

ACF Winter 2010: Temporary Autonomous Zone

Edited by Andrew Hart, Rob Carson, Trevor Davis, Dennis Jang, and Eric Mukherjee

Packet by Andy Watkins and Hannah Kirsch

Tossups

1. The Tobin effect shows how this phenomenon encourages investors to place their money in real capital projects. Its “built-in” form comes from adaptive expectations and is part of Gordon’s “triangle model.” Tobin and Mundell showed that real economic effects can occur from expectation of this phenomenon, which can lead to inefficiencies from shoe-leather and menu costs. The existence of this phenomenon prevents a “liquidity trap.” The Fisher hypothesis argues that the real interest rate is independent of this phenomenon, which is measured by changes in the GDP deflator or CPI. For 10 points, name this phenomenon, coming in “cost-push” and “demand-pull” varieties, which causes the consumer price index to rise as money becomes devalued.
ANSWER: **inflation**
2. The unincorporated Boring Township on the outskirts of this city lends its name to the volcanic lava field on which it lies, the Boring Lava Field. Mount Tabor is an extinct cinder cone that lends its name to one of this city’s neighborhoods. This city is home to a very busy, old, and green vertical lift bridge called the Hawthorne Bridge. This city is home to the Metro, the only directly elected metropolitan-planning body in the United States. Clackamas, Beaverton, and Wilsonville are all suburbs of this city. The Willamette River flows through this city, on whose horizon one can see Mount Hood and Mount St. Helens. For 10 points, name this home of the NBA’s Rose Garden, the largest city in Oregon.
ANSWER: **Portland**, Oregon
3. This poet noted that he “had no human fears” in a quintet of poems that centered on “A Maid whom there were none to praise / And very few to love.” In another poem, he called his home country “a fen / Of stagnant waters” and wished that “Milton!” “shouldst be living at this hour.” In one poem, he described objects which “flash upon that inward eye” and provide “the bliss of solitude.” In another poem, he wrote that he’d “rather be / A Pagan suckled in a creed outworn.” This author included “She dwelt among the untrodden ways” and “A slumber did my spirit seal” in his Lucy poems. For 10 points, name this poet of “London, 1802” and “The World is Too Much with Us,” who described seeing “a host of golden daffodils” in “I Wandered Lonely as a Cloud” and wrote “Tintern Abbey.”
ANSWER: William **Wordsworth**
4. Divination based on the movement of an image of this deity occurred in the sanctuary of Atargatis in Hierapolis Bambyce. This god turned Clytia into a sunflower after that woman betrayed this figure’s lover to her father Orchamus. Zephyrus jealously blew a discus thrown by this god into the head of his lover Hyacinthus, killing the latter. This god was forced to serve as Admetus’s shepherd after avenging the death of his son Asclepius. His rejection by Cassandra led him to curse that prophetess never to be believed. This god surrendered his stolen cows to Hermes in exchange for the lyre, and he and his twin sister killed the fourteen children of Niobe. For 10 points, identify this son of Zeus and Leto and twin to Artemis, the Greek god of light and music.
ANSWER: Phoebus **Apollo**
5. One track from this album asks “Do I look like a motherfuckin’ role model?” and asserts that “To a kid lookin’ up to me / Life ain’t nothin’ but bitches and money.” Another track on this album claims that “some drop science, while I’m dropping English” and notes that “brain damage on the mic don’t manage” while urging the listener not to “be another sequel.” Those songs, “Gangsta Gangsta” and “Express Yourself,” appear on this album after a song whose vocalist claims that certain figures “think / They have the authority to kill a minority.” In its title song, Eazy E asks MC Ren to “Tell ‘em where you from!” after Ice Cube notes that he’s “down with the capital C-P-T.” It features “Judge Dre presiding” on the track “Fuck Tha Police.” For 10 points, name this debut album by N.W.A.
ANSWER: **Straight Outta Compton**

