

Minnesota Undergraduate Tournament 2014: We're Not Happy 'til You're Not Happy
Questions by Billy Busse, Rob Carson, Mike Cheyne, Andrew Hart, Melanie Keating, and Bernadette Spencer
Round 12: Tossups

1. Ninety-one year old Florence Genova died during this event, although her daughter insists the death was not caused by this event. A participant in it remarked that he and a subordinate “didn’t travel in the same circles in high school,” saying he “was the class president and athlete.” A message about this event notes “it will be a tough November for” a “little Serbian,” while David Wildstein dismissed feeling sorry for kids because “they are the children of (*) Buono voters.” This scandal resulted in the firing of Deputy Chief of Staff Bridget Anne Kelly, and many believe it was perpetrated in retribution against Democratic Mayor Mark Sokolich’s lack of support for the governor in the 2013 election. For 10 points, name this recent political scandal in which Governor Chris Christie apparently attempted to create traffic jams at a certain location.

ANSWER: Bridgegate [or the Fort Lee lane closure scandal; or the George Washington Bridge lane closure; accept anything about Christie closing lanes or closing a bridge lane, prompt on Christie creating traffic jams and related answers]

2. In one reaction, large cyclic examples of these compounds are synthesized using a 2,4,6-trichlorobenzylchloride catalyst. Another reaction to synthesize these compounds converts DCC to dicyclohexylurea with DMAP as a catalyst. When two enolizable examples of these compounds are reacted together with a base, the product is a single compound containing this functional group beta to a ketone. Those reactions are named for Yamaguchi, Steglich, and (*) Claisen. The suffix -oate is used to refer to these compounds. The most famous synthesis of these compounds is an acid-catalyzed reflux of a carboxylic acid and an alcohol and is named for Fischer. For 10 points, name these compounds with general formula R-C-O-O-R-prime which are renowned for their fruity smell.

ANSWER: esters [accept “macrolactones” since the Yamaguchi clue is sometimes referred to as a “macrolactonization,” although it just makes esters in general]

3. During one of these events, a girl is told “Talitha Koum”. After one of these actions, its subject is told to wash in the Pool of Siloam. A man jumps off a ship from Bethsaida and exclaims “save me!” when he fails to imitate one of these occurrences. After another of these actions, men of the law have no answer to the question “if your ox fell in a well on the Sabbath, would you not immediately fish it out?”. In Bethany, a target of one of these is told to “take your (*) shroud and go”, before which the sisters Mary and Martha were mourning the death of their brother, Lazarus. The first of these events was caused by Mary pleading for her son to help out wedding hosts at Cana. For 10 points, name these supernatural events like walking on the Sea of Galilee and turning water into wine that are carried out by the Son of God in the New Testament.

ANSWER: miracles of Jesus [or anything that implies Jesus healing/curing/exorcising people]

4. This man was discredited by the discovery of secret documents in the *L’armoire de fer* scandal. During one incident, he posed as the butler of a fake Russian baroness, only to be recognized by a postmaster. This man’s cousin issued the Brunswick Manifesto on his behalf, threatening to harm civilians if he was not restored. His final words were cut off by a drum roll ordered by National Guard general Antoine-Joseph Santerre. This man was arrested during his failed (*) flight to Varennes, which resulted in him being placed under house arrest at the Tuileries. His finance minister was Jacques Necker. During his reign, the Bastille was stormed. For 10 points, name this French king, the husband of Marie Antoinette, who was executed by revolutionaries in 1793.

ANSWER: Louis XVI

5. Ralph Parker was the first to translate any of this author's works into English. Another of his works is a cycle of four books he called "knots", the last two of which remain untranslated into English, as do his memoir *The Little Grain Managed to Land Between Two Millstones* and his controversial history of Jews in his country, *Two Hundred Years Together*. In another historical work, he described the Kengir uprising and examined the course of the life of a typical (*) *zek*. After overhearing a conversation about Eisenstein's *Ivan the Terrible*, the protagonist of a novella by this man agrees to wait in line for Caesar, who receives food packages from his family, and listens to a story told by Tyurin, the foreman of Gang 104. For 10 points, name this Russian author of *One Day in the Life of Ivan Denisovich* and *The Gulag Archipelago*.

