

## PRISON BOWL IX

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### Round 02

#### Tossups

1. This character is described as having eyes “so colorless” that another character “thought he was blind,” and “sickly white hands that had never seen the sun.” This character gives the protagonist of the work in which he appears two soap dolls, two pennies, and a broken watch, hidden in the knothole of a tree. When this character first meets that protagonist, she is dressed as a ham for Halloween, and this character fends off a knife-wielding Bob Ewell, who attacks the protagonist and her brother, Jem. For 10 points, name this reclusive neighbor who fascinates the Finch children in Harper Lee’s *To Kill a Mockingbird*.

ANSWER: **Boo Radley** [grudgingly accept either] <CL>

2. For prokaryotes, this process’s energy is derived from hydrolyzing bonds between GTP and EF-G. One participant in this process binds to A, P, and E sites. During this process, the Watson-Crick base pair rules may be violated by wobble base pairs. This process is usually initiated by the codon AUG, which codes for methionine, and tRNA anticodons sequence to mRNA codons during it. For 10 points, name this biological process where a chain of amino acids are formed from instructions given by mRNA.

ANSWER: **translation** <AT>

3. A 1997 ban on “sticks” at the athletic events of one university was designed to keep out these objects, and in 2001 Jeb Bush touted his order to move one of these objects into a museum. Representative Doug Brannon argued against the display of these objects in 2015 in response to their use by Dylann Roof, which also caused Walmart to stop selling them. Governor Nikki Haley recently signed a bill removing this object from the Capitol grounds in Columbia, South Carolina, and Mississippi is the only state to include this flag in the design of its official state flag. For 10 points, name this symbol known as “the stars and bars” used by seceders from the United States.

ANSWER: **Confederate flag** [accept clear knowledge equivalents; accept **Confederate battle flag**, accept **rebel flag**, accept **stars and bars** before mentioned; prompt on **flag**; do not accept or prompt on “American flag” or equivalents] <CL>

4. This man first gained fame at age 13 for an essay published in a local newspaper and entitled “Enthusiasm and Perseverance.” Later works by this author include “The Attempt of the Infinite Man” and “The Inhabitant and His Hope.” He wrote about an object “girded for battle” which “scale by scale / we undress” in his *Elemental Odes*. In his most famous collection, this man proclaims, “I want / To do with you what spring does with the cherry trees,” and, “Tonight I can write the saddest lines / I loved her, and sometimes she loved me too.” For 10 points, name this recipient of the International Peace Prize and poet of *Twenty Love Poems and a Song of Despair*.

ANSWER: Pablo **Neruda** [accept either part of Neftalí Ricardo **Reyes Basoalto**] <CL>

5. A theme in this work was borrowed from Philip Nicolai’s chorale *Wachet auf*. Mozart arranged a version of this work, replacing the high trumpets from the “Trumpet Shall Sound” aria with french horns. This composition features the alto tenor duet “O Death, where is thy sting?,” and its manuscript featured the dedication “Soli Deo Gloria.” This musical work opens with a Sinfony in French Overture form, and includes a “pastoral symphony” called the *Pifa*. This work’s “ultimate victory” section features the text “And He shall reign for ever and ever.” For 10 points, name this George Frideric Handel oratorio that features a famous “Hallelujah” chorus.

ANSWER: **Messiah** (accept **HWV 56**) <AT>

6. The kiseru is a device used with this plant, and the “Bonsack machine” mass-produced one good using it. The Nazi government funded research against this crop, in contrast to Anthony Chute’s earlier findings. The quitrent and headright system tried to fix labor shortages in areas growing this crop. A monopoly on this crop by James Buchanan Duke spurred namesake “wars” in the early 1900s, and after Dutch traders were banned from shipping this crop, its low prices contributed to Bacon’s Rebellion. Pocahontas’ husband John Rolfe first grew the Spanish type of this plant in Virginia. For 10 points, name this plant fought over in the “cigarette wars”.

