

Minnesota Undergraduate Tournament 2015: My Torah Portion was an Archie Comic
Questions by Rob Carson, Mike Cheyne, Andrew Hart, Gautam Kandlikar, Shan Kothari, Bernadette Spencer, Cody Voight, and special guest Ike Jose
Packet 11: Tossups

1. A composer from this country coined the term “dissonant counterpoint,” and his wife wrote a 1931 string quartet with a sound mass third movement. A long-lived composer from this country wrote *Night Fantasies* and developed metric modulation, which he used in pieces like his five string quartets. A composer from here consulted the *I Ching* for his aleatory (*) *Music of Changes*. A piece from this country consists of 53 phrases to be repeated over a constant C beat; that piece is *In C*. The *Imaginary Landscape* series is by a composer from this country who used the prepared piano in his *Sonatas and Interludes*. That composer wrote three movements lacking notes in a silent piece for David Tudor. For 10 points, name this home of Elliott Carter, Terry Riley, and the composer of 4'33", John Cage.

ANSWER: United States of America [or United States; or U.S.A.]

2. This male ruler's former secretary was the target of Irish assassin Patrick O'Collun. That secretary was involved in the murder of this man's rival, Don John of Austria. This ruler dispatched a Governor who executed men like the Count of Egmont after establishing the "Council of Blood." After being pissed off by the Treaty of Nonsuch, he placed the Duke of (*) Medina Sidonia in charge of a force defeated at the Battle of Gravelines. This husband of "Bloody Mary," the queen of England, dispatched the Duke of Alba to quell resistance in the Netherlands. In 1588, this man's navy was defeated by a force featuring Sir Francis Drake. For 10 points, name this ruler who dispatched the failed Spanish Armada to invade England.

ANSWER: Philip II [or Philip I of Portugal]

3. At an impromptu dinner in this novel, the butler Hamilton kicks the protagonist out of a house after the rich, drunk Freddie Jones gives him a hundred-dollar bill. Another character in this novel steals a little bit too much beer, falls asleep in a corner, and gets locked in a building; in the morning, it is discovered that he was eaten by rats. This novel's protagonist meets Jack Duane in jail and gets a job in Mike (*) Scully's organization after the death of his son Antanas, but loses it when he attacks Phil Connor, who had earlier raped his wife Ona. This novel was originally serialized in *Appeal to Reason*, a socialist newspaper. For 10 points, name this novel about Jurgis Rudkus, an expose of the meatpacking industry by Upton Sinclair.

ANSWER: *The Jungle*

4. The NADPH oxidases DUOX1 and DUOX2 were first characterized in this gland for their role in making hydrogen peroxide. Anaplastic cancer of this gland is always diagnosed at stage IV. Propylthiouracil and methimazole inhibit a peroxidase that helps synthesize two tyrosine-based hormones made by this gland. In some people, this gland has a third lobe, which is known as Lalouette's pyramid. Autoimmune disorders of this gland include (*) Hashimoto's disease and Graves' disease. This gland has follicles, follicular cells, and parafollicular cells, the last of which secrete calcitonin. This gland is stimulated by TSH from the anterior pituitary. Two hormones made by this gland require iodine, so iodine deficiency can cause enlargement known as goiter. For 10 points, name this endocrine gland around the base of the neck.

ANSWER: thyroid gland

5. This man believed that the virgin state was the superior ideal, leading him to write in an epistle “I praise wedlock, I praise marriage; but only because they produce me virgins.” His other works includes a dialogue against St. Lucifer of Cagliari and a biography of 135 Christian saints titled *De Viris Illustribus*. This native of Dalmatia spent much of his early life in the desert of Chalcis, where he became an eremite. He spent the second half of his life in a monastery in Bethlehem, where Saint (*) Paula and Saint Eustochium gave him the inspiration to update the *Vetus Italia*. This patron saint of librarians was a secretary to Pope Damasus, for whom he produced a “commonly-used” version of the Septuagint.. For 10 points, name this fourth-century Christian father whose Latin translation of the Bible is known as the *Vulgate*.