6. One ruler of this dynasty avoided a prophecy of his death by abdicating in favor of the puppet Yusufi for four days during his persecution of Nuqtavis. This dynasty was defeated at Gulnabad by the Ghilzai leader Mahmud. Its founder was victorious at Merv over the Uzbeks and had earlier overthrown the “White Sheep” dynasty. This dynasty was eventually supplanted by Karim Khan and the Zand dynasty, and its final rulers were puppets of Nadir Shah. Tahmasp I was a ruler of this dynasty, which was defeated at Chaldiran by Selim the Grim. Under Abbas I, this dynasty established a capital at Isfahan, and it was founded with the help of the Qizilbash by Ismail I. For 10 points, name this Shi'ite dynasty that ruled Persia from 1501 to 1736.

ANSWER: **Safavid** Dynasty

7. Particles of dielectric materials may be separated in a fractionation method that uses a nonuniform one of these. Band-bending occurs because it varies linearly in a depletion layer. Symmetric top molecules undergo line-splitting in their microwave spectrum due to the application of one of these. Modulators for active Q-switching lasers rely on an effect in which crystals lacking inversion symmetry become birefringent in linear proportion to the magnitude of one of these. Its flux through a surface is proportional to enclosed charge, and its curl is equal to the negative time partial of the magnetic field. Its magnitude is proportional to one-over-r for a line charge, and it is proportional to one over r squared for a point charge. For 10 points, name this vector field given in units of volts per meter.

ANSWER: **electric field** [or **E** field]

8. During this conflict the bishops Hermogius and Dulcidius were captured after the forces of Ordoño II were routed at the Junquera Valley. This conflict was a response to one in which the Witizans helped secure victory at the Battle of Guadalete, and this conflict prominently featured the Mozarabs. It began with a rebellion against the governor Munuza by Pelayo, who won a victory at Covadonga to ensure the survival of his new Kingdom of Asturias. Alfonso VIII of Castile won a great victory at the Battle of Las Navas de Tolosa during this conflict. It ended with King Boabdil's surrender, ending the Nasrid dynasty as Ferdinand and Isabella took Granada. For 10 points, name this long conflict that featured the exploits of El Cid, the expulsion of Muslim forces from the Iberian Peninsula.

ANSWER: **Reconquista** [or **Reconquest**; or **Recapturing**]

9. One author from this country wrote a six-volume poetry collection called "Sleepless Nights," and another wrote a Faust-like work whose title is given as *The Wish* or as *Loftur the Sorcerer*. One author from this country wrote *The Black Cliffs* and *Guest the One-Eyed*. One novel by an author from this country features the Parliament member Bui Arland and an organ teacher at whose house the ideas of communism and anarchism are introduced to the girl Uglia. Another novel written by an author from this country follows the sheep farmer and poet Bjartur. Gunnar and Njal and the antiheroic Grettir the Strong all feature in works written in this country. For 10 points, name this nation, home to the author of *Independent People*, Halldor Laxness, as well as many writers of sagas.

ANSWER: **Iceland**

10. Drug discovery research employs a synthesis that produces alpha-phosphonate examples of this functionality from a carbonyl, a hydrophosphoryl compound, and a primary one of these. A test for this functionality, which can discern between their degrees of substitution, employs aqueous sodium hydroxide and benzenesulfonyl chloride and is named for Hinsburg. CO₂ is released upon the addition of hydrazoic acid through an isocyanate intermediate in one reaction to form them. PPh₃ is used to reduce azides to this functionality in the Staudinger ligation. The best known synthesis of these compounds reacts primary alkyl halides with potassium phthalimide, and is named for Gabriel. For 10 points, name this functionality whose members possess a nitrogen with three single bonds to substituents.

ANSWER: **amines**

11. Participants in this event took captive John Newton, the governor of Rochester. It began with an attack on Robert Belknap at Brentwood. An attempt to resolve it was made at Mile End. During this event, executions were held at Tower Hill, including the beheadings of Robert Hales and Simon Sudbury. Participants in it destroyed the Savoy Palace, which belonged to John of Gaunt. It was partly a response to the Statute of Labourers, and this event's leader was killed at Smithfield by William Walworth. Support for it was gathered with John Ball's question "When Adam delved and Eve span, who was then the gentleman?" This event was started as a response to an increased poll tax levied by Richard II. For 10 points, name this 1381 revolt of the English poor led by Wat Tyler.