ANSWER: **tobacco** [accept **kizami** until “Bonsack”]

7. BKS theory describes the relationship between these objects and electromagnetic fields. Through pair production, one of these objects creates an electron and a positron, and they exert radiation pressure as a consequence of possessing momentum. Represented by sinusoidal waves in Feynman diagrams, these particles undergo Thomson or Compton scattering depending on their energy levels. Ejecting electrons when colliding with metals, these particles with plus-one spin are the carriers of the electromagnetic force. For 10 points, name these particles that are the quanta of light.

ANSWER: **photons** <AT>

8. The composer of this La Nitteti-inspired opera did not use his potpourri overture because of its “pretentious insipidity.” After a declaration of war in this opera, a large portion of the cast sings “alta cagion v’aduna.” An aria from this opera sung by its tenor lead includes a challenging B flat and calls his love “heavenly” or “celeste.” In this opera, Amneris is suspicious that her sister may be in love with the commander-in-chief, but distracts herself with the dance of Moorish slaves. That commander is Radames. For 10 points, which opera, composed by Giuseppe Verdi, premiered in Cairo and follows the title Ethiopian princess?

ANSWER: Aida <CL>

9. The “Tragic Week” of 1909 preceded the creation of this modern-day nation’s Army of Africa. The 1813 battle of Vitoria occurred in this country, and was part of a conflict referred to as an “Ulcer”. This nation’s namesake “Road” extended from Milan to Brussels, and its tercio formations lost at Rocroi. This country fought a namesake war with France, which was ended by the Treaty of the Pyrenees. This nation’s army lost the Eighty Years’ War to the Dutch. The term “guerrilla” stems from the Peninsular War fought primarily in this nation. For 10 points, name this nation whose navy included its namesake Armada.

ANSWER: Spain or Spanish Empire (accept España)

10. A ritual to this deity was established after the head of a demon named Gajasura was cut off in order to be adored by everyone. He once nearly consumed all of the city of Alakapuri until he was given a handful of roasted rice to eat. This deity defeated his brother Kartikeya (“KAR-ti-KAY-a”) in a race to circumnavigate the world three times, but he ran around his parents instead. This god had a human head, but it was cut off by his father Shiva when he tried to prevent entry into his home, where Parvati was taking a bath. For ten points, name this elephant-headed remover of obstacles in Hindu mythology.

ANSWER: Ganesha <JK>

11. Niven’s theorem states that there are only a certain amount of rational solutions to this function. An analog of this function equals  $e$  to the  $x$  minus  $e$  to the negative  $x$  over two, and the derivative of its inverse is equal to one over the square root of one minus  $x$  squared. This function is used in computing the area of a parallelogram, as the magnitudes of two vectors are multiplied by it to find the cross product. It is used to determine the imaginary part in polar coordinates, and its namesake law relates a triangle’s side length to the opposite angle. The reciprocal of cosecant is, for 10 points, which function that relates the opposite side of a triangle to the hypotenuse?

ANSWER: sine <JK>

12. A draft of this poem may have been composed on the back of notes written from research for another of the author’s poems, “Empedocles on Etna,” and this poem opens with auditory images like a “grating roar” and a “tremulous cadence.” Often thought to have been written during the poet’s honeymoon in the title location, this poem remarks that the world “Hath really neither joy, nor love, nor light,” and closes by describing how “ignorant armies clash by night.” For 10 points, name this lyric poem that opens with “The sea is calm tonight,” written by Matthew Arnold.

ANSWER: Dover Beach <CL>

13. Several of this industry’s structures were discussed in the 1910 Potsdam Accord. The Great Program of 1913 and the Plan XVII (17) were dependent on this industry. British “navvies” worked in this industry, which Program Otto expanded east before Operation Barbarossa. In 1993, John Major privatized this industry, which saw the “gauge wars”. George Stephenson built the *Rocket* for this industry, which operated a line from Liverpool to Manchester. For 10 points, name this industry that manufactures things like the Orient Express.

ANSWER: railroad industry (or railroads, accept railway industry, train industry, or any clear knowledge equivalents)

14. Max Ernst replaced this scene’s traditional figures with a self-portrait and his father, dressed in all brown, in a painting subtitled “or Revolution by Night.” Michelangelo based a portrait of Joseph of Arimathea off of himself in a sculpture depicting this scene, *The Deposition*. Another sculpture of this subject features Michelangelo’s only signature, located across a sash. This subject is, along with the *Mater Dolorosa* and *Mater Stabat*, one of three traditional depictions of a sorrowful Virgin Mary. For ten points, name this common subject of painting and sculpture which depicts Mary cradling the dead body of Jesus.

