

ILLIAC -- ILLinois Academic Competition -- Round 11

1. **This thinker argued that as long as companies remain within the rules, they should only work to maximize profits of shareholders in a formulation of his namesake “doctrine.” This economist used Morgenstern and Von Neumann’s analysis of consumer units participating in both gambling and insurance to develop restrictions on an expected-value utility function in a (*) paper co-written with L.J. Savage. This economist argued that the money supply should be increased at a constant rate “k” per year and that economic freedom is a necessary step for political freedom. *Capitalism and Freedom* is written by, for 10 points, what founder of the Chicago school of economics?**

ANSWER: Milton Friedman

< Ethan Ashbrook / Michael Etzkorn | *Social Science* >

2. **In a work titled after a person related to this character, the protagonist gives c-sections to a rabbit that he had hit with his truck in the episode “Emergency.” In addition to a collection by Denis Johnson titled after this character’s “Son,” J.M. Coetzee wrote about “The Childhood” and “The Schooldays” of this character. A shepherd tries to convince this character to have sex with a sheep in a novel by (*) Jose Saramago. This character is called the “mad philosopher” by Pontius Pilate in the Master’s novel from *The Master and Margarita*. For 10 points, name this character who builds crosses for Jewish martyrs in a Nikos Kazantzakis novel where he is eventually crucified himself.**

ANSWER: Jesus Christ [accept either underlined portion; accept logical equivalents like Son of God or the Messiah]

< Ethan Ashbrook | *Misc Literature* >

3. **This property is exhibited by the irrational arguments of Thomae’s function, but not by the rational arguments. A function does *not* have this property if it has a non-zero oscillation. Bijective functions are homeomorphic if they have this property. The Weierstrass function has this property (*) everywhere but is differentiable nowhere. A function must reach all values in a range if it has this property according to the Intermediate Value Theorem. A function has this property at (*read slowly*) x equals a if f of a equals the limit of f of x as x approaches a . Polynomials exhibit, for 10 points, what property of a function that has no “jumps” or “holes?”**

ANSWER: continuity [or continuous]

< Iain Carpenter | *Other Science - Math* >

4. **People from this place were hired for low-wage jobs by Castle Barton Associates in Chicago before starting riots on Division Street a week after Richard Daley declared a national week for people from this place. Governor Rexford Tugwell helped organize urbanization in this place. After World War II, a series of economic reforms in this place were called Operation (*) Bootstrap. Bonds from this place were exempted from taxes by the Jones-Shafroth Act which also granted citizenship to people from this island. Residents of this island can vote in primary elections, but are not given electoral votes in presidential elections. For 10 points, name this U.S. commonwealth in the Caribbean.**

ANSWER: Puerto Rico

< Michael Etzkorn / Jonathan Lau | *US History* >

5. A symphony by this composer unusually emphasizes the third rather than the tonic note in its namesake E-minor chord; that symphony by this composer omits violins, violas, and clarinets (pause) and commemorates the 50th anniversary of the Boston Symphony Orchestra. A through-composed ballet by this composer features a Berceuse (*bur-sooze*) and a 7/4 finale; that ballet starred (*) Tamara Karsavina at its premiere. During his neoclassical period, this composer wrote *Symphony of Psalms*. Koschei the Immortal performs the “Infernal Dance” under the influence of the title avian in a ballet by this composer. For 10 points, name this Russian composer of *The Firebird*.

ANSWER: Igor Fyodorovich **Stravinsky**

< Dylan Bowman | *Music* >

6. One character in this novel gained several scars on his back from his time working as a waiter. Another character in this novel murders two nuns collecting shrimp and claims that one can acquire good luck by burying live puppies in cement. The protagonist of this novel remembers a moth “chattering away” against a light bulb at his birth and believes that he is the father of Maria’s son Kurt. (*) In this novel, the protagonist’s father chokes on a pin, after Nazis had earlier captured Jan Bronski. The protagonist of this novel finds the finger of Sister Dorothea in a field, stopped growing at the age of three, and can shatter glass with his voice. For 10 points, name this novel about Oskar Matzerath, written by Günter Grass.