ANSWER: **Peasants'** Revolt of 1381 [or the **Great Rising**; accept **Wat Tyler**'s Rebellion before mention]

12. A philosopher who wrote about this school "of the Social World" applied it to William James's concept of "Stream of Consciousness." This school was applied to empathy by Max Scheler, a member of the Munich Circle devoted to it. One work in this field rejects the strict dichotomy between "being-in-itself" and "being-for-itself" in the interaction with the other, and that work presents a "third dialectic." The founder of this discipline used the methods of the epoché and bracketing and proposed a principle of intentionality in works like *The Crisis of European Sciences*. This field owes much to Franz Brentano, and Maurice Merleau-Ponty applied it to perception. For 10 points, name this field developed in the *Cartesian Meditations* and *Logical Investigations* of Edmund Husserl.
ANSWER: phenomenology
13. This composer wrote a symphonic suite in which the fairy Gul-Nazar rescues a gazelle from a bird. One of his works uses the unusual time signatures 2/1 and 3/1 in its final movement, and its *Andante lugubre* first movement alternates a woodwind theme with a cello rendition of the hymn "An Angel Cried Out." The fourth movement of one work by this composer opens with five cadenzas played over percussion rolls and sees violins, violas, and cellos played quasi guitarra. That work's third movement nearly repeats its first save in key and instrumentation, an asturian dance. For 10 points, name this composer of *Russian Easter Overture* and *Capriccio Espagnol* as well as a suite with movements like "The Kalendar Prince" and "The Sea and Sinbad's Ship" called *Scheherezade*.
ANSWER: Nikolai Rimsky-Korsakov
14. An Ethiopian text called the *Rest of the Words of Baruch* combines this text with one similar to *Fourth Baruch*. This work's first chapter alludes to a woman's lovers, among all of which there are none to comfort her, which may refer to Egypt and Assyria. A later verse of this book accuses "The Lord is like an enemy: he has swallowed up Israel." This work consists of five poems, each with a multiple of twenty-two lines, and the first four of which are acrostics. A reading of this work is followed by a reading of the *Kinnot* on Tisha B'Av. This work was written following the capture of Jehoiachin at Nebuchadnezzar's sacking of Jerusalem and the destruction of the First Temple. It is attributed to the prophet Jeremiah. For 10 points, name this Old Testament book that relates the sorrows of Israel.
ANSWER: Book of Lamentations [or Eikha]
15. The line-of-sight integral of electron column density to one of these objects is their "dispersion measure," and so-called "timing experiments" done with these objects are employed to detect the Gravitational Wave Background. One of these objects was the first known star save the Sun to possess planets. Turbulence in the interstellar medium is commonly probed using the radiation from these objects. One class of these objects is thought to originate from two mechanisms, one of which is the "spin-up" of low-mass X-ray binaries, the "millisecond" variety. Another class of them rotates due to the decay of a powerful B-field. Starquakes are thought to cause glitches in the periods of these objects. For 10 points, name this class of neutron stars that emits electromagnetic radiation.
ANSWER: pulsars [prompt on neutron stars]
16. The set for one play by this author consists of a chair in front of a concentration camp guard tower; that play centers on the intellectual Quentin and his love for Holga. Another play by this author drew on the same interviews Studs Terkel used for *Hard Times* and borrows the name of a one-day president of GE during the Depression, Ted Quinn. This author wrote a play about the Red Hook neighborhood of Brooklyn, where Eddie Carbone lives. This author of *After the Fall* and *The American Clock* also wrote a work in which Giles Corey dies by being crushed by rocks when he refuses to plea aye or nay. For 10 points, name this author of *A View from a Bridge* who created the characters Judge Hathorne, John Proctor, and Lizabeth, Happy, and Biff Loman in *The Crucible* and *Death of a Salesman*.
ANSWER: Arthur Miller
17. The family that contains this protein also contains a protein suspected to soften the pubis symphysis, which peaks during the first trimester of pregnancy and at delivery. Regulatory sequences of the gene that codes for this protein include MafA and the CAAT enhancer binding element, and NeuroD1 regulates its synthesis. The release of this hormone occurs in a three- to six-minute rhythm, and HGH induces the liver to secrete one of a family of growth factors with sequence similarity to it. This hormone is released following IP3 binding to the ER, triggering calcium release. For 10 points, name this hormone, secreted by the beta cells in the pancreas, which induces tissues to take up glucose and is administered to sufferers of diabetes.
ANSWER: insulin