ANSWER: St. Jerome [or Eusebius Hieronymus Sophronius]

6. A politician from this country was mocked for muttering “I knew they wouldn’t clap” after announcing a corruption investigation into his own finances. This country’s attorney general was vilified for saying “I’m tired” at a hearing about a mass kidnapping. After this country’s current president defended killings in San Salvador Atenco, the “I Am 132” movement was formed. That president’s wife, Angelica Rivera, has faced scrutiny about a \$7 million (*) mansion she received from Grupo Higa. The Guerreros Unidos likely killed 43 students headed to a protest in Iguala from a college in Ayotzinapa. This country’s ruling coalition is dominated by the PRI, and it faces a conflict whose combatants include Los Zetas and the Sinaloa Cartel. For 10 points, name this Latin American country led by Enrique Peña Nieto.

ANSWER: Mexico [or United Mexican States; or Estados Unidos Mexicanos]

7. This philosopher analyzes the word *deinotaton* in the “Ode on Man” from Sophocles’s *Antigone* in a lecture course that analyzes the title river of a German poem as an enigma at encompasses both locality and journeying. This philosopher uses a silver chalice to illustrate Aristotle’s four causes in a work that contrasts forms of revealing, or *aletheia*, called bringing-forth and challenging-forth. This author of (*) Hölderlin’s Hymn “The Ister” discussed the hermeneutic circle between fundamental ontology and specific modes of existence in another work. This author of *The Question Concerning Technology* and “The Origin of the Work of Art” wrote that a hammer can be approached from the perspective of presence-at-hand or readiness-to-hand. For 10 points, name this Nazi-sympathizing phenomenologist who introduced the concept of *Dasein* in *Being and Time*.

ANSWER: Martin Heidegger

8. John Frank Stevens abruptly left this project halfway through completion, perhaps because he was fearful his earlier, subpar work in Washington state would be exposed. David DuBose Gaillard supervised the creation of the Culebra Cut during this project. An early failure of this project led to a bribery scandal culminating in temporary convictions of Ferdinand de Lesseps and Gustave (*) Eiffel. The eventual result of it was the subject of a controversial 1977 treaty signed by Omar Torrijos and the U.S. President. This project was made feasible by Dr. Walter Reed’s work at stopping the spread of yellow fever. For 10 points, name this project finished in 1914, the creation of an artificial waterway that effectively connects the Atlantic and the Pacific Oceans.

ANSWER: building the Panama Canal

9. In a play by this man, a poet’s student breaks his arm after being sent up to a palace’s worryingly steep roof to retrieve a canary belonging to Madame Tortoise. In that play by this man, a former carver climbs a tree with a basket over his head at the climax of his redemption, which involved help from a married couple from the army of Emperor Mata Kharibu. Another play by this author includes recurring mentions of the “Not-I Bird” and features a scene in which the policeman (*) Amusa is horrified to find a couple wearing robes used for the *egungun* ceremony. This man wrote a play in which Olunde commits suicide after Simon Pilkings, a colonial administrator, prevents his father Elesin from doing the same. For 10 points, name this Nigerian playwright of *The Dance of the Forests* and *Death and the King’s Horseman*.

ANSWER: Wole Soyinka [or Akinwande Oluwole Soyinka]

10. The presence of this gas in a sample is indicated by a change of cobalt(II) chloride from sky blue to deep purple. The “slip ratio,” which depends on a factor named for the “quality” of this gas, measures the ratios between the velocity of this gas and a liquid along the course of a pipe during two-phase flow. A molecule of methane reacts with a molecule of this gas to produce carbon (*) dioxide and three hydrogen atoms in a process known as the “reforming” of this gas. This is the working gas of a machine that was invented by Thomas Newcomen, and whose ideal performance follows the Rankine cycle. For 10 points, name this gas consisting of two hydrogen atoms and one oxygen atom.