ANSWER: *The **Tin Drum*** [or *Die **Blechtrommel***]

< Mitch McCullar | *Long-Form Fiction* >

7. Accidentally oversleeping and forgetfulness are the only permissible reason for performing the *qada* (*kad-zuh*) form of this practice. According to the Hanbali *madhhab*, failure to perform the *fard* form of this practice renders one a non-Muslim. A special type of this practice known as *Jumu’ah* (*JOO-moo-ah*) takes the place of the *Zuhr* form of this practice on Fridays. Reciting the (*) *takbir* accompanies most prescribed movements in this practice. This practice, which takes place in cycles called *rakats*, is signalled with the *adhan* by muezzins. This practice is done while facing the *qibla*, with the chest facing the Kabba. For 10 points, name this practice performed five times a day by Muslims at mosques.

ANSWER: **salat** [accept **salah**; prompt on prayer and divine worship with “What more specific practice?”]

< Ethan Ashbrook | *Religion* >

8. Patients with this disease helped to first isolate the bacteria *Bur-khol-deria Cepacia*. After asthma, people with this disease are the most likely to contract ABPA from *Asper-gill-us* spores. The earliest symptom of this disease is blockage of an infant’s first stool known as meconium ileus. In two-thirds of patients, this disease results from a deletion of (*) phenyl-ala-nine 508 in an ABC transport protein that normally assists in the reuptake of chloride. Ion-to-phoresis measures the levels of chloride in a sweat test for this autosomal recessive disease. For 10 points, name this disease characterized by scars on the pancreas and mucus build up in the lungs.

ANSWER: **cystic fibrosis** [accept **CF**]

< Michael Etkorn | *Biology* >

9. **One of these locations is the site of an artwork where scrolling messages in red like “There was blood” and “I don’t wait” is evenly interspersed between blue LEDs. In addition to a Jenny Holzer work titled *Installation* for one of these locations, viewers are encouraged to walk among the different metal shapes in Richard Serra’s installation *A Matter of Time* located at that same location. One of (*) these locations in New York City was designed with a spiral staircase encouraging attendees to start at the top and walk down. Glass, titanium and limestone tile the outside of the Bilbao one designed by Frank Gehry. For 10 points, name these museums which include a New York City one designed by Frank Lloyd Wright.**

ANSWER: **Guggenheim** Museums [prompt on art museum; do **NOT** accept or prompt on “modern art museum”

< Iain Carpenter / Michael Etzkorn | *Other Fine Arts* >

10. **This author wrote a manifesto criticizing a government for adopting a “system of tolerance” after their defeat in a war following the Battle of La Victoria. A “by any means possible” war strategy was implemented by this leader as he claimed that he would continue to fight until his death in a letter to Henry Cullen sent from (*) Jamaica. This general issued the Decree of War to the Death during the Admirable Campaign. This man toasted himself for a banquet to celebrate a meeting in Guayaquil about Ecuadorian independence. He was the first and only president of Gran Colombia. For 10 points, name this Venezuelan general who liberated much of South America.**

ANSWER: Simón **Bolívar** (the first sentence are the Cartagena Manifesto)

< Michael Etzkorn | *Non-Euro, Non-Commonwealth* >

11. **This scientist’s namesake unit is defined as a mole of photons. This scientist created a notational system where repeated indices on covariant and contravariant vectors imply summation. Birkhoff’s theorem states that spherically symmetric solutions to this man’s namesake equations asymptotically approach Karl (*) Schwarzschild’s solution to them. This physicist argued that it is impossible to differentiate between accelerating reference frames and uniform gravitational fields in his formulation of the equivalence principle. For 10 points, name this physicist who names a set of ten field equations that describe his theory of general relativity.**

