 6p, 7s, 5f, 6d, and 7p. The number is the orbital number, and the letter is the sublevel identification. Sublevel s has one orbital and can hold a maximum of two electrons. Sublevel p has three orbitals and can hold a maximum of six electrons. Sublevel d has five orbitals and can hold a maximum of 10 electrons. Sublevel f has seven orbitals and can hold a maximum of 14 electrons.

### Question: 86

Which component of the nervous system is responsible for lowering the heart rate?

- A. Central nervous system
- B. Sympathetic nervous system
- C. Parasympathetic nervous system
- D. Distal nervous system

**Answer: C**

Explanation:

The parasympathetic nervous system is responsible for lowering the heart rate. It slows down the heart rate, dilates the blood vessels, and increases the secretions of the digestive system. The central nervous system is composed of the brain and the spinal cord. The sympathetic nervous system is a part of the autonomic nervous system; its role is to oppose the actions taken by the parasympathetic nervous system. So, the sympathetic nervous system accelerates the heart, contracts the blood vessels, and decreases the secretions of the digestive system.

### Question: 87

Which of the following is NOT a steroid?

- A. Cholesterol
- B. Estrogen

- C. Testosterone
- D. Hemoglobin

**Answer: D**

Explanation:

Hemoglobin is not a steroid. It is a protein that helps to move oxygen from the lungs to the various body tissues. Steroids can be either synthetic chemicals used to reduce swelling and inflammation or sex hormones produced by the body. Cholesterol is the most abundant steroid in the human body. It is necessary for the creation of bile, though it can be dangerous if the levels in the body become too high. Estrogen is a female steroid produced by the ovaries (in females), testes (in males), placenta, and adrenal cortex. It contributes to adolescent sexual development, menstruation, mood, lactation, and aging. Testosterone is the main hormone produced by the testes; it is responsible for the development of adult male sex characteristics.

### Question: 88

What is the name of the binary molecular compound NO<sub>2</sub>?

- A. Nitro pentoxide
- B. Ammonium pentoxide
- C. Nitrogen pentoxide
- D. Pentnitrogen oxide

**Answer: C**

Explanation:

Nitrogen pentoxide is the name of the binary molecular compound NO<sub>2</sub>. The format given in answer choice C is appropriate when dealing with two nonmetals. A prefix is used to denote the number of atoms of each element. Note that when there are seven atoms of a given element, the prefix hepta- is used instead of the usual septa-. Also, when the first atom in this kind of binary molecular compound is single, it does not need to be given the prefix mono-.

### Question: 89

In which of the following muscle types are the filaments arranged in a disorderly manner?

- A. Cardiac
- B. Smooth
- C. Skeletal
- D. Rough

**Answer: B**

Explanation:

Smooth muscle tissue is said to be arranged in a disorderly fashion because it is not striated like the other two types of muscle: cardiac and skeletal. Striations are lines that can only be seen with a microscope. Smooth muscle is typically found in the supporting tissues of hollow organs and blood vessels. Cardiac muscle is found exclusively in the heart; it is responsible for the contractions that pump blood throughout the body. Skeletal muscle, by far the most preponderant in the body, controls the movements of the skeleton. The contractions of skeletal muscle are responsible for all voluntary motion. There is no such thing as rough muscle.

### Question: 90

Which hormone is produced by the pineal gland?

- A. Insulin
- B. Testosterone
- C. Melatonin
- D. Epinephrine

**Answer: C**

Explanation:

Melatonin is produced by the pineal gland. One of the primary functions of melatonin is regulation of the circadian cycle, which is the rhythm of sleep and wakefulness. Insulin helps regulate the amount of glucose in the blood. Without insulin, the body is unable to convert blood sugar into energy. Testosterone is the main hormone produced by the testes; it is responsible for the development of adult male sex characteristics. Epinephrine, also known as adrenaline, performs a number of functions: It quickens and strengthens the heartbeat and dilates the bronchioles. Epinephrine is one of the hormones secreted when the body senses danger.