ANSWER: steam [accept water vapor or other answers containing water; accept H₂O before “oxygen” and prompt thereafter]

11. An early 20th-century writer from this country, who was found dead in the snow from a heart attack in 1956, wrote in tiny, coded penmanship while in an asylum that was later decoded and published as the *Microscripts*. A group of writers founded in a railway station restaurant in this country included the author of the novel *I'm Not Stiller* and the playwright who wrote *The Visit*. Robert Walser was a writer from this country, the home of the author of a bildungsroman about (*) Heinrich Lee titled *Green Henry*. Max Frisch and Friedrich Dürrenmatt hailed from this home country of Gottfried Keller. A young goatherd named Peter appears in a set of children's books about a girl from this country who lives with her grandfather in the mountains. For 10 points, name this mostly German-speaking country, whose Alps are the setting of Johanna Spyri's *Heidi* novels.
ANSWER: Switzerland [or die Schweiz; or Suisse; or Swiss Confederation; or Confederatio Helvetica]

12. A Mike Cheyne look-alike in this film can't rest a case due to the "little man" in his chest. The narrator of this film questions "How could I know that murder can sometimes smell like honeysuckle?". A female character in this film is introduced by a low camera angle that shows her atop a staircase in a bath towel with sunglasses in her hand. A close-up of that female character's legs as she later descends the stairs highlights a gold anklet that "cuts" into her leg. This film unfolds in a series of (*) flashbacks, as recited by the Fred MacMurray-portrayed Walter Neff into a Dictaphone after he is shot by the platinum-blond-wig-wearing Phyllis Dietrichson. For 10 points, name this Billy Wilder *film noir* co-written by Raymond Chandler in which a Barbara Stanwyck-played housewife murders her husband with the help of an insurance salesman.
ANSWER: Double Indemnity

13. In his debates against Jacques Dôleris about sex education, this thinker drew from his theory that incest taboos came from primitive beliefs about the power of menstrual blood. With Marcel Mauss, this thinker described how the classification of things reflects social classifications in the book *Primitive Classification*. He founded the journal *L'annee sociologique* and introduced the concept of (*) collective effervescence in a book that defines religion as beliefs and practices about the sacred. He declared that social facts were the objects of sociological study in *The Rules of Sociological Method*. He also claimed that social order in primitive and modern societies is based on mechanical and organic solidarity, respectively. For 10 points, name this French sociologist who wrote *The Elementary Forms of Religious Life* and *The Division of Labor in Society*.
ANSWER: David Émile Durkheim

14. A small mean squared error can be obtained by focusing on rules that are functions of one of these things, according to the Rao-Blackwell theorem. A complete, sufficient one of these things is independent of an ancillary one according to Basu's theorem. The factorization theorem uses the conditional of a random variable given one of these things to determine whether they are sufficient. These things can be detangled from nuisance parameters, which is possible to do by using the likelihood function, which itself is used to generate (*) estimators. These things can be calculated from an observed frequency distribution, distinguishing them from parameters, which are measures of a probability distribution. For 10 points, name these measures of a sample, such as the variance, range, and mean.
ANSWER: statistic [or sufficient statistic; until they are read, prompt on: statistical parameter, statistical estimator]

15. Trading in this raw material led to the rise of the Spring family of merchants, the foremost of the families that got wealthy off of this material in the town of Lavenham. William, the scion of the de la Pole family, also established his wealth by trading in this raw material. By order of Edward III, who wanted to emphasize the importance of this material to the English economy, the Lord Speaker of the House of Lords sits atop a seat named for this material. A man who worked in an industry processing this material, Michele di (*) Lando, was appointed Gonfaloniere of Justice in a 1378 revolt in Florence named for the Ciompi [CHOMP-ee], or "carders," of this material. The backbone of the Medieval English economy was exporting this raw material to Ypres, Ghent, and Bruges, where Europe's foremost clothmakers worked. For 10 points, name this fibrous material that comes from sheep.
ANSWER: sheep's wool [do not accept or prompt on other answers]

16. This physicist names "strings" that are singularities in the gauge potential. This physicist developed a differential equation that was first order in time to replace the second-order-in-time Klein-Gordon equation. This physicist developed the idea of canonical quantization by replacing Poisson brackets with commutators, a method that is detailed in his monograph *The Principles of Quantum Mechanics*. He introduced the (*) bracket notation used in quantum mechanics. This British guy developed a wave equation that accounted for special relativity in quantum mechanics. He names a set of statistics for fermions with Fermi. For 10 points, name this formulator of quantum mechanics who proposed the existence of the positron and thus antimatter.