ANSWER: Albert **Einstein**

< Iain Carpenter | *Physics* >

12. **A poem titled for one of these objects ends “what had has gone” since “[one of these objects] took all.” One of these objects is described as a “creature of cleaving wing” in a poem about an “Immanent Will” urging its meeting with an enemy. In addition to Tagore’s poem about a (*) golden one, a poem about one of these objects describes an event that “jars two hemispheres,” and describes its “sinister mate” in the “Shape of Ice.” A “drunken” one of these vehicles narrates a poem by Arthur Rimbaud. Thomas Hardy’s poem “The Convergence of the Twain” describes the meeting between, for 10 points, what kind of vehicle with an iceberg?**

ANSWER: **boats** [accept logical equivalents like **ships**; accept “The Golden **Boat**”; accept “The Drunken **Boat**”; accept the *RMS Titanic*]

< Mitch McCullar | *Non-Epic Poetry* >

13. In a work discussing Indian independence, one thinker from this country argued that only love could free Indians from colonization. Another thinker from this country predated altruism by arguing that the title concept required socializing and was a contributing “factor of evolution.” In addition to those authors of “A Letter to a Hindu” and *Mutual Aid*, this country was home to an (*) anarchist thinker who criticized Christianity in his book *God and the State*. Another thinker from this country defined imperialism as the final stage of capitalist development. For 10 points, name this home country of Peter Kropotkin and Mikhail Bakunin, and Vladimir Lenin.

ANSWER: **Russia** [accept **Soviet Union** or **Union of Soviet Socialist Republics**; accept **Russian Empire**] (“A Letter to a Hindu” was written by Leo Tolstoy)

< Brad McLain | *Philosophy* >

14. This politician said that the “first duty of any Government” is “to guarantee the survival of our way of life” in the “Britain Awake” speech. During this leader’s tenure, a confrontation between picketers and policemen occurred at a coking plant in Orgreave. A disagreement over a helicopter company led to the resignation of this leader’s defense minister (*) Michael Heseltine. This leader was the target of a bomb Patrick Magee placed in the Grand Brighton Hotel. While Education Secretary, this leader cut a program that provided free milk to children above the age of 7, leading her to be nicknamed “milk snatcher.” For 10 points, name this British Conservative Prime Minister known as the “Iron Lady.”

ANSWER: Margaret Hilda **Thatcher**, Baroness Thatcher

< Mitch McCullar | *Classics, British or Commonwealth, Other* >

15. This technique is used in conjunction with the unmodified Benesi-Hildebrand method to determine association constants. In a method for predicting the maximum signal of this technique, hetero-annular di-enes start out at a value of 214 and increments of 30 are added for every double bond extending conjugation. The results of this technique are predicted by the Woodward-Fieser rules. An (*) unknown concentration can be obtained in this technique by placing the analyte into a cuvette. Then, one can use a known extinction coefficient to apply Beer’s law to the measured absorbance. For 10 points, name this form of spectroscopy that uses two forms of light whose energy is slightly higher than infrared.

ANSWER: **spectrophotometry** [or **UV-Vis Spectroscopy** | spectrophotometry; or **Ultraviolet-Visible spectroscopy** | spectrophotometry] < Michael Etzkorn | *Chemistry* >

16. This artist painted a floating head of Karl Marx choking an eagle with the head of Uncle Sam in the background of *Marxism will give health to the sick*. A bed is placed on a desolate plane with industrial buildings in the background of a painting by this artist where (*) a baby floats above the central figure while she cries. This artist’s *Henry Ford Hospital* was inspired by a miscarriage. This artist painted a self-portrait with corn in the background with a parrot resting on her shoulder as she holds a monkey. For 10 points, name this Mexican artist of many self-portraits which iconically feature her thick eyebrows.

ANSWER: Frida **Kahlo** (de Rivera) [or Magdalena Carmen Frida **Kahlo** y Calderón; do **NOT** accept or prompt on “Rivera”]

< Michael Etzkorn | *Painting and Sculpture* >

17. After leaving Wall Street, this person started a company originally named Cadabra, Inc. That company's name was changed after rejecting other proposals like "Relentless." This CEO established Nash Holdings in order to purchase a company founded by Stilson Hutchins. This person tapped Bob Smith to lead the space-exploration company (*) Blue Origin. This CEO's affair with news anchor Lauren Sanchez was discovered after the January 2019 announcement of this man's intent to divorce his wife. In 2017, this CEO surpassed Bill Gates to become the wealthiest man in the world. For 10 points, name this owner of the Washington Post and founder of Amazon.