ANSWER: Aleksandr Isayevich Solzhenitsyn

6. One equation central to this discipline is an integral equation that relates a BRDF to the total spectral radiance and was proposed by James Kajiya. The marching cubes algorithm, which outputs a mesh, was proposed at a conference for this discipline. While teaching at the University of Utah, Martin Newall created a teapot that has become the standard reference object for this discipline. Though it is not signal processing, this discipline seeks to create efficient spatial (*) anti-aliasing algorithms to reduce artifacts called "jaggies." Algorithms of interest in this discipline may convert vector files into raster files, or perform the task of ray tracing. For 10 points, name this subfield of computer science which focuses on synthesizing images.

ANSWER: computer graphics [accept "image synthesis" before "For 10 points"; DO NOT ACCEPT making video games, which is wrong]

7. The "fundamental principles" of the sociology of this subject title a book by Eugen Ehrlich. Henry Maine theorized that it progresses "from status to contract" in his 1861 book on the "ancient" form of it. One thinker, who conceptualized of this subject as "integrity," theorized that it provides "right answers," even in "hard cases," using the example of an infinitely wise being he called Hercules. The rule of recognition, propounded by (*) H.L.A. Hart in a book about the "concept" of this subject, underlies the "positivist" approach to it. This subject, whose "Empire" titles a book by Ronald Dworkin, is interpreted in an approach championed by Guido Calabresi and Richard Posner in which it is paired with "economics." For 10 points, name this subject that comprises the rules instituted by governments.

ANSWER: law [accept word forms such as legal; accept Law's Empire or The Concept of Law or law and economics or Ancient Law; do not accept or prompt on synonyms such as "rules"]

8. In one of this author's novels, the disembodied head of François Alcasan leads the National Institute of Coordinated Experiments, which attempts to ensnare Mark Studdock. Another of his protagonists receives a permanent wound on his heel while fighting with the "un-man", the former Professor Weston. This author created the Greek ex-slave Lysias, or "the Fox", who serves in the kingdom of Glome as a tutor to Orual, the protagonist of a retelling of the Cupid and Psyche myth entitled (*) *Till We Have Faces*. In another of his novels, a war between Archenland and Calormen is prevented by the efforts of Shasta and Bree, a talking horse. The philologist Elwin Ransom is the main character of his *Space Trilogy*. For 10 points, name this author of *Out of the Silent Planet*, an Inklings who created the leonine Christ figure Aslan in his *Chronicles of Narnia*.

ANSWER: Clive Staples Lewis

9. This country banned the film *The Interpreter* because it claimed a character in it was too similar to its leader. It forcibly cleared slum areas in Operation "Drive Out Rubbish," or Operation Murambatsvina. This country's independence was negotiated by men like Bishop Abel Muzorewa. In this country, the Gukurahundi was the suppression of civilians, mostly the supporters of Joshua Nkomo. It obtained its independence from the United Kingdom following the (*) Lancaster House Agreement. This country's first president was Canaan Banana, who was arrested in 1997 on charges of sodomy. Its current head of state is the oldest in Africa. This country has been led since 1980 by Robert Mugabe. For 10 points, name this African country formerly known as Rhodesia.

ANSWER: Republic of Zimbabwe [prompt on Rhodesia until mentioned]

10. An 1827 opera titled for this kind of man, which was based on Charles Maturin's *Bertram*, is named for one of them called Gualtiero, and was composed by Vincenzo Bellini. A Lord Byron poem titled for this kind of man inspired an 1848 Giuseppe Verdi opera in which Corrado is the leader of them. That Byron poem also inspired a *pas de deux* danced by the bare-chested slave Ali and Medora an Adolphe Adam ballet titled for one of them. (*) Frederic believes that he must remain one of these men because his birthday falls on a leap year in an opera in which the king of these men opposes the comic baritone Stanley, who sings that he is the "very model of a modern major general." For 10 points, name this profession of Gilbert and Sullivan's characters "of Penzance."