ANSWER: Paul Dirac [or P.A.M. Dirac; or Paul Adrien Maurice Dirac]

17. In one poem, this author described "gazing on the new soft-fallen mask / of snow upon the mountains and the moors" and watching "the moving waters at their priestlike task / of pure ablution". Another of his poems is set in a place where "the sedge has wither'd from the lake / and no birds sing", where the speaker is "alone and palely loitering". One of this man's poems follows the title phrase with the wish "would I were (*) steadfast as thou art", while the speaker of another sees "pale kings and princes too" in a dream after being lulled to sleep by the title character, who took him to her "elfin grot". For 10 points, name this poet of "Bright Star" and "La Belle Dame Sans Merci", who claimed that "Beauty is truth, truth beauty" in his "Ode on a Grecian Urn".

ANSWER: John Keats

18. One of this man's portraits depicts a man grasping the giant golden key to the Rock of Gibraltar, while another shows a portly hero of the Battle of Ushant leaning on his saber. He painted over a deteriorating version of his *Strawberry Girl* to create a portrait of a child called *The Age of Innocence*. This man's lecture series "The Discourses of Art" popularized the term "grand style". Portraits of Lords (*) Heathfield and Keppel were created by this man, who included a pile of dead birds and deer behind two aristocratic hunters in *Colonel Acland and Lord Sydney: The Archers*. An angry man holding a cup and a female figure carrying a dagger appear in shadows behind a seated actress in his most famous painting. For 10 points, name this British painter of *Sarah Siddons as the Tragic Muse*, the founder of the Royal Academy.

ANSWER: Joshua Reynolds

19. Various local myths describe this god carrying a ram on his shoulders around a city to avert a plague, explaining his epithet "kriophoros". During Heracles's eighth labor, he was assisted by a son of this god named Abderus who was eaten by Diomedes's mares. At the beginning of *The Eumenides*, Apollo places Orestes under the protection of this god. One of this god's sons was unwillingly seduced by, and then fused with, the nymph Salmacis. Zeus ordered this god to lull the giant (*) Argos Panoptes to sleep. With Chione, this god fathered Autolycus, and later he brought the magic herb moly to his great-grandson Odysseus. Shortly after he was born, he stole Apollo's cattle; as an apology, he invented, and gave to Apollo, the lyre. For 10 points, name this winged-sandal-wearing Greek messenger god.

ANSWER: Hermes [or Mercury until "Greek" is read]

20. This man translated John Ruskin's book *Unto This Last* into his native language to explain his social views. He started a farm with a Jewish architect named Hermann Kallenbach. This man controversially wrote an "Appeal for Enlistment" during World War I and organized ambulance drivers during a previous foreign war. This person's autobiography is titled *The Story of My Experiments with Truth*. He established Tolstoy Farm while in (*) South Africa, a country where he faced discrimination on public transit. This man was killed at a prayer meeting by Nathuram Godse. He used his principle of satyagraha to challenge the British with the 1930 Salt March. For 10 points, name this man who used civil disobedience to fight for Indian independence.

ANSWER: Mohandas Gandhi [or Mahatma Gandhi, prompt on Mahatma]

TB. The Sethi-Ullman algorithm computes the most efficient way to use these units if their count is below the Strahler number. Allocating these units is equivalent to constructing an interference graph such that no two adjacent nodes have the same color. During the fetch cycle, opcode is moved into the “data” type of these units, and the program counter is another of these units. The four (*) storage class keywords in C are auto, static, extern, and this keyword. Each of these units stores 64 bits of information in 64-bit processor architectures. CPUs can perform logic operations directly on these units, and these spaces are separate from main memory. For 10 points, name these storage spaces within microprocessors that are smaller and more accessible than caches.
ANSWER: registers

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Packet 11: Bonuses

1. Ethel falls in love with Victor Velasco in this play, whose premiere was directed by Mike Nichols and starred Elizabeth Ashley and Robert Redford. For 10 points each:

[10] Identify this play about the newlyweds Corie and Paul Bratter. Corie's desire for Paul to be less uptight is exemplified by her resentment that he refused to walk with her in the title fashion.