ANSWER: Jeff(rey) Preston Bezos [accept Jeff(rey) Preston Jorgensen]

< Sarod Nori | *Current Events* >

18. One character in this play mocks another by constantly repeating the phrase "oh, what a stroke, won't you come to the rescue?" which receives a response of castanets. Another character in this play is accused of eating all the loaves of bread, fish, and cheese at a tavern shortly after putting on a costume. In this play, a man suggests multiple ways for the protagonist to kill himself, but instead he opts to cross a lake. This play's main character keeps (*) trading a Heracles outfit with his servant, Xanthias, and eventually decides to bring Aeschylus with him from the Underworld. For 10 points, name this play about Dionysus whose title characters chant "Brekekekex-koax-koax," written by Aristophanes.

ANSWER: *The Frogs* [accept *Batrachoi*]

< Ethan Ashbrook | *Drama* >

19. In the papal bull *Ad extirpanda* concerning one of these institutions, Pope Innocent IV called certain people "murderers of souls as well as robbers of God's sacraments." One of these institutions in Goa was established on the request of Francis Xavier. Public events held by one of these institutions involved the forced wearing of pointed capirote (*) hats. Tomas de Torquemada led one of these institutions established by Ferdinand and Isabella. The author of *Dialogue Concerning the Two Chief World Systems* was a victim of a Roman one of these institutions. For 10 points, name these institutions created by the Catholic Church that persecuted heretics like Galileo Galilei.

ANSWER: Inquisition [accept the Spanish Inquisition]

< Mike Hu | *Continental Europe* >

20. One of these figures cursed Dagr to only eat dead animals in the woods after Dagr killed Helgi. One of these figures was rescued from a castle surrounded by a wall of shields and wears armor that has grown into the skin. Some of these figures' armor is said to cause the (*) aurora borealis. One of these figures quarrelled with Gudrun over who had the better husband and was the mother of Aslaug. These figures included the wife of Gunnar who a disguised Siegfried rescued from a ring of fire; that member is Brunhilde. For 10 points, name these Norse female spirits who guide dead heroes to Valhalla.

ANSWER: valkyries [prompt on choosers of the fallen]

< Ethan Ashbrook | *Mythology* >

BONUSES:

1. This man's namesake dyke marked the Mercia-Powys (*POH-wiss*) border. For 10 points each:

[10] Name this king of Mercia and successor of Æthelbald. His wife, Cynethryth (*si-nuh-TRITH*), is the only Anglo-Saxon woman to have coinage issued in her name.

ANSWER: **Offa**

[10] This other Anglo-Saxon, a king of Wessex, is one of two kings of England to have the epithet "the Great." This man, who is not Canute, defeated the Vikings at the Battle of Edington.

ANSWER: **Alfred** the Great

[10] The Anglo-Saxon kingdoms were part of this group. The conflict between the kingdoms in this group continued until Æthelstan's (*eh-thell-STEN*) unification of England.

ANSWER: **Heptarchy**

< Sarod Nori | *Classics, British or Commonwealth, Other* >

2. This style of singing is exemplified by the Queen of the Night. For 10 points each:

[10] Name this Italian word that describes an ornamental style characterized by virtuosic leaps and trills.

ANSWER: **coloratura**

[10] The Queen of the Night is a coloratura soprano in this Mozart opera, where she sings high F6 notes in the aria "Der Hölle Rache" (*dare her-luh rah-kuh*).

ANSWER: *The **Magic Flute*** [or *Die **Zauberflöte***]

[10] Mozart wrote this coloratura aria into *Così fan tutte* because he knew Adriana Ferrarese's neck moved with the notes and he wanted to see her head "bob like a chicken" on stage.