### Question: 91

Which of the following is NOT true for all cells?

- A. Cells are the basic structures of any organism.
- B. Cells can only reproduce from existing cells.
- C. Cells are the smallest unit of any life form that carries the information needed for all life processes.
- D. All cells are also called eukaryotes.

**Answer: D**

Explanation:

Only cells with a membrane around the nucleus are called eukaryotes.

### Question: 92

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What are the two types of cellular transport?

- A. Passive and diffusion
- B. Diffusion and active
- C. Active and passive
- D. Kinetic and active

**Answer: C**

Explanation:

The two types of cellular transport are active (which requires the cell to invest energy) and passive (which does not require the cell to expend energy).

### Question: 93

Which of the following is NOT a state of matter?

- A. Gas
- B. Liquid
- C. Lattice
- D. Solid

**Answer: C**

Explanation:

There are three states of matter: gases, liquids, and solids.

### Question: 94

What is the name for substances that cannot be broken down into simpler types of matter?

- A. Electron
- B. Molecules
- C. Nuclei
- D. Elements

**Answer: D**

Explanation:

An element is a substance that cannot be broken into simpler types of matter.

### Question: 95

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Which of the following is the name for the study of the structure and shape of the human body?

- A. Physiology
- B. Anatomy
- C. Biology
- D. Genetics

**Answer: B**

Explanation:

Anatomy is the study of the structure and shape of the body.

### Question: 96

Which of the following statements correctly describes a similarity or difference between rocks and minerals?

- A. Minerals may contain traces of organic compounds, while rocks do not.
- B. Rocks are classified by their formation and the minerals they contain, while minerals are classified by their chemical composition and physical properties.
- C. Both rocks and minerals can be polymorphs.
- D. Both rocks and minerals may contain mineraloids.

**Answer: B**

Explanation:

It is true that rocks are classified by their formation and the minerals they contain, while minerals are classified by their chemical composition and physical properties. Answer A is incorrect because rocks may contain traces of organic compounds. Answers C and D are incorrect because only minerals can be polymorphs and only rocks contain mineraloids.

### Question: 97

How many basic tissue types does a human have?

- A. 4
- B. 6
- C. 12
- D. 23

**Answer: A**

Explanation:

There are four basic tissue types in humans: epithelial, connective, nervous and muscular.



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### Question: 98

What does aerobic mean?

- A. In the presence of oxygen
- B. Calorie-burning
- C. Heated
- D. Anabolic

**Answer: A**

Explanation:

Aerobic means in the presence of oxygen.

### Question: 99

Which of the following is NOT one of the five major physical properties of minerals?

- A. Chemical composition
- B. Hardness
- C. Luster
- D. Streak

**Answer: A**

Explanation:

Chemical composition is not one of the physical properties used to classify minerals. The five major physical properties used to classify minerals are luster, hardness, cleavage, streak, and form. There is a separate classification system based on the chemical composition of minerals.

### Question: 100

Which of the following factors directly contributes to soil erosion?

- A. Air pollution from cars and factories
- B. Use of pesticides
- C. Deforestation and overgrazing
- D. Water pollution caused by excess sedimentation

**Answer: C**

Explanation:

Overgrazing and deforestation directly contribute to soil erosion by destroying the natural groundcover that normally prevents soil from being washed and blown away. These activities can

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ultimately result in desertification, which renders land unsuitable for agriculture.

### Question: 101

Which of the following is the name for the study of how parts of the body function?

- A. Physiology
- B. Anatomy
- C. Bi0104'
- D. Genetics

**Answer: A**

Explanation:

Physiology is the study of how parts of the body function.

### Question: 102

Which of these minerals would have the lowest score on the Mohs scale?

