



# ACADEMIC COMPETITION FEDERATION

2015 ACF NATIONALS  
PACKET BY TORONTO AND MICHIGAN

## TOSSUPS

1. For many years, jazz musicians in this city have participated in late night jam sessions at the Mutual Musicians Foundation. Jazz bands working in this city were known for “head arrangements” instead of sight-reading, performing frequent, elaborate riffs, and featuring “blues shouters” like Jimmy Rushing and Big Joe Turner. Jay McShann led a big band from this city, whose 18th and Vine district nurtured musicians like Charlie Parker, who grew up here. The line “They got a crazy way of lovin’ out there” appears in a Jerry Leiber and Mike Stoller song about this city. This city’s characteristic style was developed by the Bennie Moten Orchestra, which employed Count Basie before he created his own orchestra and moved to Chicago. The jazz scene in this city took off because Prohibition was not enforced by political boss Tom Pendergast. For 10 points, name this Midwestern city, a jazz Mecca during the 1930s.

ANSWER: Kansas City, Missouri [do NOT accept “Kansas City, Kansas”]

2. This poem’s narrator compares his house to “a watchman’s hut made of branches and cane” and states that his “roots were entrenched before the birth of time.” This poem’s addressee has “stolen the orchards of my ancestors” and “left nothing for us except for these rocks.” At the end of this poem, its narrator warns “Beware... of my hunger and my anger!” and earlier states that “The usurper’s flesh will be my food.” After this poem’s narrator states that he has eight children, he remarks that “the ninth will come after a summer.” Many of this poem’s stanzas begin with the phrase “Write down! I am an Arab,” and its narrator states that the number on its title object “is fifty thousand.” For 10 points, name this poem by Mahmoud Darwish about a Palestinian’s registration document.

ANSWER: “Identity Card” [or “Bitaqat Hawiyyah”]

3. A defect in one of these proteins causes Glanzman’s thrombasthenia. Mutations in the CD18 subunit of another of these proteins causes a disease known as LAD-1. These proteins are the targets of drugs such as abciximab, eptifibatide, and natalizumab. These proteins frequently bind to the acidic RGD or LDV sequences of their ligands. The kinase FAK mediates the signaling performed by these proteins, which bind to filamin and talin at their cytoplasmic faces. The alpha-A domain of one of these proteins is homologous to the A-domain of von Willenbrand factor. The binding of divalent cations to these heterodimeric proteins allows them to bind to ligands such as VCAMs and ICAMs. One of these proteins designated “alpha-6 beta-1” binds to laminin while one designated “alpha-5 beta-1” binds to fibronectin. They are similar to selectins and cadherins. For 10 points, name these transmembrane receptors and cell adhesion molecules which mediate interactions between cells and the extracellular matrix.

ANSWER: integrins [or glycoprotein 2b/3a until “RGD” is read; prompt on “CDs” or “clusters of differentiation” until “CD18” is read; prompt on “glycoproteins” until “RGD” is read]

4. After the disbanding of this group, one of its founders became an employee at the estate of the mystic Lady Eleanor Davies, who claimed to be the prophet Melchisedeche, the Queen of Peace. This group issued the Wellingborough Declaration, in which they claimed it is better to “die by the Sword than by the Famine.” A faction of this group was locked in a battle with John Platt after they settled at Cobham Heath, while another faction settled at St. George’s Hill and renamed it George Hill. Led early on by William Everard, the philosophy of this group was put forth in The New Law of Righteousness, the primary text by its major leader Gerrard Winstanley. The True Levellers is often a moniker for this group of Protestant radicals. For 10 points, name this English religious group that took their moniker from their penchant for carrying shovels.

ANSWER: the Diggers [or the True Levellers until it is read; do NOT accept or prompt on “Levellers”]

5. The development section of this symphony's final movement includes a tone row which anticipates Schoenberg's twelve-tone technique, omitting only the tonic. The fact that the composer revised this symphony by adding two clarinets and altering the oboe part to accommodate them is evidence that the composer did hear it performed, contrary to a popular legend. This symphony begins with the violins introducing a theme consisting of "E-flat, D, D" repeated three times followed by a higher B-flat. This symphony's fourth movement begins with a Mannheim rocket. This symphony is the second of the only two minor-key symphonies by its composer, and is nicknamed the "Great G Minor." For 10 points, name this penultimate symphony of an Austrian composer, preceding the *Jupiter*.