ANSWER: pirates [accept synonyms such as buccaneers or corsairs; accept *Il Pirata* or *The Pirate* or *Le Corsaire* or *Il Corsaro* or *The Corsair* or *The Pirates of Penzance*]

11. A Daniel Dennett essay asserts that requesting a prequel novel about this character would not be the same as asking his creator to "tell us the answers you already know". In one scene, this character listens to a radio broadcast about the Dalai Lama's escape from China. At Club Castanet, he is surprised to encounter his sister Mim shortly after arguing with his former rival Ronnie Harrison. He is taken to a Chinese restaurant by his mentor Marty (*) Tothero and plays golf with the Episcopal priest Jack Eccles. His daughter Rebecca June is accidentally drowned by his wife Janice, who he temporarily abandons in order to shack up with Ruth Leonard. After inheriting a Toyota dealership, he "is rich". For 10 points, identify this former high school basketball star, the protagonist of a series of John Updike novels.

ANSWER: Harry "Rabbit" Angstrom [accept either underlined portion; prompt on "Angstrom"]

12. These molecules can be designed to selectively bind to templates treated with bisulfite or selectively bind to methylated templates. Dimers of these molecules can be visualized by adding SYBR ["cyber"] Green I and generating a melting curve. The formation of those dimers can be avoided through the use of a "hot-start" technique. These molecules hybridize to the template during the (*) annealing step of a certain technique which often uses Taq to bind to them. Prior to the action of DNA ligase, each Okazaki fragment is attached to one of these molecules, which serve as the starting points for amplification during PCR. Required for the action of DNA polymerases but not RNA polymerases, for 10 points, name these strands of nucleic acids which serve as a starting point for DNA synthesis.

ANSWER: primers

13. This work contains five themes, none of which end with a clear cadence, according to David Schiff, whose analysis of this work also asserts that Ravel imitated a section of its "Ritornello" theme in his *Piano Concerto in G*. Its finale opens with a four-bar "leggiere" section, after which the pianist switches hands and a section marked "agitato e misterioso" begins. It was premiered by the Palais Royale Orchestra at the Aeolian Hall under the direction of Paul (*) Whiteman. This composition was orchestrated by Ferde Grofé, though its most famous passage was improvised by Ross Gorman. Opening with a trill followed by a 17-note clarinet glissando, this is, for 10 points, which train-ride-inspired composition by George Gershwin?

ANSWER: Rhapsody in Blue

14. Along with John Norreys, this man was responsible for killing over 600 Scottish people in the Rathlin Island Massacre. He legendarily dismissed Thomas Fleming's report on the enemy in order to play bowls with his officers on Plymouth Hoe. This man died of dysentery shortly after losing the Battle of San Juan, and during the Battle of Gravelines, he was commanding the *Revenge*. He led a voyage to metaphorically (*) "sing the beard" of an enemy king by raiding Cadiz. This one-time captain of the *Golden Hind* was serving as vice admiral when he captured Admiral Pedro de Valdes, a commander of a so-called "invincible" fleet. For 10 points, name this English privateer who circumnavigated the globe in the 1570's and fought against the Spanish Armada in 1588.

ANSWER: Sir Francis Drake

15. One book by this philosopher proposed a “closer continuer” theory of identity. Another book by this man introduces a three-pronged theory of entitlement of ownership and argued against a maxi-min society. This man attempted to solve the Gettier problem with a subjunctive, or truth-tracking, conception of knowledge. In that work, this author of *Philosophical (*) Explanations* used the efficient “utility monster” and “paying Wilt Chamberlain” thought experiments to invalidate the “difference principle” and argue for the supremacy of a libertarian night watchman state. For 10 points, name this American philosopher who countered Rawls’ *Theory of Justice* with *Anarchy, State, and Utopia*.

ANSWER: Robert Nozick

16. One man who was killed under this policy had his writings collected by Aelred Stubbs as *I Write What I Like* and was the subject of a book by *Daily Dispatch* editor Donald Woods. Ben Du Toit comes to oppose this policy after the janitor Gordon and his wife Emily are killed in the novel *A Dry White Season*. A policeman violates the Immorality Law, part of this policy, by dating Stephanie in a novel named for a bird found in a guidebook given to (*) Pieter van Vlaanderen by his father. This policy, which provides the backdrop of *Too Late the Phalarope*, is violently overthrown in a novel in which the Smales family flees to their servant July’s village. For 10 points, Andre Brink, Nadine Gordimer, and Alan Paton wrote about what former system of government-imposed segregation in South Africa?