18. In one of this man's paintings, an armored St. Nicasius carries the ensign of the Knights of Rhodes and faces the viewer in front of a red wall. A robed St. Francis stands on the other side of that painting by this man, which centers on Mary holding the infant Jesus atop a huge throne. Another of his paintings depicts a man holding a compass and a slate seated on a rock next to two standing men, a turbaned Arab and an elderly figure. A third work by this painter shows a man with a pike standing across a stream from a nursing woman; the cream-colored city in the background of that work contrasts with the dark clouds gathering overhead. His *Sleeping Venus* was finished by his student Titian. For 10 points, name this painter of the *Castelfranco Madonna*, *The Three Philosophers*, and *The Tempest*.
ANSWER: **Giorgione** [or Giorgio **Barbarelli** da Castelfranco; prompt on **Castelfranco** until it is mentioned]
19. This president arbitrated with Britain over Bering Sea seal hunting. During his presidency two American sailors were killed in a Valparaiso brawl, sparking the *Baltimore* crisis. His vice president failed to support a measure to protect black voting rights, the Force Bill of Henry Cabot Lodge. This man presided over the "businessman's cabinet," named for its inclusion of Redfield Proctor and John Wanamaker. This president promoted the Dependent and Disability Pension Act. Late in his term, the Senate defeated his attempt to annex Hawaii after its takeover by Sanford Dole. This running-mate of Levi P. Morton presided over the "Billion Dollar Congress" and passed the McKinley Tariff. For 10 points, name this twenty-third president, sandwiched between Cleveland's two terms.
ANSWER: **Benjamin Harrison** [prompt on **Harrison**]
20. In one of this author's stories, Sayoko's letter to her mother reports how the titular defect angered her husband. In addition to writing "The Pomegranate" and "The Mole," this author created a character who writes the book *A Girl of Sixteen* about his affair with Otoko Ueno. Keiko Sakami ruins that character created by this author, Toshio Oki. This author of *Beauty and Sadness* wrote about a man who is an expert on Western ballet, despite never seeing one, in a novel that includes a fire in a silk-cocoon warehouse during a film screening. That novel by this author is about the love triangle between Yoko, the geisha Komako, and the businessman Shimamura. For 10 points, name this Japanese author of *Snow Country* and *The Sound of the Mountain*.
ANSWER: Yasunari **Kawabata** [accept names in either order]
21. This author tried to integrate his unfinished religious epic poem *The End of Satan* into his historical poetry collection *The Legend of Centuries*. In another of this author's works, a fisherman tries to salvage a steam engine in order to marry Deruchette. A poem by this author promises that he won't look at the "distant sails going down at Harfleur." This poet of "Tomorrow, at Dawn" wrote a work in which a goat can spell "Phoebus," leading the townspeople to believe its owner is a witch. Another work by this author features the evil Thenardiens and their three children, Azelma, Eponine, and Gavroche. For 10 points, name this author who created characters like Esmerelda, Inspector Javert, Quasimodo, and Jean Valjean, in *Hunchback of Notre Dame* and *Les Misérables*.
ANSWER: Victor **Hugo**