ANSWER: Wolfgang Amadeus Mozart's Symphony No. 40 in G Minor [or KV. 550; or Mozart's Great G Minor symphony until it is read]

6. This book refutes six different theories of meaning with an example of a vending machine that accepts Panamanian and American quarters. Its penultimate chapter attempts to answer the question "Can ethics be naturalized?" by suggesting that the utilitarian theory of J.S. Mill be adopted. This book's fifteenth chapter refutes the ideas contained in *The Emperor's New Mind* and ridicules Roger Penrose for suggesting that a theory of quantum gravity would explain why the brain is more powerful than a Turing machine. This work, which begins by citing the song "Tell Me Why?" attacks so-called "greedy reductionists" who seek to answer "why" questions with "skyhooks." Its longest chapter, "Bully for Brontosaurus," refutes Steven Gould's interpretations of the title concept. For 10 points, name this book that discusses the scientific and cultural impact of natural selection, a work written by Daniel Dennett.

ANSWER: Darwin's Dangerous Idea: Evolution and the Meanings of Life

7. A poem by this author has stanzas about Julius Caesar, Helen of Troy, and Michelangelo, each of whom has a mind which "moves upon silence," like the title animal "upon the stream." He used the phrase "World-Besotted Traveler" in his translation of the epitaph which Jonathan Swift wrote for himself. He used the last three lines of one of his poems for his own epitaph, "Cast a cold eye on life, on death. Horseman, pass by!" This author of "Long-Legged Fly" wrote a poem whose speaker hears water "in the deep heart's core." That poem describes how "peace comes dropping slow" in a place where "midnight's all a glimmer" and where the speaker plans to plant "nine bean rows." For 10 points, name this poet who wrote "I will arise and go now" in his poem "The Lake Isle of Innisfree."

ANSWER: William Butler Yeats

8. These compounds can be synthesized using Nagata's reagent. Reaction of one of these compounds with tin chloride and hydrochloric acid followed by hydrolysis yields an aldehyde in the Stephen synthesis. These compounds produce chemical shifts of 115-120 ppm in carbon-13 NMR. In another reaction, one of these compounds is nucleophilically attacked by an alcohol in the presence of catalytic hydrochloric acid, forming an intermediate which can be hydrolyzed into an ester or converted into an amidine by adding ammonia. Two equivalents of this functional group are present in the radical initiator AIBN. An alpha-amino one of these compounds can be hydrolyzed to an amino acid in the Strecker synthesis. These compounds can be converted to primary amines via two equivalents of hydrogen and Raney nickel. For 10 points, name these carboxylic acid derivatives produced by the SN2 reaction of an alkyl halide with cyanide, which contain a carbon triple bonded to a nitrogen.

ANSWER: nitriles [or cyano compounds until "cyanide" is read and prompt thereafter]

9. A bloody civil war in this nation was incited when its president passed 15 constitutional amendments called the Social Guarantees, and the Alien Property Law, which allowed its government to seize German and Italian property after a German submarine attack. Earlier, this country was alternately ruled by men called Don Ricardo and Don Cleto. The assassination of communist Mora Valverde, who led the People's Vanguard, and the overthrow of its president Teodoro Picado started its civil war in 1948. Its first president José Madriz, the "founder of the republic," moved its capital from a city where the Virgin of the Angels, a black Madonna known as La Negrita, is kept at its basilica. That former capital is Cartago, while a cloud forest reserve is located at this nation's town of Monteverde, founded by American Quakers. Once led by Laura Chinchilla it is just south of the Mosquito Coast. For 10 points, name this country which has had a border dispute with its northern neighbor Nicaragua.