ANSWER: Pieta [prompt on Mary with the body of Jesus and similar answers] <CC>

15. The Drude Model first analogized electrons to these objects. When applied to these objects, the virial equation will reduce to  $Z$ , the compressibility factor. The kinetic energy of these objects can be found by multiplying three-halves by Boltzmann’s constant and their absolute temperature. These objects, which follow the Maxwell-Boltzmann distribution, have particles that engage in perfectly elastic collisions, exert no forces on each other, and are assumed to be small, hard spheres. For 10 points, name these objects that are governed by a namesake equation, which sets  $PV$  equal to  $nRT$ .

ANSWER: ideal gases (prompt on gases) <AT>

16. This singer of the song “Momentous Day” is also the subject of a popular Facebook page that combines him with Brock from Pokémon. This man says the line “I’m forty seven percent through kicking your ass” while doing a spinning kick in a rap battle, and was the namesake of a several fried chicken restaurants. A YouTube channel titled this man’s “dubs” features clips from his speeches set to pop songs like “Call Me Maybe.” A *Key and Peele* sketch features this man’s “anger translator.” Parodies of this man frequently feature him saying “uh,” “let me be clear,” and “my fellow Americans.” For 10 points, name this current President of the United States.

ANSWER: Barack Hussein Obama II <AT>

17. This man said that perception is always incomplete, unlike the title concept of his book *The Imaginary*. He described two soulmates, Eve and Pierre, who only meet in death in *The Chips are Down*. He wrote an adaptation of the Electra myth in which Zeus’ worshippers are ashamed of their humanity, *The Flies*, as well as a work about Antoine Roquentin’s belief that inanimate objects affect his ability to define himself causing him to experience the title phenomenon, *Nausea*. He coined the phrase “existence precedes essence” and a work by this man features Estelle, Ines, and the line, “Hell is other people.” For 10 points, name this existentialist author of *No Exit* and *Being and Nothingness*.

ANSWER: Jean-Paul (Charles Aymard) Sartre <CL>

18. Julia Tuttle is known as the “Mother of” this city, the only major one in the United States founded by a woman. The Homestead Air Reserve Base lies south of this city. A garish animatronic Red Grooms sculpture in this city recently drew controversy, and this city contains neighborhoods such as Coconut Grove and the Venetian Islands. The Calle Ocho Festival is hosted in this city each year, and it is bordered by Biscayne Bay to the east. For ten points, name this city with a large Cuban-American population in Little Havana, the largest city in South Florida.

ANSWER: Miami <SB>

19. This river is shown on the right half of the Beatus (“BEE-uh-tuss”) Map. Djed columns were first built along this river, which has the Hall of Ancestors along its shores. A British expedition travelled down this river and won the battle of Omdurman at its main fork in 1898. The kingdom of Kush controlled Gebel Barkal along this river, which flowed through the Nubian capitals of Napata and Meroe. Napoleon’s army won a battle along this river in 1798, while his fleet lost another battle near its delta at Aboukir Bay. For 10 points, name this river on which the Old Kingdom of Egypt was centered.

ANSWER: Nile River

20. A poem by this author titled “The Portrait of a Child” asks, “Young angel, lately given, / When was thy martyrdom achieved?” and wrote the poetry collections *The Legend of the Ages* and *Les Contemplations*. This man wrote about a woman whom Clopin tries to save; that character marries Pierre Gringoire and has her right of sanctuary removed. In addition to writing about a woman lusted after by Frollo, this author wrote about a girl who is left at Montfermeil with the Thenardiers. That girl appears in a work in which Inspector Javert pursues Jean Valjean. For 10 points, name this author of *Les Miserables*.