ANSWER: apartheid

17. Some treatments of this phenomenon remove symmetry from their solutions by adding an obliquity factor. One theory of this phenomenon computes a solution by taking the Green’s function of the Helmholtz equation, then plugging it into the Kirchhoff integral theorem. The formula “1.22 times lambda over D” gives the angular resolution caused by this phenomenon. This phenomenon can be modeled by viewing each point on a (*) wavefront as a source of a new spherical wave. For this phenomenon in a crystal, two times the lattice spacing times the sine of the incident angle equals an integer multiple of the wavelength. X-rays undergo this phenomenon in X-ray crystallography. Described by the Rayleigh criterion, Huygens’ principle, and Bragg’s Law, for 10 points, name this phenomenon in which light bends around an aperture or obstacle.

ANSWER: diffraction [prompt on “interference”]

18. For his opposition to this policy, Colorado Governor Ralph Lawrence Carr has a statue honoring him in a certain Denver square. This policy was discussed in a controversial book by David Lowman, who said it was initiated due to concerns about “Magic intercepts.” It was strongly endorsed by General John DeWitt, who divided states into “prohibited zones” as part of this policy. This policy was enforced by Executive Order (*) 9066 and Attorney General Earl Warren’s office, which created centers like Manzanar. Over 80,000 people affected by this policy were *Nisei*. The Supreme Court upheld aspects of it in the case *Korematsu v. United States*. For 10 points, name this World War II policy in which over 110,000 people from a certain heritage on the Pacific coast were forcibly relocated.

ANSWER: Japanese American internment

19. One opponent of these people died when he was fed a bird which had been treated with plaster and gypsum, while another of their opponents was fooled by a giant fake crab and crushed by a mountain, thus avenging the earlier deaths of the Four Hundred Boys. These characters were conceived when a skull spit into their mother’s palm. They also killed a bird who was pretending to be the sun and the moon using a blowgun. One of them was decapitated in the (*) Bat House, but was able to recover his real head during a ball game. They were able to retrieve their father’s remains after tricking One Death and Seven Death into killing themselves. These killers of Seven Macaw were also victorious over the lords of Xibalba. For 10 points, name this pair of Mayan brothers, whose names were Hunahpu and Xbalanque.

ANSWER: the Mayan Hero Twins [accept Hunahpu and Xbalanque in either order until their names are read]

20. One member of this group was angered when his painting *Moonlight* was mishung by the Royal Academy. “Oxen at Work” and “Cattle Drinking” are among the characteristic paintings of another member of this group, Constant Troyon. William Morris Hunt led an American offshoot of this group, whose original version included Charles- Francois Daubigny, a man known as “le grand refusé”, and a man who painted *The Bridge at Narni* shortly before joining it, the last of whom is Camille (*) Corot. Another member of this school painted two praying farmers in *The Angelus* and depicted three peasant women bending over to pick up the remnants of a grain harvest in *The Gleaners*. For 10 points, name this school founded by Theodore Rousseau and Jean-Francois Millet, which gathered in a namesake village near the Forest of Fontainebleau.
ANSWER: the Barbizon school

TB. This was the position held by a man whose country initiated the Forward Policy, resulting in outposts built past the McMahon Line during one conflict. It’s not the pope, but a holder of this position mused that the “light has gone out of our lives” after an assassination rocked his country. This was the political position held by a man whose finance minister uncovered the Bofors arms scandal in 1987. The first holder of this position gave the 1947 (*) “Tryst With Destiny” speech. A later holder of this post was killed by her own bodyguards after authorizing Operation Blue Star. She was succeeded in this post by her son, who was killed by a Tamil insurgent. For 10 points, name this position in an Asian country held by Jawaharlal Nehru.
ANSWER: Prime Minister of India [or PM of India; do not accept “President of India”; do accept answers like India’s head of state]

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Round 12: Bonuses

1. Respond appropriately to the following statements about applications of geometry to astronomy, for 10 points each.

[10] The Earth's orbit around the Sun lies in this plane, which is rotated approximately 23 degrees with respect to the Earth's spin-axis and the celestial equator. Mercury's orbit has an inclination of 7 degrees with respect to this plane.