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Bonuses

1. Answer some questions about the presidency of Woodrow Wilson, for 10 points each.
[10] This set of demands presented at Versailles exemplified Wilsonian idealism; they included freedom of navigation and a free Polish state. They weren't accepted readily by France, who wanted war reparations.
ANSWER: the **Fourteen Points**
[10] This statute, also known as Wick's Bill, fought child labor by banning the interstate commerce of goods made by children. *Hammer v. Dagenhart* ruled it unconstitutional.
ANSWER: **Keating-Owen** Child Labor Act of 1916
[10] This "Fighting Quaker" was Wilson's attorney general from 1919 to 1921, in which post he contributed to the "red scare" by leading namesake "raids" to gather up political dissidents.
ANSWER: Alexander Mitchell **Palmer**
2. The husbands of this movie's title women are played by Stanley Tucci and Chris Messina. For 10 points each:
[10] Name this 2009 movie, in which a woman working for the Lower Manhattan Redevelopment Corporation takes refuge in blogging about cooking the entirety of *Mastering the Art of French Cooking*.
ANSWER: **Julie & Julia**
[10] This actress plays Julia Child in *Julie & Julia*. She also played Eleanor Shaw in *The Manchurian Candidate* and the title character in *Sophie's Choice*.
ANSWER: Meryl **Streep**
[10] Meryl Streep's first Oscar win came from this 1979 Robert Benton movie, in which she divorces the other title character, played by Dustin Hoffman, leaving him to care for their son Billy.
ANSWER: **Kramer vs. Kramer**
3. This goddess is sometimes considered Anubis's mother. For 10 points each:
[10] Name this sister and wife of Set, the nurse to the pharaoh, who is depicted as a falcon or kite.
ANSWER: **Nephthys** [or **Nebet-Het**; or **Nebt-Het**]
[10] Nephthys was the sister of this goddess, who reassembled her brother Osiris after Set tore him apart.
ANSWER: **Isis**
[10] Isis obtained the true name of this god by poisoning him and telling him that she needed his true name in order to use the necessary magic to heal him.
ANSWER: **Ra** [or **Re**]
4. This technique divides a circuit into namesake smallest possible non-overlapping loops of wire. For 10 points each:
[10] Name this method of circuit analysis, where for each namesake loop you sum voltage and set it equal to zero.
ANSWER: **mesh** analysis [or **mesh** methods; accept equivalents]
[10] Mesh analysis is generally used when you're trying to find this quantity, whose product with resistance is equal to voltage drop.
ANSWER: **current**
[10] The negative time derivative of this quantity through the area enclosed by a loop of wire will induce an electromotive force and therefore a current through that loop of wire, according to Faraday's law.
ANSWER: magnetic **flux**

5. This man officially stepped down in favor of his nephew Hidetsugu, and among his policies were the *katana kari* disarmament of peasants and the *shiro wari* destruction of castles. For 10 points each:

[10] Name this Japanese leader who finished Oda Nobun's task of uniting Japan, thus ending the Sengoku period.

ANSWER: **Toyotomi** Hideyoshi

[10] After Toyotomi's death, Ieyasu defeated his supporters at the Battle of Sekigahara and established this third and final Japanese shogunate.

ANSWER: **Tokugawa** shogunate

[10] Toyotomi held power with this title, used by the chief minister or regent of an adult emperor. The Fujiwara clan used this title to monopolize power during the Heian period.

ANSWER: **kampaku**
6. The title judge in the high court falls while hanging curtains, an injury which becomes mortal. For 10 points each:

[10] Name this Russian novella whose title character only finds comfort in his servant Gerasim.

ANSWER: *The **Death of Ivan Ilyich***

[10] This man's Christian anarchism and pacifism are well-expressed in *The Kingdom of God is Within You*, but this author of *The Death of Ivan Ilyich* is better known for *The Death of Ivan Ilyich* and *War and Peace*.

ANSWER: Leo **Tolstoy** [or Lev Nikolayevich **Tolstoy**]

[10] One of the characters of *War and Peace* is this friend of Prince Andrei Bolkonsky. He impulsively marries Helene, becomes a Freemason, thinks himself Napoleon's destined assassin, and finally marries Natasha Rostova.