ANSWER: Victor Hugo <CL>

TB. In this battle, Abner Doubleday was forced to take command following his commander’s death at the hands of an enemy bullet. That commander was John Reynolds, who led his First Corps to relieve cavalry forces under John Buford. During this battle, Lewis Armistead valiantly led his brigade to the “high water mark of the Confederacy” when he broke through enemy lines near the “bloody angle”. This battle culminated on its third day when a Confederate frontal assault on Union positions was repulsed, an event called Pickett’s Charge. For ten points, name this July 1863 Civil War battle in Pennsylvania, a decisive victory for Union forces under General Meade.

ANSWER: Battle of Gettysburg

### Bonuses

1. The Franciscan friar Junipero (“HOO-knee-peh-row”) Serra built several of these buildings in California along The King’s Highway. For 10 points each:

[10] Name these religious outposts often made of adobe and painted white, which were used to convert Native Americans and control land. The Alamo was one of them.

ANSWER: missions

[10] Missions in the US were built by missionaries of this empire, which negotiated the Adams-Onís treaty and Pinckney’s Treaty with the US before it lost control of Mexico.0Z

ANSWER: Spain or the Spanish Empire

[10] This Spanish labor system used in colonization relied on indigenous leaders to mobilize labor and tribute from within a portion of the local population. Bartolome (“bar-TO-lo-may”) de las Casas specifically condemned this system.

ANSWER: encomienda

2. One type of this work says, "I knows one [beautiful] thing [about] myself. I [can] [accomplish] anything I [lay] my mits [upon]." For 10 points each:

[10] Name this type of work, examples of which include *Olaudah Equiano* and *The Underground Railroad Records*. They consist of written accounts by certain Africans in places like Great Britain and the United States.

ANSWER: **slave narrative** [prompt on "**slave** books" and equivalents]

[10] In his slave narrative, this memoirist writes about being sent to live with Master Thomas Auld, who proved to be extremely cruel. This man eventually escaped from slavery and became an abolitionist leader.

ANSWER: Frederick **Douglass**

[10] This narrative describes how the author, born a freeman in Saratoga, New York, was kidnapped and sold into slavery. While on Edwin Epps's plantation, the narrator befriends a slave girl named Patsey.

ANSWER: ***12 Years a Slave*** <RY>

3. The Wadjet was an important symbol in Egyptian mythology. Name some stuff about it, for 10 points each:

[10] The Wadjet is typically associated with this body part of Ra, which represented the sun. One of these body parts, which was torn out and restored by Thoth, is also often conflated with the Wadjet.

Answer: **eye**

[10] This god, whose eye was torn out by his rival Set, later defeated Set in a stone boat race in order to claim the pharaohship of Egypt. He was the son of Osiris and Isis.

Answer: **Horus**

[10] On the pschent, or double crown of Egypt, Wadjet is represented as a cobra along with Nekhbet, a patron of Upper Egypt which was depicted as this kind of animal.

Answer: **vulture** <JK>

4. The thrilling stakes of gambling has certainly inspired many artists. For 10 points each, answer some stuff about painters who depicted card-playing in their works.

[10] This Post-Impressionist French artist painted a series of five paintings known as *The Card Players*. This artist of *The Bathers* painted his still-lives using what he called "constructive brushstrokes."

ANSWER: Paul **Cézanne**

[10] An iconic series of sixteen oil paintings first created to advertise cigars features anthropomorphized versions of these animals playing poker. One of these animals cheats by holding a card under a table with his foot.

ANSWER: **dogs** (accept specific breeds or *canis lupis familiaris*, accept ***Dogs Playing Poker***)

[10] This American artist painted the *Dogs Playing Poker* series. His paintings became well-known due to their depictions of working-class taste in home interiors.

ANSWER: C.M. **Coolidge** (or Cassius Marcellus **Coolidge**, accept Kash **Koolidge**) <AT>

5. One of this author's novels begins, "Once upon a time and a very good time it was there was a moocow coming along the road," and that moocow later meets a "baby tuckoo." For 10 points,

[10] Name this author who wrote about the moocow from the perspective of the child Stephen Dedalus in his novel *A Portrait of the Artist as a Young Man*.

ANSWER: James **Joyce**

[10] This work of Joyce's refers to its protagonist by his initials, HCE, and its last sentence is a fragment which leads back to the sentence fragment that opens it, making a loop.