ANSWER: ecliptic plane

[10] This quantity can be determined via parallax, which works by examining how a celestial object appears to move with respect to farther away objects as the Earth rotates around the sun and drawing a triangle. This quantity is measured in units such as parsecs and light-years.

ANSWER: distance [prompt on "length"]

[10] This quantity, which is analogous to longitude on the Earth, is the angular distance between an object and the vernal equinox point. When the angle of declination and this quantity are known, the location of an object on the celestial sphere is uniquely specified.

ANSWER: angle of right ascension

2. Forerunners to this movement included John McHale's *Dazzle* series and Victor Vasarely's *Zebra*, which anticipated this movement's heavy use of the contrast between black and white. For 10 points each:

[10] Identify this short-lived art movement whose other prominent members included Richard Anuszkiewicz (uh-NOOS-kay-vich) and Bridget Riley. It first gained fame at William Seitz's 1965 exhibition *The Responsive Eye*.

ANSWER: Op art

[10] Op art was partly inspired by this artistic technique, which gained popularity in the Baroque with paintings like Petrus Christus's *Portrait of a Carthusian*, which depicts a realistic fly sitting on its frame. Its name is French for "deceive the eye".

ANSWER: trompe l'oeil

[10] Another artist fond of illusions and trickery was this tessellation-loving Dutch printmaker, who depicted an endless staircase in his *Ascending and Descending* and a geometrically-confusing building in his *Relativity*.

ANSWER: Maurits Cornelis "M.C." Escher

3. A key event leading up to the creation of this kingdom was the conquest of a Bourbon kingdom in the Expedition of the Thousand. For 10 points each:

[10] Name this European kingdom created in the Risorgimento. Its creation was advocated by journalist Giuseppe Mazzini.

ANSWER: Italy

[10] This man, the founder of the newspaper *Il Risorgimento*, became Italy's first Prime Minister. A nobleman, he hailed from Turin and died after only three months in office.

ANSWER: Camillo Benso, Count of Cavour [accept either part; or the Conte di Cavour]

[10] During the Italian War for Independence, Victor Emmanuel II allied with Napoleon III to win this massive 1859 battle against the Austrians. It is best known for inspiring Jean-Henri Dunant to found the International Red Cross afterwards.

ANSWER: Battle of Solferino and San Martino

4. This theory was first introduced in an article by James Wilson and George Kelling. For 10 points each:

[10] Name this theory about crime prevention which, using a different analogy than its namesake, suggests that people tend to litter more if they see litter already on a pavement. Philip Zimbardo demonstrated it by parking an already vandalized car in Palo Alto.

ANSWER: broken windows theory

[10] An application of broken windows theory is an attempt to remove instances of this phenomenon from cities, some of which have been created by such people as Banksy and Basquiat.

ANSWER: works of graffiti [or street art, prompt on tags]

[10] The broken windows theory has been used to justify the “stop and frisk program” ongoing in this city, whose current mayor, Bill de Blasio, appointed “stop and frisk” guru Bill Bratton to be its Police Commissioner.

ANSWER: New York City [or NYC]

5. Name some French playwrights with something in common, for 10 points each.

[10] This guy pissed off Moliere by both abandoning his acting company and seducing his leading actress, Therese du Parc. This author of *Athalie* is most famous for his neoclassical plays, including *Andromaque* and *Phedre*.

ANSWER: Jean Baptiste Racine

[10] He wrote about a murderous smuggler in the novel *Querelle of Brest*, while his plays include one in which Claire and Solange role-play the murder of their employer called *The Maids*, as well as *The Blacks* and *The Balcony*.

ANSWER: Jean Genet

[10] Darius Milhaud wrote the incidental work for this man’s *The Traveler Without Luggage*. This playwright also wrote *Becket*, or *the Honor of God*.

ANSWER: Jean Marie Lucien Pierre Anouilh

6. Answer the following about ESPN’s Brent Musburger for 10 points each.

[10] Brent and Kirk Herbstreit conducted a memorably insane September 2013 interview with this rapper, who said Brent was on his “fantasy announcers” team. Brent refrained from calling this man “Slim Shady.”