ANSWER: **Come scoglio** (*koh-me skoh-lyoh*) [prompt on "I am like a rock"]

< Dylan Bowman | *Music* >

3. These ions become more stable with increasing alkyl substituents. For 10 points each:

[10] Name this type of ion that serves as an intermediate in SN1 reactions.

ANSWER: **carbocation** (*carb-OH-cat-"ion"*)

[10] Because a carbocation has three bonded pairs of electrons and no lone pairs, it's sp²-hybridized and takes on this planar geometry.

ANSWER: **trigonal** planar [prompt on planar]

[10] This concept is likely the reason that carbocations are more stable when more alkyl substituents are added. This interaction occurs between sigma bonds to hydrogens on adjacent carbons which overlap with the empty electron orbital.

ANSWER: **hyperconjugation** [do NOT accept or prompt on "conjugation"]

< Michael Etzkorn | *Chemistry* >

4. This man opened his poem “The Passage” with the lines, “BEFORE YOU, my mother Idoto/ naked I stand.” For 10 points each:

[10] Name this poet who mourned the death of “AN OLD STAR” who “leaves us here on the shore” in his poem “Elegy for Alto.”

ANSWER: Christopher (Ifekandu) **Okigbo**

[10] Christopher Okigbo was a poet from this country. This country was also the birthplace of Chinua Achebe, author of *Things Fall Apart*.

ANSWER: Federal Republic of **Nigeria**

[10] Okigbo’s poem “Elegy for Alto” appears in a collection titled for the *Path of* [this phenomenon]. “What [this phenomenon] Said” is the title of the final section of T.S. Eliot’s “The Waste Land.”

ANSWER: **thunder** [accept *Path of Thunder* or “What the **Thunder** Said”]

< Mitch McCullar | *Non-Epic Poetry* >

5. This river is fed by tributaries such as the Irtysh and Ket. For 10 points each:

[10] Name this westernmost major river of Siberia, located just west of the Ural mountains. It empties into the Arctic Ocean in the longest estuary in the world after traveling north from Central Asia.

ANSWER: **Ob** River

[10] The Ob empties into this marginal sea of the Arctic Ocean west of the Severnaya Zemlya archipelago and east of the Novaya Zemlya archipelago. In 2014, Exxon was forced to halt operations in this oil-rich body of water due to US Government Sanctions.

ANSWER: **Kara** Sea [accept **Karskoye** more]

[10] The Ob River is the second longest river in this country, behind the Yenisei River further to the east. It currently disputes the volcanic Kuril Islands with Japan and annexed Crimea in 2014.

ANSWER: **Russia** [accept **Russian** Federation; accept **Rossiyskaya** Federatsiya]

< Jonathan Lau | *Misc - Geography* >

6. According to midrash, during this miracle, the seabed was dry and the newly created sea walls bore fruit. For 10 points each:

[10] Nachshon ben Aminadav initiated this miracle after he walked up to his nostrils into a body of water.

ANSWER: **parting** of the **Red Sea** [or **Sea of Reeds** or **Yom Soof**] [Word forms acceptable]

[10] During the Exodus, the Israelites crossed the Red Sea to escape from this country ruled by Pharaohs where they had been enslaved for 430 years.

ANSWER: **Egypt** [or **Mitzrayim**]

[10] During daytime, the fleeing Israelites were accompanied by a pillar of this substance. This substance enveloped Mount Sinai while Moses was being given the Torah.

ANSWER: **cloud**

< Nathan Fredman | *Mythology, Stories and Legends* >

7. This adjective describes a machine that can take epsilon transitions and can have multiple transitions from a single state for the same input. For 10 points each:

[10] Identify this adjective that describes a certain machine that will accept a string if a path to the accept state exists.

ANSWER: **non-deterministic** [accept **non-determinism**; or **non-deterministic** finite automaton]

[10] Non-determinism plays a key role in a Millennium Prize problem that asks whether or not a non-deterministic algorithm can have this run time deterministically. This runtime, which is a significant speed up of exponential run time, has order big O of n^a where a is some constant.