- A. Gypsum
- B. Fluorite
- C. Talc
- D. Diamond

**Answer: C**

Explanation:

On Mohs scale of mineral hardness, talc has the lowest possible score (a one). Diamond is a ten, which is the highest possible score, and gypsum and fluorite have a score of two and four, respectively. Minerals can always scratch minerals that have a Mohs score lower than their own.

### Question: 103

Which of the following organ systems has the purpose of producing movement through contraction?

- A. Skeletal
- B. Muscular
- C. Cardiovascular
- D. Respiratory

**Answer: B**

Explanation:

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The only purpose of muscles is to produce movement through contraction.

### Question: 104

Which of the following lists several phases of the sedimentary cycle in the correct order?

- A. Erosion, weathering, transportation, deposition
- B. Weathering, erosion, deposition, transportation
- C. Weathering, deposition, erosion, transportation
- D. Weathering, erosion, transportation, deposition

**Answer: D**

Explanation:

Weathering causes erosion, which often leads to transportation and the deposition of eroded material. After the eroded material is deposited in a new location, lithification proceeds and the sedimentary cycle begins anew.

### Question: 105

Water is likely to have the shortest residence time in which of the following types of reservoirs?

- A. A glacier
- B. A lake
- C. A river
- D. The atmosphere

**Answer: D**

Explanation:

Water is likely to have the shortest residence time in the atmosphere. Water molecules linger in the atmosphere for an estimated 9 days, while their residence time in glaciers may range from 20 to 100 years. Water molecules reside in lakes for approximately 50 to 100 years, and they stay in rivers for two to six months.

### Question: 106

When an earthquake occurs, the "shaking" that is observed results directly from

- A. Static deformation.
- B. Seismic waves.
- C. Compression waves.
- D. Continental drift.

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**Answer: B**

Explanation:

When an earthquake occurs, the "shaking" that is observed is a direct result of seismic waves. Seismic waves are powerful sound waves released when slippage between plates occurs. There are two types of seismic waves: primary, or P-waves, and secondary, or S-waves. P-waves move more quickly than S-waves, and create motion that radiates directly outward from the point of origin. S-waves produce a shearing, or side-to-side, motion.

### Question: 107

An atom with an electrical charge is called a(n)

- A. Electron
- B. Ion
- C. Molecule
- D. Enzyme

**Answer: B**

Explanation:

An atom with an electrical charge is called an ion.

### Question: 108

When water changes directly from a solid to a gas, skipping the liquid state, this is called

- A. Evapotranspiration
- B. Condensation
- C. Sublimation
- D. Runoff

**Answer: C**

Explanation:

When water changes directly from a solid to a gas, skipping the liquid state, it is known as sublimation. It typically occurs when snow or ice is exposed to direct sunlight, and it is possible at unusually low atmospheric pressure points.

### Question: 109

What are the two types of measurement important in science?

- A. Quantitative and numerical
- B. Qualitative and descriptive

- C. Numerical and scientific
- D. Quantitative and qualitative

**Answer: D**

Explanation:

The two types of measurement important in science are quantitative (when a numerical result is used) and qualitative (when descriptions or qualities are reported).

### Question: 110

Which of the following is a true statement about the Earth's oceans?

- A. Oceans comprise about 50 percent of the Earth's surface.
- B. The deepest point in the ocean is about 6,000 meters below sea level.
- C. The ocean is divided geographically into four areas: the Atlantic, Pacific, Mediterranean, and Indian.
- D. The ocean's salinity is usually between 34 and 35 parts per thousand, or 200 parts per million.

**Answer: D**

Explanation:

It is true that the ocean's salinity is usually between 34 and 35 parts per thousand, or 200 parts per million. Oceans comprise about 70.8 percent of the Earth's surface, and the ocean's deepest point is over 10,000 meters below sea level. The Mediterranean is considered a sea, not an ocean.

### Question: 111

Approximately 96.5 percent of seawater is comprised of

- A. Hydrogen and sodium
- B. Hydrogen and oxygen
- C. Oxygen and sodium
- D. Chlorine and sodium

**Answer: B**

Explanation:

Approximately 96.5 percent of seawater is comprised of hydrogen and oxygen. Although seawater does contain sodium, chlorine, magnesium, sulfur, and other dissolved solids, its primary components are the same substances that make up fresh water.