ANSWER: Eminem [or Marshall Bruce Mathers III]

[10] Brent’s signature catch phrase features these four words with which he welcomes viewers to sports broadcasts. This four word phrase is usually followed by the name of the stadium or arena the game is taking place in.

ANSWER: “You are looking live...”

[10] Brent famously ogled Katherine Webb, the girlfriend of an Alabama quarterback, but he previously also lusted after Jenn Sterger while Sterger was a student at this university. In 1993, players for this school received more than \$6,000 worth of shoes from agents, leading Steve Spurrier to give it a memorable nickname.

ANSWER: Florida State University [or FSU, or Seminoles, prompt on “Free Shoes University”]

7. Hey buckaroos, answer the following about the old west, for 10 points each.

[10] This leader of the Northfield, Minnesota raid is described by Wikipedia as an “outlaw, gang leader, bank robber, train robber, and murderer.” This Missourian teamed with his brother Frank to form a gang and was eventually killed by Robert Ford.

ANSWER: Jesse James [or the “Road Dogg Jesse James”]

[10] This tubercular dentist joined a trio of brothers in an infamous gunfight in which his “law and order” side took on the Clanton and McLaury brothers in Tombstone.

ANSWER: John Henry “Doc” Holliday

[10] The gambler and lawman Wild Bill Hickok was killed in Deadwood while holding this combination of playing cards, infamously known as the dead man’s hand.

ANSWER: black aces and eights

8. This experiment serves as a demonstration of wave-particle duality, since individual particles produce the same pattern as light waves, despite it being impossible for individual particles to simultaneously pass through multiple apertures. For 10 points each:

[10] Name this experiment performed by Thomas Young, in which individual particles fired through adjacent apertures produce an interference pattern of alternating light and dark bands on a detector.

ANSWER: Young's double-slit experiment

[10] Interference between two waves is maximally constructive if the shift in this quantity between the two waves is zero and maximally destructive if the shift in this quantity between the two waves is equal to n times π where n is an odd number.

ANSWER: phase shift

[10] The alternating light and dark bands created due to interference of light waves are given this name. The Michelson-Morley experiment sought to detect this type of shift caused by the luminiferous aether.

ANSWER: interference fringes

9. Identify the following about violin concerti, for 10 points each.

[10] Antonio Vivaldi's most enduring work is this quartet of concerti, originally published as part of *The Contest Between Harmony and Invention*.

ANSWER: *The Four Seasons* [or *Le Quattro Stagioni*]

[10] Donald Tovey dubbed the final movement of this composer's 1904 *Violin Concerto* a "polonaise for polar bears". This man's other works include the *Valse Triste*, a one-movement *Seventh Symphony*, and the *Karelia Suite*.

ANSWER: Jean Sibelius [or Johan Julius Christian Sibelius]

[10] Tchaikovsky was inspired to write his D minor violin concerto after he and Iosif Kotek played this Edouard Lalo piece, which despite its name is generally considered a violin concerto today.

ANSWER: *Symphonie Espagnole* [or Edouard Lalo's Opus 21; or the *Spanish Symphony*]

10. Andrew Hart was deeply influenced by a portion of the opening scene of this play in which Stephen Undershaft incessantly fiddles with his watch chain while talking to his mother, Lady Britomart. For 10 points each:

[10] Identify this play which ends with Adolphus Cusins agreeing to inherit a munitions factory from Andrew Undershaft and Cusins's fiancée, the title character, resigning from the Salvation Army.

ANSWER: *Major Barbara*

[10] *Major Barbara* was written by George Bernard Shaw, who also penned this play about phonetics professor Henry Higgins's attempts to teach the Cockney flower girl Eliza Doolittle to speak "proper" English.

ANSWER: *Pygmalion*

[10] Anthony Wynn's most famous play depicts the unlikely friendship between Shaw and this son of the 9th Marquess of Queensberry, who coined the term "the love that dare not speak its name" in his poem "Two Loves".

ANSWER: Lord Alfred Bruce Douglas [or Bosie]

11. The change in frequency possessed by a peak in this technique relative to a standard is referred to as the chemical shift. For 10 points each:

[10] Name this technique which can only be performed on isotopes with an odd number of electrons, like hydrogen-1 and carbon-13. Like IR, it's commonly used to elucidate the structures of unknown organic compounds.