ANSWER: **polynomial** time [accept non-deterministic **polynomial** time; accept deterministic **polynomial** time]

[10] Both deterministic and non-deterministic finite automata can be shown to be equivalent to languages described by this adjective. Languages described by this adjective are closed under unions, concatenation, and the Kleene (*clay-nee*) star operator.

ANSWER: **regular** [accept **regular** languages; accept **regular** expressions]

< Michael Etzkorn | *Other Science - CS* >

8. The title character of one play by this author promises to give up prostitution before she marries Mat Burke. For 10 points each:

[10] Name this American playwright of *Anna Christie*. Other plays by this man include *Strange Interlude* and *Desire Under the Elms*.

ANSWER: Eugene (Gladstone) **O'Neill**

[10] This play by Eugene O'Neill follows members of the Tyrone family like the tubercular Edmund and the morphine-addicted Mary.

ANSWER: ***Long Day's Journey Into Night***

[10] This author and her husband George Cram Cook founded the Provincetown Players which popularized many of O'Neill's works. In her play *Trifles*, Mrs. Hale and Mrs. Peters hide a strangled canary which they believe would lead to the conviction of Minnie.

ANSWER: Susan (Keating) **Glaspell**

< Mitch McCullar | *Drama* >

9. Three divisions of this group fought in the Spanish Civil as part of the Corps of Volunteer Troops. For 10 points each:

[10] Name this group that attempted to oust Luigi Facta with the 1922 March on Rome. This paramilitary group disbanded after the 1943 Armistice of Cassibile.

ANSWER: **Blackshirts** [accept **Milizia Volontaria per la Sicurezza Nazionale** or **MVSN**; accept **Voluntary Militia for National Security**; accept **camicie nere** or **CCNN**; accept **squadristi**]

[10] The Blackshirts were a part of the National Fascist Party and swore loyalty to this man. This man was nicknamed Il Duce.

ANSWER: Benito (Amilcare Andrea) **Mussolini**

[10] Before the Blackshirts were formed, Mussolini worked as an editor for this Socialist newspaper. After Mussolini was ousted from the Socialist party, he quit his job at this newspaper and founded *Il Popolo d'Italia*.

ANSWER: ***Avanti!*** [accept ***Forward!***] < Mitch McCullar | *Continental Europe* >

10. According to this psychologist, young children cannot tell what a man in the mountains can see because they are egocentric. In reality, mountains are just disorienting. For 10 points each:

[10] Name this Swiss psychologist who designed a four-stage model of development and formulated object permanence.

ANSWER: Jean **Piaget**

[10] Among Piaget's four stages of child development, this step is defined by extreme egocentrism as children begin to develop and internalize schemata.

ANSWER: **sensorimotor** stage

[10] Piaget used this term to describe the process of combining new knowledge with previous facts and knowledge. In terms of education, this is the combination of assimilation and accommodation.

ANSWER: **equilibration**

< Ethan Ashbrook | *Social Science* >

11. In one work, this thinker proposed the mining model of education, which he hoped would replace the banking model that he said was used to control disadvantaged people. For 10 points each:

[10] Name this author of *Pedagogy of the Oppressed*, a critical pedagogy theorist from Brazil.

ANSWER: Paulo **Freire**

[10] Freire argued for a model of education based on this process between students and teacher. Mikhail Bakhtin said that works of literature experience this conversational process with older works of literature.

ANSWER: **dialogue** [accept word forms; do NOT accept or prompt on "dialectic"]

[10] Freire argued that education was intrinsically linked to this field. Aristotle's book titled for this field critiques the tyrannical and democratic forms of government that are studied in this field.

ANSWER: **politics** [accept **political** science]

< Bradley McLain | *Philosophy* >

12. A \$10,000-budget movie by this director ends with Spencer embracing the Lady in the Radiator while the two are surrounded by white light. For 10 points each:

[10] Name this director of *Eraserhead* who also directed the TV show *Twin Peaks*.