ANSWER: **Pierre** Bezukov [prompt on **Bezukov**]
7. This architect helped inspire postmodern architecture with the book *Learning from Las Vegas*, and designed the Lieb House, which features a sailboat-shaped window on one side and a huge number 9 on its front. For 10 points each:

[10] Name this Philadelphia-based winner of the 1991 Pritzker Prize, who designed the Seattle Art Museum and quipped that "less is a bore."

ANSWER: Robert Charles **Venturi**, Jr.

[10] Venturi's "less is a bore" is a reference to this architect's maxim "less is more." This designer of the Barcelona chair for the German Pavilion also designed the Seagram Building with Philip Johnson.

ANSWER: Ludwig **Mies** van der Rohe [or Maria Ludwig Michael **Mies**; prompt on van der **Rohe**]

[10] Venturi and his wife designed the Sainsbury Wing of this Trafalgar Square landmark, the original plan for which was created by William Wilkins. It's home to such works as *The Ambassadors* and *The Arnolfini Wedding*.

ANSWER: The **National Gallery** in London
8. In Islam, this concept is predicated on the existence of Al-Lauh Al-Mahfuud, the Preserved Tablet. For 10 points each:

[10] Identify this concept, denoted qadar in Islam, which is also one of the core tenets of Calvinism. The existence of it calls into question the existence of free will.

ANSWER: **predestination** [accept equivalents and word forms]

[10] Shi'ite Islam deemphasizes predestination in favor of divine justice, meted out by God. Said divine justice is known by this term.

ANSWER: **adalah**

[10] Many Muslims use this phrase to acknowledge that what may in the future come to pass is predetermined by God when referring to potential future events; it essentially translates to "God willing."

ANSWER: **insha'Allah** [accept **inshallah**; or **In šā' Allāh**]
9. Answer some questions about concepts from chemical thermodynamics, for 10 points each.

[10] Derivable from a conveniently named equation is the statement that a system with n possible phases has n choose three of these states, where three states of matter are in equilibrium at one temperature and pressure.

ANSWER: **triple point**

[10] The addition and removal of partitions in a gas results in a discontinuity in this quantity if you calculate it by summing over each particle as though each particle were identifiable, a result known as Gibbs Paradox.

ANSWER: **entropy**

[10] The sum of the product of this quantity with the number of moles over all the components of a system is equal to negative entropy divided by temperature plus volume divided by pressure. It is conjugate to the particle number.