ANSWER: Nuclear Magnetic Resonance

[10] A compound containing this element bonded to four methyl groups has a defined chemical shift of zero in proton NMR. This metalloid's dioxide makes up quartz, and it lies immediately below carbon on the periodic table.

ANSWER: silicon [or Si; prompt on "tetramethylsilane" or "TMS"]

[10] Electrons in NMR will create a magnetic field that opposes the applied field, causing the net field around the nucleus to decrease. Increased electron density around the nucleus thus causes chemical shift to decrease, a phenomenon given this name.

ANSWER: shielding [accept word forms]

12. Axel Michaels claims this faith can be divided into three distinct belief systems and four strains of religious behavior. For 10 points each.

[10] Give this Western term for the collection of traditional religions often known as *Sanatana Dharma*.

ANSWER: **Hinduism** [or religions of the **Indian** subcontinent; reverse prompt on “religions of any Indian state”]

[10] Most scholars agree that all forms of Hinduism at least pay lip service to these very old Sanskrit scriptures that are considered shruti, or revealed. They include the Upanishads.

ANSWER: **Vedas**

[10] Many aspects of Hindu gods, including the Trimurti, are outlined in these scriptures that were compiled by Vyasa. These texts are often classified into types based on the three gunas.

ANSWER: **Puranas**

13. Identify the following things about the *Arabian Nights*, for 10 points each.

[10] They were translated as *The Book of the Thousand Nights and a Night* by this polyglot British explorer, who arranged the publication of a translation of the *Kama Sutra* and roved across Africa with John Hanning Speke.

ANSWER: Richard Francis **Burton**

[10] This character, the thousand-and-first wife of King Shahryar, continually forestalls her own execution by telling Shahryar a new story every night but ending it on a cliffhanger, thus buying another day of life.

ANSWER: **Scheherazade** [or **Sahrzad**; or **Shahrzad**]

[10] Scheherazade’s sister Dunyazad narrates the first section of this 1972 John Barth novel, in which Barth appears from the future and suggests the storytelling gambit to Scheherazade. Its latter two sections are the *Perseid* and the *Bellerophoniad*.

ANSWER: **Chimera**

14. This modern-day country was where Mykola Skrypnyk shot himself in his apartment rather than recant his policies. For 10 points each:

[10] Name this modern-day country, which as a republic in the 1930’s was the site of a massive famine called the Holodomor. Many historians believe the famine was as a result of Soviet collectivization programs.

ANSWER: **Ukraine** [or **Ukrainian** Soviet Socialist Republic, prompt on **Soviet Union**, prompt on **Union of Soviet Socialist Republics**, prompt on **USSR**, do not accept “Russia”]

[10] The Soviet collectivization programs and the First Five-Year-Plan were the brainchild of this dictator, who led the Soviet Union during World War II.

ANSWER: Joseph **Stalin** [or Iosif Vissarionovich **Stalin**; or Ioseb Besarionis dze **Jugashvili**]

[10] The Soviet secret police carried out this 1940 massacre of Polish nationals in the namesake Russian woodlands. About 22,000 were slain during it, and the Soviets blamed it on the Nazis.

ANSWER: **Katyn** Forest massacre

15. A character in this film is described to be “the kindest, bravest, warmest most wonderful human being I’ve ever known in my life.” For 10 points each:

[10] Name this 1962 movie in which veteran Raymond Shaw is revealed to have been brainwashed by the Chinese into becoming an assassin, with his own mother as his Communist handler.

ANSWER: *The **Manchurian Candidate***

[10] In the film, Shaw’s brainwashing is triggered when he sees this playing card, which the villains prompt Shaw into seeing by encouraging him to play solitaire.

ANSWER: **queen of diamonds** [prompt on partial answer]

[10] In the film, Shaw is a veteran of this war, which is also the subject of such movies as *Pork Chop Hill* and *The Bridges at Toko-Ri*, as well as Robert Altman’s film *M*A*S*H*.

ANSWER: the **Korean** War

16. The structure which catalyzes this process is created from U1, U2, U4, U5, and U6 snRNPs (“snurps”). For 10 points each:

[10] Name this process, during which a transesterification reaction is used to link two nucleotides to form a lariat. Exons are joined together at the end of this process.