ANSWER: David **Lynch**

[10] *Description acceptable*. In *Eraserhead*, Mary X (*eks*) ropes Spencer into taking care of this character whose internal organs, spill out prompting Spencer to cut them with a pair of scissors towards the film's end. This character then turns into the planet seen at the film's beginning.

ANSWER: **freaky baby** [accept **lizard baby**; **skinless baby**; **alien baby**; accept the **creature**-thing or literally any description of the photo below of a **creature** infant that isn't very baby-like at all; prompt on **baby**; **infant** and similar with "What can you tell me about the baby?"]



[10] In addition to directing *Eraserhead*, David Lynch directed a cult hit with a movie titled [this color] *Velvet*. This color is the skin of the Na'vi in David Cameron's 2009 film *Avatar*.

ANSWER: **blue**

< Michael Etzkorn | *Other Fine Arts* >

13. Answer some questions about title female characters. For 10 points each:

[10] This author wrote a novel titled after a matchmaker who eventually marries George Knightley. This author of *Emma* also wrote about the Bennet sisters in *Pride and Prejudice*.

ANSWER: Jane **Austen**

[10] Felipe Montero falls in love with the title magical girl in this author's novel *Aura*. Another character created by this author is killed by Tomas Arroyo after he finds out Harriet Winslow slept with Arroyo.

ANSWER: Carlos **Fuentes** Macias (the unmentioned novel is *The Old Gringo*)

[10] This woman created a Scots-Native American girl who experiences discrimination in her novel *Ramona*. This activist's other famous work pertaining to Native Americans is *A Century of Dishonor*.

ANSWER: Helen Hunt **Jackson**

< Ethan Ashbrook | *Long-Form Fiction* >

14. This protein contains a namesake C-terminal domain that directs protein-protein interaction during DNA repair. For 10 points each:

[10] Name this tumor suppressor protein that forms a namesake associated genome surveillance complex which helps repair double-stranded breaks in DNA. It should not be confused with a similarly named protein ending in 2.

ANSWER: **BRCA1** [generously accept **BRCA2**; accept **BUT DO NOT OTHERWISE REVEAL Breast Cancer** type 1/2 susceptibility protein]

[10] BRCA1 mutations can result in a higher risk for ovarian cancer and this type of cancer. It is the second most diagnosed cancer in the world after lung cancer and may sometimes require a mastectomy.

ANSWER: **breast** cancer

[10] Another tumor suppressor protein is this "guardian angel" of the genome that upregulates p21 and DNA repair proteins. This protein helps trigger apoptosis when the cell is beyond DNA repair.

ANSWER: tumor protein **p53** [or **tp53**; accept transformation-related **protein 53**; or TRP**53**; accept cellular tumor antigen **p53**; accept **antigen NY-CO-13**]

< Michael Etzkorn | *Biology* >

15. Answer the following about ancient religions and beans. For 10 points each:

[10] During this festival, beans were thrown over celebrants shoulders in order to pacify ghosts. This festival was legendarily instituted by Romulus to pacify the spirit of Remus.

ANSWER: **Lemuria** [accept **Lemuralia**]

[10] This empire celebrated Lemuria, as well as Farelia, which was another festival that used beans to pacify ancestor ghosts. This empire's other religious rites included sacrifices performed by the Pontifex Maximus at the Temple of Jupiter.

ANSWER: **Roman** Empire [accept Imperium **Romanum**]

[10] The followers of this man were instructed not to consume beans because they believed it would cause them to fart and lose part of their soul. This man legendarily drowned one of his followers who discovered irrational numbers and also found the intervals of musical instruments.

ANSWER: **Pythagoras** of Samos

< Bradley McLain | *Religion* >

16. This man was captured by Thomas Hunt and sold in the Spanish city of Málaga. For 10 points each:

[10] Name this final member of the Patuxet group, who, according to William Bradford, died of "Indian Fever" in 1622. He taught early American settlers how to cultivate corn.

ANSWER: **Tisquantum** [or **Squanto**]

[10] The aforementioned American settlers were primarily settlers who formed this colony, founded by the crew of the *Mayflower* in 1620.