ANSWER: **chemical potential**

10. He is responsible for a "truth-tracking" definition of knowledge. For 10 points each:
 [10] Name this author of *Philosophical Explanations*. He created thought experiments like the "utility monster," who derives more utility from every resource than you do, and the "Experience Machine."
 ANSWER: Robert **Nozick**
 [10] Nozick wrote this work that argues for a minimal government and attacks *A Theory of Justice*. Therein, Nozick assures you that it's okay that Wilt Chamberlain earns money, and that it's wrong for a government to stop it.
 ANSWER: **Anarchy, State, and Utopia**
 [10] Nozick's "truth-tracking" attacks the problem put forth by this author in "Is Justified True Belief Knowledge?" This philosopher concluded that justified true belief is not knowledge.
 ANSWER: Edmund **Gettier** III
11. This author wrote a work featuring the philanthropist Hollingsworth, who wants to make the title locale a criminal colony. For 10 points each:
 [10] Name this author of *The Blithedale Romance*.
 ANSWER: Nathaniel **Hawthorne**
 [10] The title character of this Hawthorne short story is named Beatrice. She is locked in a garden with poisonous plants, where she attracts the attentions of Giovanni.
 ANSWER: **"Rappaccini's Daughter"**
 [10] Reuben Bourne cannot tell Dorcas, the title character's daughter, that he left the title character to die at his request, and then he accidentally shoots his own son in the same location in this Hawthorne short story.
 ANSWER: **"Roger Malvin's Burial"**
12. Confined ones have a layer of impermeable rock on top. For 10 points each:
 [10] Name these layers of rock saturated with groundwater.
 ANSWER: **aquifer**
 [10] Aquifers whose water table is above the ground are given this name. Water can flow up them without pumping.
 ANSWER: **artesian well** [or **artesian** aquifer; or flowing **artesian** well]
 [10] Computational models of groundwater flow require boundary conditions like the value for this quantity. This quantity in fluid dynamics is given in units of length, representing the energy of an equivalent static column of fluid.
 ANSWER: piezometric **head** [or hydraulic **head**]
13. Following this battle, Philip II offered to spare the Greek city-states on the condition that they supply him for an invasion of Persia. For 10 points each:
 [10] Name this decisive Macedonian victory, which preceded the formation of the Corinthian League, where Chares and Lysicles of Athens and Theagenes of Boeotia were defeated. It saw the destruction of the Sacred Band.
 ANSWER: Battle of **Chaeronea**
 [10] The Sacred Band was an elite military force from this city-state of Boeotia, which experienced military reforms under Epaminondas.
 ANSWER: **Thebes**
 [10] Epaminondas first unveiled this military tactic at the Battle of Leuctra; Philip II incorporated it into the Macedonian armies and used it at Chaeronea. It consisted of greatly strengthening the deployment of troops on one flank, and in more modern times it was associated with Frederick the Great.
 ANSWER: **oblique** formation/order/line/etc.
14. This theory attempts to describe crime as partially attributable to social structure. For 10 points each:
 [10] Name this theory, advanced by sociologists like Robert Dubin, Richard Cloward and Lloyd Ohlin, and Robert Agnew, whose namesake factor can be structural or individual.
 ANSWER: **strain** theory
 [10] This originator of strain theory wrote *Social Theory and Social Structure* and *Sociological Ambivalence*. He exemplified the idea of the "self-defeating prophecy" with Marx's suggestion that modernizing societies concentrate wealth, which spawned socialist movements that did the very opposite.
 ANSWER: Robert King **Merton** [or Meyer R. **Schkolnick**]
 [10] Merton posited that this state of societal normlessness as a cause of deviant behavior. It names a form of suicide discussed by Durkheim.
 ANSWER: **anomie**

15. The speaker of this poem states that “all around” the title entity “were lettuces, sea foam of the earth, carrots, grapes” and calls that title entity “the one and only pure ocean machine.” For 10 points each:
 [10] Name this “elemental ode” addressed to a fish for sale. That title fish is described as “a bullet from the ocean depths” and as “unflawed, navigating the waters of death.”
 ANSWER: “Ode to a **Large Tuna in the Market**”
 [10] The penultimate poem of this work, is also by Pablo Neruda, begins “Tonight I can write the saddest lines.” Its last poem follows a score of romantic pieces and is more somber, bemoaning “In you everything sank!”
 ANSWER: **Twenty Love Poems and a Song of Despair** [or **Veinte Poemas de Amor y una Canción Desesperada**]
 [10] This work, the second section of Neruda's *Canto General*, exhorts the reader to “Arise to birth with me, my brother,” and sees its speaker climb the “ladder of the earth” to the title Incan hilltop fortress.
 ANSWER: “The **Heights of Macchu Picchu**” [or “Las **Alturas de Macchu Picchu**”]
16. The golden rain flowing between the title character’s legs depicts a visit from Zeus during her imprisonment in the painting *Danae*, created by this first president of the Vienna Secession. For 10 points each:
 [10] Name this Austrian painter who also painted the *Beethoven Frieze* and depicted the title action taking place between the embracing characters in *The Kiss*.
 ANSWER: Gustave **Klimt**
 [10] Klimt’s *Salome* is his second portrayal of this Biblical character. In his first, one breast is depicted bare with gold plating surrounding her figure as she holds a head in her right hand.
 ANSWER: **Judith**
 [10] Klimt created two paintings of this model, the wife of a wealthy Jewish industrialist. His first painting of her sees her in a gold dress standing in front of a gold background and sold for \$135 million.
 ANSWER: Adele **Bloch-Bauer**
17. Answer the following about the work of R.A. Fisher, for 10 points each.
 [10] Fisher formulated the idea of a mutation-selection equilibrium for persistent deleterious characteristics with this other scientist, whose namesake dilemma concerns the substitution cost for natural selection, and who names a steady-state enzyme kinetics approximation with Briggs.
 ANSWER: J.B.S. **Haldane** [John Burdon Sanderson **Haldane**]
 [10] Fisher was of the men who first formulated the mutation-selection equilibrium determined that, under constant selection, fitness increases monotonically and in proportion to this quantity.
 ANSWER: genetic **variance** [accept equivalents]
 [10] This equation in population genetics states $p^2 + 2pq + q^2 = 1$, and describes an infinite non-evolving population.
 ANSWER: **Hardy-Weinberg** Equilibrium
18. This treaty followed the battles of Saint-Quentin and Gravelines, and it transferred land to Emmanuel-Philibert. For 10 points each:
 [10] Name this 1559 treaty, which confirmed Spanish control of much of Italy and was signed by Henry II of France.
 ANSWER: Treaty of **Cateau-Cambrésis**
 [10] The Treaty of Cateau-Cambrésis ended sixty-five years of fighting between Henry’s House of Valois and this ruling Spanish family. This family is also known for ruling Austria and the Holy Roman Empire.
 ANSWER: House of **Habsburg** [or **Hapsburg**]
 [10] Through the treaty, Emmanuel-Philibert had this north Italian duchy restored to him. The house that ruled this duchy went on to rule the Kingdom of Sardinia and became the royal family of a unified Italy.
 ANSWER: **Savoy**