ANSWER: Republic of Costa Rica

10. An alternate name for this hero derives from an exploit in which he used a boot as a weapon. In one story, he is picked up and put in the pocket of a man who later becomes his companion; this character later creates a series of iron hoops by using an ancient sword to hit a coffin in which that companion had accidentally sealed himself. He angrily knocked down a bunch of church steeples when his ruler didn't invite him to a party. He's not Sundiata, but due to a childhood illness, this hero could not walk, so he lay on top of a stove until he was thirty-three, when he was healed by some passing pilgrims. This hero defeated a flying forest-dwelling monster which killed people with its powerful whistle. That victory over Nightingale the Robber pleased this hero's ruler, Vladimir of Kiev. For 10 points, name this *bogatyr*, a Russian folk hero from Murom.

ANSWER: Ilya Muromets [or Ilya of Murom; or Ilya the Muromanian; or Chobitko; or Ilya after "Murom" is read]

11. According to a recent paper by Sara and Glenn Ellison, when this company purchased a competitor and reduced search costs in its market, average prices, price dispersion, and consumer surplus all increased. In order to build its app ecosystem in the context of two-sided markets, it charged consumers 99 cents for its smartphone in 2014. In 2012, this company spent \$775 million to acquire Kiva Systems. At a location in Pennsylvania, this company tagged all of their employees with GPS trackers to monitor their manual efficiency. Daniel Ellsberg, the leaker of the Pentagon Papers, wrote a letter to this company after it stopped hosting the website of Wikileaks. In 2009, this company yanked a US-copyright-violating version of the novel *1984* from its products without notice. For 10 points, name this online marketplace and titan of the book industry founded by Jeff Bezos.

ANSWER: Amazon.com

12. Near the end of this novel, the main character and his lover sit at a table in the Majestic Hotel and give contrasting speeches on the topic of moral obligation. In the last chapter of this novel, the protagonist prepares to lead a group of people in storming a hotel room, only to realize that he has wet himself. The main characters of this novel fall into a tunnel complex from which there is apparently no escape, but they escape from it by falling back out, at the suggestion of Sarkin Aung Wan. This novel contains three narrative threads: the first describes the protagonist looking down at a beach from his observation post, the second consists of flashbacks to events like the deaths of Bernie Lynn and Frenchie Tucker, and the third is the title action, which is largely imagined by the protagonist. The title character of this novel decides to walk to Paris and goes AWOL, but is pursued by a squad of soldiers including Paul Berlin. For 10 points, name this novel by the author of *The Things They Carried*, Tim O'Brien.

ANSWER: Going After Cacciato

13. Michael Taylor discussed this artist's ability to capture spiritual poses in an essay about his representation of noses. Though not known for landscapes, John Constable singled out his *The Mill* as one of the four memorable works in the history of landscapes. At first, he painted Biblical scenes such as *The Angel Preventing the Sacrifice of Isaac*, and *Balaam and His Ass*, which was inspired by his apprenticeship under Pieter Lastman. This man's other paintings include a portrait of his son Titus in monk's garb. A group portrait by him features two people touching a minutes book that rests on a luxurious red, oriental carpet, and portrays five inspectors and their servant, who notably does not wear a hat. The largest painting he ever made depicts the rebellion of a Batavian tribe. This artist of *The Conspiracy of Claudius Civilis* made a 1642 painting featuring Willem van Ruytenburch and Captain Frans Banning Cocq. For 10 points, name this artist of *The Night Watch*.

ANSWER: Rembrandt Harmenszoon van Rijn [or Rembrandt Harmenszoon van Rijn]

14. For amorphous semiconductors, this statement can be determined using the Tauc-Lorentz or the Fourouhi-Bloomer models. Examples of this kind of statement are denoted by letters such as L, R, O, and X, which appear next to figures shaped like ellipsoids, dumbbell-lemniscates, or wheel-lemniscates in a CMA diagram. In the "extraordinary" mode, this function possesses two asymptotes, which correspond to cutoff points. This function is a simple sine function for acoustic phonons, and for an electron in free-space it has a parabolic shape. Differentiating this function gives the group velocity, while dividing by the wavenumber gives the phase velocity. For 10 points, name this relation between the angular frequency and the wavenumber of a wave, which can be used to determine the frequency-dependence of a prism's index of refraction.