ANSWER: ***Finnegan's Wake***

[10] *Finnegan's Wake* is written largely in an experimental language invented by Joyce, which includes this onomatopoeic word. This word was meant to represent the cry of a seagull, and was later borrowed by particle physicists to name a 1964 model.

ANSWER: **quark** <LT>

6. The Elizabethan Religious Settlement denounced this doctrine, stating that "feast[ing] upon [a friend's] living flesh and blood" is "barbarous." For 10 points:

[10] Name this change that causes the bread and wine used in the Eucharist to be turned into the body and blood of Jesus Christ.

ANSWER: **transubstantiation**

[10] During this famous final meal of Jesus, he stated, "This is my body" while holding bread. During this event, Jesus predicts his betrayal by Judas Iscariot.

ANSWER: The **Last Supper**

[10] In his book *Confessions Concerning Christ's Supper*, Luther claimed the existence of this relationship, the inseparable joining of the sign of a sacrament to its deeper meaning. It is often mistakenly called consubstantiation.

ANSWER: **sacramental union** <GA>

7. This work classifies *The Marriage of Figaro*, *The Magic Flute*, and *Don Giovanni* as three stages of the musical-erotic based on the attitudes toward seduction in those works. For 10 points:

[10] Name this publication featuring the ethical Judge Vilhelm, who tries to convince the hedonistic 'A' to live more responsibly.

ANSWER: **Either/Or**

[10] *Either/Or* is a work by this Danish thinker, widely considered to be the first existentialist philosopher.

ANSWER: Soren Aabye **Kierkegaard**

[10] This other work by Kierkegaard analyzes Abraham's psyche as he prepares to sacrifice Isaac. In it, Abraham transitions from being in infinite regression to being a knight of faith.

ANSWER: **Fear and Trembling** <AT>

8. After being shortlisted for the Man Booker Prize three times, he finally won in 1982. For 10 points each:

[10] Name this author of *Confederates* and *Gossip from the Forest* and *The Chant of Jimmie Blacksmith*, the latter of which was made into a movie in which he acted. His most famous work was inspired by Poldek Pfefferberg.

ANSWER: Thomas (Michael "Mick") **Keneally** [grudgingly accept "Mick" **Keneally**]

[10] Keneally's most famous work is this book concerning a man named Oskar who saved a multitude of Polish Jews from the Holocaust. It was later adapted into a Steven Spielberg film.

ANSWER: **Schindler's Ark** (accept **Schindler's List**, the name of the American release)

[10] Keneally hails from this country, and advocated for the abolishment of its monarchy in *Our Republic*. Another author from this country wrote about two gamblers in the novel *Oscar and Lucinda*.

ANSWER: Commonwealth of **Australia** <CL>

9. When particles in a substance become aligned with respect to this property, the substance will exhibit magnetism. For 10 points:

[10] Name this property possessed by elementary and composite particles. It has been analogized as a form of "intrinsic angular momentum".

ANSWER: **spin**

[10] These particles are classified by their integer spins. Examples of these types of particles include the four force-carrying gauge ones in the Standard Model.

ANSWER: **bosons**

[10] This doubly-eponymous experiment demonstrated the quantum nature of spin by firing silver atoms through a magnetic field. Atoms were deflected in specific amounts, suggesting a discrete spectrum of possible spin values.

ANSWER: **Stern-Gerlach** experiment <AT>

10. Rulers with this title may have been from the Abbasid, Umayyad, or Rashidun dynasties. For 10 points each:

[10] Name this title which refers to a leader as a political and religious successor of Muhammad.

ANSWER: **caliph** [do not accept "imam"]

[10] During the Umayyad Caliphate, the caliph resided in this dynastic capital. This city was also the capital of the colonial State of Syria under French rule.

ANSWER: **Damascus**

[10] These semi nomadic cattle herders are led by sheikhs ("shakes"), and occasionally revolted against the caliph throughout history. They live throughout Arabia and Syria in tents, and sometimes several tents travel together in a ghum.

ANSWER: **Bedouins** <CL/RN>

11. Name some stuff about the life cycles of stars, for 10 points each:

[10] After a star undergoes supernova, it may eject substantial quantities of gas in a large radius, therefore becoming one of these objects. The Eagle one of these entities contains the "Pillars of Creation."