ANSWER: splicing [accept word forms]

[10] Splicing is used to modify this type of RNA, which is exported from the nucleus after transcription during the process of protein synthesis.

ANSWER: mRNA or messenger RNA

[10] Gene expression can be inhibited by the destruction of mRNA through RNA interference. In RNA interference, this enzyme is used to cleave double-stranded RNA into microRNAs and siRNAs, which can then be loaded into the RISC complex. Unlike Drosha, this enzyme is located in the cytoplasm.

ANSWER: Dicer

17. Name some things related to Continental philosophy, for 10 points each:

[10] This thinker pointed out the parallel roots of fascism and imperialism in *The Origins of Totalitarianism*. She also explored the importance of obedience and the “banality of evil” in *Eichmann in Jerusalem*.

ANSWER: Hannah Arendt [or Johanna Arendt]

[10] This member of the Frankfurt School and contributor to *The Authoritarian Personality* explored the cultural effects of the “negative dialectic” in *Minima Moralia* and *The Dialectic of Enlightenment* with Max Horkheimer.

ANSWER: Theodor W. Adorno [or Theodor Ludwig Wiesengrund]

[10] This British philosopher, a student of Raymond Williams, rejected the militant atheism of “Ditchens” in his Gifford Lectures and wrote the seminal textbook *Literary Theory: An Introduction*.

ANSWER: Terry Eagleton [or Terence Francis Eagleton]

18. This company won the naval battle of Pulo Aura. For 10 points each:

[10] Name this company which won the Battle of Plassey. It was opposed in the 1857 Sepoy Mutiny.

ANSWER: British East India Company

[10] The Battle of Plassey was preceded by an incident where British prisoners were placed in a small dungeon at the old Fort William in this city. The dungeon was known as the “Black Hole” of this city.

ANSWER: Calcutta [or Kolkata]

[10] This British colonel won the Battle of Plassey and later became a Major-General. He fought the East India Company over various proposed reforms and committed suicide in 1774.

ANSWER: Robert Clive, 1st Baron Clive

19. It describes “genius” as believing “that what is true for you in your private heart is true for all men”, and it urges the reader to “trust thyself”. For 10 points each:

[10] Identify this 1841 essay, now likely most famous for the quip “a foolish consistency is the hobgoblin of little minds”.

ANSWER: “Self-Reliance”

[10] “Self-Reliance” was written by this Transcendentalist author of “The Over-Soul”, who coined the phrase “shot heard ‘round the world” in his poem “Concord Hymn”.

ANSWER: Ralph Waldo Emerson

[10] Emerson claimed that “the true Christianity” is lost because “none believeth in the soul of man” in this controversial 1838 speech.

ANSWER: the Harvard Divinity School Address

20. Fragmentary Orphic rhapsodies describe the four daughters, including Philophrosyne and Eucleia, that this god fathered with his second wife, the Grace Aglaea. For 10 points each:

[10] Name this lame Olympian god, worshipped at a cult based in Lemnos, who created Aphrodite's girdle, Helios's chariot, Pelops's ivory shoulder, and many other items at his forge.

ANSWER: **Hephaestus**

[10] Hephaestus also crafted this awe-inspiring piece of armor, variously described as a shield or a breastplate, which bears Medusa's head and is used by Athena and Zeus.

ANSWER: the **aegis**

[10] Hephaestus took pity on the blinded Orion and lent him this servant as a guide. Sitting on Orion's shoulders, he guided the hunter towards the rising sun, which eventually restored the latter's sight.

ANSWER: **Cedalion** [or **Kedalion**]

Extra. The solid-liquid line on this compound's phase diagram has a negative slope. For 10 points each:

[10] Name this compound which is removed from mixtures using desiccants. It freezes at 0 Celsius and boils at 100 Celsius.

ANSWER: **water** [or **H₂O**]

[10] Water belongs in one of these constructs denoted C_{2v}. These constructs are used to classify molecules based on their internal planes of symmetry, and they're used to generate character tables.

ANSWER: **point groups**

[10] This molecule, which belongs to the point group C_{3v}, is synthesized industrially using an iron-based catalyst in the Haber-Bosch process.

ANSWER: **ammonia** [or **NH₃**]