ANSWER: dispersion relations [or dispersion relations after "relation" is read]

15. A group of writers in this language was known as the Executed Renaissance because their use of this tongue was suppressed; they included subgroups called Hart and Aspanfut, or the “Association of Pan-futurists.” The secret society Hromada promoted this language’s use, especially in the wake of the January Uprising, and a campaign in favor of its use was led by Petro Shelest. A decree named after the city of Bad Ems greatly restricted use of this language, which was promoted as part of the process of “korenization,” or “putting down roots” as well as by the Brotherhood of Saints Cyril and Methodius. This language was censored by the Valuev Circular, which proclaimed that there was no place for a separate “Little Russian language.” For 10 points, name this national language of the country whose capital is Kiev.

ANSWER: Ukrainian [or ukrayins’ka mova; prompt on “Little Russian”]

16. This book discusses the rise of the “cyberwedding” and the advent of virtual funerals in a chapter asking whether the Internet could be a social force. Its twelfth chapter, on suburbanization, bemoans the rise of sprawl since it disrupts “boundedness.” In an early chapter, the author considers the rise of women into the workforce and the high frequency of physical relocation as potential causes for the phenomenon mentioned in the subtitle. This book, published in 2000, grew out of an essay discussing the decline of social capital. In a chapter about informal social connections, this book notes that although 91 million Americans has engaged in the title activity, league membership for it has dwindled. For 10 points, name this book examining “the collapse and revival of the American community,” a work by Robert Putnam.

ANSWER: Bowling Alone: The Collapse and Revival of the American Community

17. In the opening of a scene of this play, a character notes to himself that he has been told to walk about his room twelve times, but forgets if it was lengthwise or across. Another character in this play remarks that the ancients used to kidnap maidens they wanted to marry, and had earlier been described as a blind follower of the ancients, which is why he doesn’t believe in the circulation of the blood. Two characters in this play improvise a song about the lovers Tircis and Phyllis. The title character’s brother Beralde and servant Toinette convince him to play dead, after which he learns his wife Beline is only interested in his money. At the end of the play, the title character gives up his plan to make Thomas Diafoirus his son-in-law and allows his daughter Angelique to marry Cleante. For 10 points, name this Moliere comedy about Argan, who always thinks he is ill.

ANSWER: The Imaginary Invalid [or Le Malade Imaginaire; or The Hypochondriac]

18. Because one chapter of this text includes a history of the Lombards, it was sometimes called the *Lombardica Historia*. The preface to this text divides the ecclesiastical year into four periods, corresponding to four periods in the history of the world. It includes a story of the destruction of a dragon residing in a pit in Rome, leading to one of this text’s many tales of exorcism, dealing with Silvester, who’s also the subject of one of its many etymologies. The writings of Jean de Mailly and Bartholomew of Trent are major sources for this text’s stories. The story of St. Barbara derives almost entirely from this source text. After being derided for fancifulness by the humanists, this text resurged in popularity as a representation of the piety of the middle ages, and is now one of the standard references for medieval Christian lore. For 10 points, name this hagiographical collection by Jacobus de Voragine.

ANSWER: The Golden Legend [or Legenda Aurea; or Legenda Sanctorum]

19. In one campaign, this politician was accused of poisoning his opponent’s ice water, so he promised to add an “ice water guard” to his security. He worked as a janitor while getting his undergrad degree at the now-defunct Marvin College, which still has a sign reading “[this man] swept here.” Together with Morris Sheppard, he co-sponsored an act which banned the sale of alcohol in Washington D.C., and he often spoke for the Anti-Saloon League. His purchase of a private home called Angles is detailed in his autobiography *That Reminds Me*. He was known as “Iron Man” for his tireless campaigning, such as his defeat of Happy Chandler in an election that caused the passage of the Hatch Act. This Kentucky politician’s second marriage to Jane Hadley, a secretary for the Wabash Railroad, was historic because it happened while he was in office, as told in Jane’s book *I Married the Veep*. For 10 points, name this man who became the oldest elected vice president in 1949, serving under Harry Truman.