19. Its fanfare was used in *2001: A Space Odyssey*, and this tone poem was once proposed as a replacement for the German national anthem. For 10 points each:
 [10] Name this Richard Strauss work, itself named after a work by Nietzsche.
 ANSWER: Also sprach Zarathustra [or Thus Spoke Zarathustra; or Thus Spake Zarathustra]
 [10] This composer's *Atmospheres*, his *Lux Aeterna* and the Kyrie from his *Requiem* were used in *2001*. His electronic works include *Artikulation* and *Glissandi*, and he wrote *Three Pieces for Two Pianos*.
 ANSWER: Ligeti György Sándor [or Gyorgy Sándor Ligeti]
 [10] *2001* also contains an excerpt from *Gayane*, a ballet by this composer. *Gayane* notably contains this Armenian composer's piece "The Sabre Dance," while he also composed the ballet *Spartacus*.
 ANSWER: Aram Khachaturian
20. In the third act of this play, the schoolteacher Mr. Bentham abandons Mary, while the one-armed Johnny is shot by the Irregulars for betraying Robbie Tancred. For 10 points each:
 [10] Name this play whose second title character, Captain Jack Boyle, hangs out at the pub with Maisie Madigan and Joxer Daly. Boyle's wife, the first title character, gave him his nickname due to his slow strutting.
 ANSWER: Juno and the Paycock
 [10] This Irish author of *Juno and the Paycock* also wrote a play set during the Easter Rising, featuring Jack and Nora Clitheroe, called *The Plough and the Stars*.
 ANSWER: Sean O'Casey [accept Sean O Cathasaigh; or John Casey]
 [10] O'Casey moved to England after his fourth play, *The Silver Tassie*, was rejected by this author of "The Scholars" and *Cathleen Ni Houlihan*, who headed the Abbey Theatre.
 ANSWER: William Butler Yeats
21. Their components are often implemented using two superconducting layers separated by an insulator, through which current still flows. For 10 points each:
 [10] Name these devices, which offer more than polynomial speedup over classical methods to do things like factor the product of two primes or find integer solutions for $x^2 - ny^2 = 1$.
 ANSWER: quantum computers
 [10] Many algorithms run on quantum computers lack this property, which simply means that given a particular input, it'll always give you the same output.
 ANSWER: deterministic
 [10] This quantum algorithm can be used to search a database in big-O of square root of N time.
 ANSWER: Grover's algorithm