ANSWER: **nebulae** (accept specific types like planetary **nebulae**)

[10] If a star doesn't have enough mass to sustain hydrogen-1 fusion, it will become one of these bodies. Despite their name, they actually appear pink to the human eye.

ANSWER: **brown dwarfs** (prompt on **dwarfs**)

[10] During the majority of their lives, most stars lie in this linear region on the H-R diagram, which directly correlates luminosity and color. Red dwarfs lie in this region, while white dwarfs don't.

ANSWER: **main sequence** (accept **main-sequence** stars) <DM/AT>

12. Champions of this art form include Christian Dior and Valentino, and it differs from ready-to-wear clothing in that it is made from unusual fabrics and is not usually for sale. For 10 points:

[10] Give this name for the creation of extremely custom, detailed clothing. It means “high dressmaking” in French.

ANSWER: **haute couture** (prompt on **couture**)

[10] This couture designer is famous for shows such as Widows of Culloden, which featured a life-sized hologram of model Kate Moss, and his signature armadillo heels worn by Lady Gaga. He committed suicide in 2010.

ANSWER: Alexander **McQueen**

[10] This other fashion house is a frequent participant in the haute couture scene, though its namesake founder achieved fame for designing an affordable “little black dress.” Its “No. 5” perfume is still sold today.

ANSWER: **Chanel** (accept Coco **Chanel**)

13. These albums are the cream of the crop, at least according to a certain “Most Trusted Voice in Music.” For 10 points each, name these albums with a perfect 10.0 rating on Pitchfork.com.

[10] This Beatles album features “Here Comes the Sun” and “Come Together.” Pitchfork critic Mark Richardson said “there’s not a duff note on the damn thing,” before slapping a 10 on its iconic cover, a photograph of the four band members crossing a street.

ANSWER: **Abbey Road**

[10] This sophomore Neutral Milk Hotel album garnered a cult following as a staple of 90s lo-fi rock. Written after lead singer Jeff Mangum read The Diary of Anne Frank, it includes the songs “Holland, 1945” and “Two-Headed Boy.”

ANSWER: **In the Aeroplane Over the Sea**

[10] Every single song on this 2010 Kanye West album is explicit, but that didn’t stop Pitchfork from praising its “vulnerability” and “flawed honesty.” It spawned singles like “All of the Lights,” “POWER,” and “Monster.”

ANSWER: **My Beautiful Dark Twisted Fantasy** <LG>

14. These diagrams plot pressure on their y-axes and temperature on their x-axes. For 10 points:

[10] Name these diagrams that show lines of equilibrium for the three states of matter of a substance.

ANSWER: **phase** diagrams

[10] This point on a phase diagram mark where the boundary between liquids and gases ceases to exist. Substances in conditions which correspond to this location on a phase diagram will form superfluids.

ANSWER: **critical** point

[10] The phase diagram of water’s solid-liquid boundary has this unique property. This property is present because water is denser as a liquid than as a solid.

ANSWER: **negative slope** (accept clear knowledge equivalents) <AT>

15. One of its poems is titled “To the Reader.” For 10 points each:

[10] Identify this most famous poetry collection by Charles Baudelaire. It falls into both the symbolist and the modernist movements and is split into six sections.

ANSWER: **Les Fleurs du Mal** [accept **The Flowers of Evil**; do not accept “The Bad Flowers”]

[10] *Les Fleurs du Mal* includes a poem named for this bird, a “winged voyager,” which laments, “So beautiful before, now comic and ugly!” One of these birds, hailed as a “Christian soul,” is shot in “The Rime of the Ancient Mariner.”

ANSWER: The **Albatross** [accept **L’Albatros**]

[10] This first section of *Les Fleurs du Mal* includes “To the Reader” and “The Albatross,” along with “Elevation,” “The Head of Hair,” and “Benediction.”

ANSWER: **Spleen and Ideal** [accept **Spleen et Idéal**] <CL>

16. He engineered the Great Leap Forward and his sayings were collected in the Little Red Book. For 10 points each:

[10] Name this leader, a founder of the People’s Republic of China and Chairman of the Chinese Communist Party.