### Question: 112

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Which of the below is the best definition for the term circulation?

- A. The transport of oxygen and other nutrients to the tissues via the cardiovascular system
- B. The force exerted by blood against a unit area of the blood vessel walls
- C. The branching air passageways inside the lungs
- D. The process of breathing in

**Answer: A**

Explanation:

Circulation is transporting oxygen and other nutrients to the tissues via the cardiovascular system.

### Question: 113

Which of the following techniques is NOT a radiometric dating process?

- A. Potassium-argon dating
- B. Stratigraphic dating
- C. Uranium-lead dating
- D. Chlorine-36 dating

**Answer: B**

Explanation:

Stratigraphic dating is not a radiometric dating process because it does not consider the radioactive properties of materials to estimate their dates. Instead, it relies on the Law of Superposition to estimate relative ages by comparing the relative depths of materials.

### Question: 114

What is the typical way a solid would turn to a liquid and then to a gas?

- A. Vaporization then melting
- B. Melting then freezing
- C. Vaporization then freezing
- D. Melting then vaporization

**Answer: D**

Explanation:

A solid turns to a liquid by melting, and a liquid turns to a gas by vaporization.

### Question: 115

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Which of the following is an example of an absolute age?

- A. A fossil is 37 million years old
- B. A rock is less than 100,000 years old
- C. An organic artifact is between 5,000 and 10,000 years old
- D. All of the above

**Answer: A**

Explanation:

A fossil that is 37 million years old is an example of an absolute age. Absolute dating, which can be accomplished through the use of radiometric techniques, establishes precise ages for materials, while stratigraphic techniques only produce relative dates. Relative dating can pinpoint approximate ages for rocks and fossils based on clues in the surrounding rock, but it cannot be used to determine absolute age.

### Question: 116

Which of the following is true?

- A. Mass and weight are the same thing
- B. Mass is the quantity of matter an object has
- C. Mass equals twice the weight of an object
- D. Mass equals half the weight of an object

**Answer: B**

Explanation:

Mass is not the same as weight; rather, mass is the quantity of matter an object has.

### Question: 117

Which of the following life forms appeared first on Earth?

- A. Eukaryotes
- B. Arthropods
- C. Prokaryotes
- D. Amphibians

**Answer: C**

Explanation:

Prokaryotes, or simple cells that lack a nucleus, appeared on Earth approximately 3.8 billion years ago. Eukaryotes, or complex cells, emerged 2 billion years ago, and arthropods developed

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about 570 million years ago. Amphibians emerged approximately 360 million years ago.

### Question: 118

Which law of classical thermodynamics states that energy can neither be created nor destroyed?

- A. Zeroth
- B. First
- C. Second
- D. Third

**Answer: B**

Explanation:

The first law of classical thermodynamics states that energy can neither be created nor destroyed. The zeroth law is concerned with thermodynamic equilibrium, and the second and third laws discuss entropy.

### Question: 119

Which organ system includes the spleen?

- A. Endocrine
- B. Lymphatic
- C. Respiratory
- D. Digestive

**Answer: B**

Explanation:

The lymphatic system includes the spleen.

### Question: 120

The formula for calculating kinetic energy is

- A.  $\frac{1}{2} mv^2$
- B.  $\frac{1}{2} mv$
- C.  $\frac{1}{2} mgh$
- D.  $mgv$

**Answer: A**

Explanation:

The formula for calculating kinetic energy is  $\frac{1}{2} mv^2$ , where  $m$  = mass and  $v$  = velocity.











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Kinetic energy is defined as the energy of an object in motion. Potential energy, or stored energy, is measured using the formula  $mgh$ , where  $m$  = mass,  $g$  = gravity, and  $h$  = height.

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