ANSWER: **Barefoot in the Park**

[10] *Barefoot in the Park* was written by this 20th-century American playwright, most famous for creating the mismatched roommates Felix Unger and Oscar Madison in his Tony-winning play *The Odd Couple*.

ANSWER: Neil **Simon**

[10] Simon won a 1991 Pulitzer for this play, in which Eddie Kurnitz sends his sons Jay and Arty to live with their eccentric Aunt Bella and their candy store-owning grandmother.

ANSWER: **Lost in Yonkers**

2. These interacting galaxies form NGC 4676. For 10 points each:

[10] Name this pair of spiral galaxies that derive their nickname from their long tails of dust and stars.

ANSWER: **Mice** galaxies

[10] The tidal forces generated by the gravitational interaction of the Mice galaxies has spurred the formation of clusters of young stars of this color. Stars with the highest surface temperature, spectral class O, appear as this color.

ANSWER: **blue**

[10] Blue giants appear above the main sequence on the very left of this scatter plot of stars based on their luminosity and temperature.

ANSWER: **HR** diagram [or **Hertzsprung-Russell** diagram]

3. He advocated becoming "personal, insulting, and rude" in the 38th and final "way to win an argument" listed in his intensely sarcastic treatise *The Art of Being Right*. For 10 points each:

[10] Identify this German philosopher who critiqued Kantian ethics in *On the Basis of Morality*. His comically misogynistic essay "On Women" is included in his collection *Parerga and Paralipomena*.

ANSWER: Arthur **Schopenhauer**

[10] Schopenhauer's most famous contribution to philosophy is this pessimistic book, which regularly cites the *Upanishads* and suggests that humanity's striving for fulfillment is the cause of its suffering.

ANSWER: *The* **World as Will and Representation** [or *Die* **Welt als Wille und Vorstellung**; or *The* **World as Will and Idea**; or *The* **World as Will and Presentation**]

[10] In *The World as Will and Representation*, Schopenhauer attempted to develop an ethic based on this Sanskrit phrase from the *Chandogya Upanishad*. It roughly translates as "That thou art" or "Thou art that".

ANSWER: "**Tat tvam asi**"

4. Answer the following about the curious intersections between professional wrestling and classical music for 10 points each.

[10] This legendary grappler, known as the "Nature Boy," entered the ring to the tune of Strauss' "Also Sprach Zarathustra." You probably know that he screams "WOO!" a lot as his catchphrase. You also may know he's a Rolex wearing, diamond ring wearing, kiss stealing, wheelin' dealin', limousine ridin', jet flyin', son of a gun.

ANSWER: Ric **Flair** [or Richard Morgan **Fliehr**]

[10] Daniel Bryan enters the ring while an instrumental version of this piece plays. In a Bugs Bunny cartoon, Elmer Fudd sings "Kill the wabbit!" to the tune of this piece.

ANSWER: "**Ride of the Valkyries**"

[10] Mr. Perfect entered the ring to the tune of the quasi-classical theme from the movie *Exodus*, whose screenplay was written by this blacklisted member of the Hollywood Ten. He wrote the anti-war novel *Johnny Got His Gun*.

ANSWER: (James) Dalton **Trumbo** [or Robert **Rich**]

5. The United States targeted this country in Operation Mongoose. For 10 points each:

[10] Name this country, where the Soviets placed ballistic missiles in 1962, prompting a tense confrontation between President Kennedy and Nikita Khrushchev.

ANSWER: Republic of Cuba

[10] This American Ambassador to the UN famously confronted the Soviet UN representative during the crisis. He had previously been a two-time failed Democratic nominee for the presidency.

ANSWER: Adlai Ewing Stevenson II

[10] The missile crisis was more or less resolved when the United States promised to dismantle missiles that had been deployed in Italy and this other country, which the Soviets regarded as a threat.