ANSWER: **Mao** Zedong

[10] Policy following the Great Leap Forward put this economic sector “First,” and it accounted for half of China’s output when Communists took power. Competitions between communes encouraged activity in this sector.

ANSWER: **agriculture** [accept **farming** or other clear knowledge equivalents]

[10] This group was prominent during the Cultural Revolution and included Jiang Qing (“jee-AHNG ching”), Chairman Mao’s wife. Later, it faced charges of being a counter-revolutionary force.

ANSWER: **Gang of Four** <CL>

17. John Exner developed a popular method of scoring this psychological test. For 10 points each:

[10] Identify this test in which a subject is shown ten symmetrical inkblots, named after the Swiss psychologist who invented it.

ANSWER: **Rorschach** inkblot test

[10] The Rorschach inkblot test is this kind of test in which a subject responds to ambiguous stimuli, revealing unconscious attitudes or emotions. It is contrasted with “objective” tests measured against a universal standard.

ANSWER: **projective** test

[10] This other psychological test measures four aspects of personality and is widely used as a tool in the corporate world. The types measured by this test are expressed as four letter combinations, such as ENTJ or ISFP.

ANSWER: **Myers-Briggs** type indicator <CC>

18. If you hope to play an instrument in anywhere other than the confines of your own home, you better know these musical terms! For 10 points each:

[10] This musical direction indicates a gradual increase of loudness in a piece of music. It’s frequently signified by a sideways “V.”

ANSWER: **crescendo**

[10] This symbol indicates that a note should be held longer than its value would indicate. Its symbol is a dot enclosed by an upside-down semicircle above the note.

ANSWER: **fermata** (prompt on **hold** or **pause**)

[10] This tempo marking indicates that the corresponding section of music can be sped up or slowed down, at the discretion of a soloist or conductor. This phrase comes from the Italian for “stolen time.”

ANSWER: tempo **rubato** <AT>

19. This Agricultural Revolution technique included the three-field system. For 10 points each:

[10] Name this ancient method of switching plants between plots of land to replenish nitrogen. Charles Townshend reintroduced it to England in the 1800s.

ANSWER: **crop rotation** (or **cover cropping**, accept word forms)

[10] The Levellers and Diggers wanted to reverse this movement, which was opposed to the open-field system and the copyhold system. Parliament formalized this movement during the Agricultural Revolution.

ANSWER: **enclosure** movement

[10] In Ireland, the monoculture of this crop and lack of crop rotation caused a namesake famine in 1848.

ANSWER: **potatoes** <GA>

20. This theory is contrasted with the phyletic gradualism theory. For 10 points:

[10] Name this theory which states that rapid changing in species occurs in geologically short periods of cladogenesis, interspaced by long absences of net change.

ANSWER: **punctuated equilibrium**

[10] Punctuated equilibrium and gradualism both describe this phenomenon, where the traits of a population change over successive generations. Charles Darwin first proposed that this phenomenon occurs via natural selection.

ANSWER: **evolution**

[10] During the equilibrium period in the punctuated equilibrium model, allele frequencies will remain constant, as per this principle. This principle designates genotypic proportions as  $p^2$ ,  $2pq$ , and  $q^2$ .

ANSWER: **Hardy-Weinberg** principle (accept **Hardy-Weinberg** equilibrium, model, theorem, or law) <AT>

TB. The ratio of this force to the normal force equals its namesake coefficient, which is frequently denoted as  $\mu$ . For 10 points each:

[10] Name this force that opposes motion. Objects acted upon by this non-conservative force will lose energy in the form of heat, and its static form is usually greater than its kinetic form due to the formation of chemical bonds.

ANSWER: **friction** (prompt on **drag** or **air resistance**, accept specific forms of friction like dry **friction**, fluid **friction**, etc.)

[10] This term describes the steepest angle at which a granular material can be piled without the pile slumping. The tangent of this angle approximately equals the coefficient of static friction.

ANSWER: critical **angle of repose** (accept **repose angle**)

[10] Amontons’ First Law states that increases in this quantity won’t actually cause two objects to have more friction, contrary to popular misconception. This is because larger values of this quantity will decrease pressure.

ANSWER: **area** of contact (accept surface **area**, or any other clear knowledge equivalents) <AT>