ANSWER: **Plymouth** Bay Colony [or New **Plymouth**]

[10] This man acted as the military advisor for the Plymouth Colony at its founding. With the aid of the warrior Hobbamock, this man carried out the Nemasket raid after Tisquantum was captured by the Pocasset sachem Corbitant.

ANSWER: Myles **Standish** [also spelled Miles **Standish**]

< Mitch McCullar | *US History* >

17. This statue was carved out of limestone and depicts a faceless woman possibly wearing a headdress. For 10 points each:

[10] Name this statue which portrays the title woman with exaggeratedly large breasts and buttocks. Scholars argue that this footless statue was created as a fertility idol.

ANSWER: **Venus of Willendorf** [accept **Willendorf Venus**; prompt on **Venus**]

[10] This French system of caves includes sections like the Shaft of the Dead Man, the Chamber of Felines, and the Hall of the Bulls.

ANSWER: Caves of **Lascaux** (*lahs-coh*) [accept english pronunciations; accept **Grotte de Lascaux**]

[10] The Lascaux cave system and the Venus of Willendorf were painted during this prehistoric period when Neanderthals developed basic tools. This era was an early phase of the Stone Age.

ANSWER: **Paleolithic** Era

< Iain Carpenter | *Painting and Sculpture* >

18. In the frequency domain, the impedance of these devices is equal to “j times omega times L.” For 10 points each:

[10] Name these circuit elements measured in henries. In an ideal circuit, they create a harmonic oscillator with capacitors.

ANSWER: **inductors**

[10] Inductors in RLC circuits can vary sinusoidally -- which is why these rotating vectors are useful for analyzing them. For the function (*read slowly*) $A \cos(\omega t)$ -- this vector has an angle of zero and magnitude of A.

ANSWER: **phasors**

[10] This theorem can simplify the analysis of RLC circuits. This theorem says linear circuits can be represented by an equivalent voltage source in series with an equivalent resistor and is analogous to Norton’s theorem for current sources.

ANSWER: **Thevenin’s** Theorem [accept **Thevenin** Equivalent]

< Jaden Lucas | *Physics* >

19. This author’s poem “News Item” says “men seldom make passes at girls who wear glasses.” For 10 points each:

[10] Name this witty member of the Algonquin Round Table who gives the downsides of many suicide techniques, ending by noting, “you might as well live” in her poem “Resumé.”

ANSWER: Dorothy **Parker** [or Dorothy **Rothschild**]

[10] The title character of this Edwin Arlington Robinson poem obviously didn’t get the memo before the “calm summer night” when he “put a bullet through his head.”

ANSWER: “**Richard Cory**”

[10] This poet who committed suicide in 1932 describes the title author seeing an embassy bequeathed “dice of drowned man’s bones” in his poem “At Melville’s Tomb.” A long poem by this author begins with a seagull flying over the title structure “over the chained bay waters Liberty.”

ANSWER: (Harold) Hart **Crane** (the long poem is *The Bridge*)

< Mitch McCullar | *Non-Epic Poetry* >

20. There have been many Mexican revolutionaries and freedom fighters throughout history. For 10 points each:

[10] Name this leader of the Morelos-based Liberation Army of the South whose Plan of Ayala denounced Francisco Madero. A modern-day Chiapas-based militant group has a name inspired by the demonym given to followers of this man.

ANSWER: Emiliano **Zapata** Salazar [prompt on **Salazar**]

[10] John J. Pershing pursued this commander of the Division of the North after his raid of Columbus, New Mexico.

ANSWER: Francisco “Pancho” **Villa** [accept José Doroteo Arango **Arámula**]

[10] This Mexican independence leader who died at the battle of Calderón Bridge called for a rebellion in order to restore Ferdinand VII (*seventh*) to the throne.

ANSWER: Miguel Gregorio Antonio Francisco Ignacio **Hidalgo**-Costilla y Gallaga Mandarte Villaseñor

< Sarod Nori | *Non-Euro, Non-Commonwealth* >