ANSWER: Republic of Turkey

6. Philip Webb designed one of these objects for Morris & Co. that Josef Hoffmann used as the basis for his adjustable-backed Sitzmaschine. For 10 points:

[10] Name this kind of furniture item. Charles Rennie Mackintosh made a set of high-backed ones with woven seats for the Argyle Room, and Eero Saarinen designed the futuristic “Tulip” kind.

ANSWER: chairs

[10] This architect designed his “Barrel Chair” for Herbert Johnson’s house Wingspread. His design for Robie House is an example of Prairie School architecture, and he used a Maya Revival style for Tokyo’s Imperial Hotel.

ANSWER: Frank Lloyd Wright

[10] This De Stijl designer used four wooden panels connected with dovetail joints to make his legless Zig-Zag chair. He also made the Red and Blue Chair.

ANSWER: Gerrit Thomas Rietveld

7. Characters in this novel include the servant M’ling and a mysterious gray creature who sits in the dark and recites the Litany of the Law. For 10 points each:

[10] Identify this novel in which Edward Prendick is rescued by Montgomery after surviving a shipwreck. Its title character is killed by a puma on whom he had been experimenting.

ANSWER: *The Island of Dr. Moreau*

[10] *The Island of Dr. Moreau* was written by this British science-fiction pioneer, who also wrote *The War of the Worlds*.

ANSWER: H.G. Wells [or Herbert George Wells]

[10] In this Wells novel, George Ponderevo travels to Africa to look for radioactive “quap” after his uncle Edward’s business empire, built on the sale of the title fake patent medicine, collapses.

ANSWER: Tono-Bungay

8. This mathematician names an existence theorem for the IVP $y' = f(t, y)$ and $y(t_0) = y_0$, if f is continuous, though the solution may not be unique. For 10 points each:

[10] Name this Italian mathematician whose five axioms formalizing the natural numbers include: zero is a natural number, every natural number has a successor in the natural numbers, and zero is not the successor of any natural number.

ANSWER: Giuseppe Peano

[10] Euclid’s *Elements* famously contains ten axioms defining Euclidean geometry, including this ultra-important fifth axiom, or postulate. It gives the condition for which lines will or will not intersect if extended indefinitely.

ANSWER: parallel postulate

[10] In his modern treatment of Euclidean geometry, *The Foundations of Geometry*, this German mathematician re-axiomatized Euclidean geometry. He also listed 23 unsolved problems that guided 20th century mathematics.

ANSWER: David Hilbert

9. A commander in this battle used as his flagship the HMS *Elephant*. For 10 points each:

[10] Name this 1801 battle in which a British fleet defeated a navy loyal to the League of Armed Neutrality. It is best remembered for the Vice Admiral intentionally placing his telescope to his blind eye to ignore a signal to withdraw.

ANSWER: Battle of Copenhagen

[10] This man, the Vice Admiral at Copenhagen, was later promoted to full Admiral and died at the Battle of Trafalgar. He proclaimed "England expects that every man will do his duty" before that battle.

ANSWER: Horatio Nelson

[10] Nelson was made a Baron after winning this 1798 battle at Aboukir Bay against the French, thus trapping Napoleon's land forces far from home.

ANSWER: Battle of the Nile

10. This composer used a ten-note chord at the climax of his unfinished *Symphony No. 10*, which was developed into multiple performing versions by Deryck Cooke. For 10 points each:

[10] Name this Austrian Jewish composer of the late Romantic era whose lengthy symphonies include his second, nicknamed "Resurrection," and his eighth, the *Symphony of a Thousand*.

ANSWER: Gustav Mahler

[10] This late Mahler work, which is not a numbered symphony, set six Tang dynasty poems for a tenor and an alto. The horns play an ape-call motif at the beginning of its first movement, "The Drinking Song of Earth's Misery."

ANSWER: *The Song of the Earth* [or *Das Lied von der Erde*]

[10] This F major movement of a Mahler composition, scored for strings and harp, served as something like a love letter to Mahler's wife Alma. Leonard Bernstein conducted it at Robert Kennedy's funeral.

ANSWER: Adagietto from *Symphony No. 5* [or the fourth movement from *Symphony No. 5*; prompt on partial answer]

11. Jean Tirole, the winner of the 2014 Nobel prize in Economics, has written a popular textbook in this field. For 10 points each:

[10] Name this field within economics which seeks to study how firms respond to market structures and competitions, how firms deal with regulation and policy, and how firms might structure their governance.

ANSWER: Industrial organization economics [or IO]

[10] Edward Chamberlin, an early contributor to Industrial Organization, developed this model in which firms produce similar, but not perfectly substitutable products. Agents don't have perfect information in this model.

ANSWER: monopolistic competition [or MC]

[10] IO economists may study these goods which the consumer has to purchase and use before they can ascertain its value. They are contrasted with "search goods" and "persuasive" rather than "informative" advertising is used to market these goods.

ANSWER: experience goods

12. Dead warriors and women who died in childbirth went to accompany the rising and setting sun, respectively, rather than to this place, while the drowned went to Tlalocan rather than here. For 10 points each:

[10] Name this arduous-to-traverse place to which your spirit might be guided by the psychopomp Xolotl.

ANSWER: Mictlan

[10] Mictlan is the name of the underworld in the mythos of this Mesoamerican people, who fatally confuse the arrival of Hernan Cortes for the return of the feathered serpent god Quetzalcoatl.

ANSWER: Aztecs [or Aztecs; or Aztec mythology]

[10] Many more people presumably flooded into Mictlan after this Aztec god invented war, a subject that later came under the patronage of Huitzilopochtli. This god is usually depicted wearing his own flayed skin. Gross.

ANSWER: Xipe Totec [or Camaxtli]

13. The unpopular Miguel de Cervantes play *El gallardo español* is set during a siege of this city, which is also the setting of a novel in which Joseph Grand obsessively rewrites the first sentence of a book. For 10 points each:

[10] Name this city, in which Jean Tarrou, Dr. Castel, and Bernard Rieux attempt to aid victims of a plague in a 1947 novel.

ANSWER: Oran, Algeria

[10] That novel was written by this Algerian-born French author, who created the chronically apathetic Meursault in *The Stranger*.

ANSWER: Albert Camus

[10] A man who tries to escape Oran in *The Plague* shares this first name with a character from *The Stranger* whose Moorish girlfriend's infidelity leads to Meursault shooting an Arab. Another man with this first name wrote the short story collection *Cathedral*.

ANSWER: Raymond [accept Raymond Rambert or Raymond Sintes or Raymond Carver]

14. An "ambient" variant of these conditions uses 298.15 Kelvin. For 10 points each:

[10] Identify these conditions set at 273.15 Kelvin and 100 kilopascals.

ANSWER: standard temperature and pressure [accept STP]

[10] At standard temperature and pressure, one mole of gas occupies this many liters, rounded to the nearest tenth of a liter.

ANSWER: 22.4 liters

[10] International bodies have set a standard atmospheric pressure of 101.325 kilopascals and temperature of 288.15 Kelvin at this standard reference point. The lapse rate describes a decrease in temperature as one moves away from this point.

ANSWER: standard sea level

15. This ruler was the target of the High Treason Incident. For 10 points each:

[10] Name this monarch who modernized his country with the Charter Oath after taking the throne in 1867.

ANSWER: Emperor Meiji

[10] The Meiji Restoration ended the power of this last shogunate, which had dominated Japan since 1603. It emerged after the Battle of Sekigahara.

ANSWER: Tokugawa Shogunate

[10] This 1877 rebellion against the Meiji Emperor featured many disaffected samurai who were offended by Japan's modernization. It ended after its leader, Saigo Takamori, killed himself.

ANSWER: Satsuma Rebellion

16. In 2004, Peter H. Wood published a book analyzing this painting as an allegory for slavery. For 10 points each:

[10] Identify this painting that depicts a waterspout encroaching on the horizon as a group of goofy-looking sharks swarm a small, broken-masted boat, on which lies a seemingly-uninterested, shirtless black man.

ANSWER: *The Gulf Stream*

[10] *The Gulf Stream* is among the most famous works of this New England-born artist of *Breezing Up*.

ANSWER: Winslow Homer

[10] This Homer painting, inspired by Japanese prints, depicts a pair of Goldeneye ducks being hit by a double-barrelled shotgun blast almost immediately after taking off from the water.

ANSWER: Right and Left

17. One of these two men was mythically in love with a woman named Leaena, who bit off her tongue to avoid implicating them. For 10 points each:

[10] Name either these two men or their collective nickname. They killed Hipparchus, the brother of Hippias, and the son of Peisistratus, and are sometimes thought of as fighters for democracy.

ANSWER: Harmodius AND Aristogeiton [or the Tyrannicides]

[10] After the downfall of Hippias, this man helped reform his city's constitution and revive democracy. He was the uncle of Pericles' mother.

ANSWER: Cleisthenes

[10] Cleisthenes was active in this Greek city, whose other ancient leaders include Solon and Draco.

ANSWER: Athens [or Athinai]

18. Wikipedia stresses this entity is "never a mere animal." For 10 points each:

[10] Name this evil entity currently imprisoned on the mythical Mount Damavand. He will eventually break loose at the end of the world and ravage it. This fiendish serpent is described as having three heads in the texts of the Avesta.

ANSWER: Zahhak [or Zohhak; or Azi Dahaka]

[10] Azi Dahaka is sometimes said to be the son of this other fiend. According to some traditions, he is the twin brother of his nemesis, the good Ahura Mazda.

ANSWER: Angra Mainyu [or Ahriman]

[10] Ahriman is a fiendish being in what monotheistic Persian religion that worships Ahura Mazda?

ANSWER: Zoroastrianism [or Zarathustraism; prompt on Mazdaism]

19. A collection of stories by this author includes "The Other", "Ulrikke", and "There Are More Things". For 10 points each:

[10] Identify this blind Argentine author who considered that collection to be his own best work, though critics generally prefer his more famous *Ficciones*.

ANSWER: Jorge Luis Borges

[10] The protagonist of this Borges story, which titles the aforementioned collection, trades his Wycliffe Bible for, then becomes obsessed by, the title object, which is written in a strange language and turns out to contain an infinite number of pages.

ANSWER: "The Book of Sand" [or "El Libro de Arena"]

[10] This Borges story also centers on an obsession-creating object, in this case a twenty-centavo coin that slowly erases the ability to perceive external reality in anyone who comes in contact with it.

ANSWER: "The Zahir" [or "El Zahir"]

20. The two-component system BfiCS helps regulate the transition from initial attachment to irreversible attachment in these structures. For 10 points each:

[10] Name this kind of structure that forms when microbes on a surface stick to one another, as in dental plaque. They secrete a matrices called extracellular polymeric substances.

ANSWER: biofilms

[10] Biofilms made by these organisms can fossilize into stromatolites. This phylum of photosynthetic bacteria caused the Great Oxygenation Event, and they include the ancestors of present-day chloroplasts.

ANSWER: Cyanobacteria [or Cyanophyta; or blue-green algae; do not accept or prompt on "algae"]

[10] The formation of infectious biofilms in the human body is reduced by these mucin-producing cells that secrete from the microvilli on their apical membrane. They are scattered among the epithelial lining of respiratory and digestive organs.

ANSWER: goblet cells

Extra. Identify the following about poems about British soldiers, for 10 points each.

[10] This poem by Alfred, Lord Tennyson says "Theirs not to reason why, theirs but to do and die" about the title group, who rode "into the Valley of Death".

ANSWER: "The Charge of the Light Brigade"

[10] Wilfred Owen described "each slow dusk" as "a drawing-down of blinds" in this poem, which opens by asking "What passing bells for those who die as cattle?"

ANSWER: "Anthem for Doomed Youth"

[10] This poet lamented "Never such innocence again" at the end of his poem about men queueing up to volunteer for World War I, "MCMXIV". He spent the last 30 years of his life as the University Librarian at Hull.

ANSWER: Philip Larkin [or Philip Arthur Larkin]