ANSWER: Alben William Barkley

20. These objects are classified based on pressure and weathering into the 6-point S and W scales. A current debate is whether the howardite-eucrite-diogenite, or HED, group of these objects can truly be tied to a single basaltic parent body. Unique samples of these objects were thoughtfully frozen after being discovered at Tagish Lake. A 1996 paper by Shu, Shang, and Lee proposed a theory of these objects which suggests that magneto-centrifugally driven winds made their calcium-aluminum-rich inclusions. Etching with a weak acid exposes bands of kamacite and taenite called Widmanstätten patterns in these objects. The iron-sulfur mineral troilite is characteristic of the “iron” type of these objects, whose “stony” type includes carbonaceous chondrites that may contain amino acids. For 10 points, name these pieces of debris, found on Earth, that originate with objects of extraterrestrial origin.

ANSWER: meteorites [or meteors; or meteoroids; or chondrites]

TIEBREAKER

21. Simon Armitage borrowed the title and form of a poem about this event for his own poem about 9/11. Victoria Tammurai, her husband Richard, and their son Teddy partake in this event in a one-act Christopher Durang play, while the *nouveau riche* Thomas Morgan also witnesses it in Beryl Bainbridge’s *Every Man for Himself*. A poem about this event mentions “salamandrine fires” and a “grotesque, slimed, dumb, indifferent” animal crawling. In that poem, this event occurs when “the Spinner of the Years” says “Now!” That poem, which appeared in *Satires of Circumstance*, consisting of eleven rhyming tercets, describes the “Immanent Will” ordaining this event, in which “a Shape of Ice” threatens “a smart ship.” For 10 points, Thomas Hardy’s “The Convergence of the Twain” is about what 1912 maritime disaster?

ANSWER: the sinking of the RMS Titanic

BONUSES

1. Rhun took one of these things as well as a ring to try to prove that Elphin's wife wasn't virtuous. Unfortunately for him, it actually belonged to a maid. For 10 points each:

[10] Name these body parts. Rhea's were responsible for the creation of the Dactyls.

ANSWER: fingers [do NOT accept or prompt on hands]

[10] The fingers of this Inuit sea goddess transformed into seals after they were cut off by her father while she tried to hold onto the edge of a boat. She ruled over the underworld, Adlivun.

ANSWER: Sedna [or Sanna; or Arnakuagsak; or Nerrivik]

[10] Taliesin rescued Elphin after he caused this king's bards to only be able to repeatedly say the word "blerwm" ("blehr-oom"), which he had earlier sung with a finger on his lips.

ANSWER: Maelgwn Gwynedd ("mahl-goan goo-y-net")

2. This event was predicted by a report to Admiral Poset in which it was pointed out that using sand as a ballast would limit the speed of Russian trains. For 10 points each:

[10] Name this disaster in which the imperial train carrying Tsar Alexander III derailed at the namesake station. Naturally, Alexander claims to have saved himself and his family by holding the collapsed roof of his royal car on his shoulders.

ANSWER: Borki train disaster

[10] This Director of State Railways wrote the aforementioned report presaging the Borki disaster. In 1892, he was appointed as Minister of Finance, in which role he hastened construction of the Trans-Siberian Railway and placed the country on the gold standard.

ANSWER: Sergei Witte [or Sergius Witte; or Count Sergei Yulyevich Witte]

[10] The Khodynka tragedy in 1896 saw a crowd in Moscow trample each other after realizing they weren't going to get beer and pretzels. That occurred at the coronation of this final Russian tsar, who succeeded Alexander III.

ANSWER: Nicholas II [prompt on "Nicholas"]

3. The trilogy consisting of *Stories to Enlighten the World*, *Stories to Caution the World*, and *Stories to Awaken the World* was written in this linguistic variety. For 10 points each:

[10] Name this linguistic variety used to write works in the *huaben* genre, such as the 17th-century collection *Slapping the Table in Amazement*.

ANSWER: vernacular Chinese [or baihua; or vernacular Mandarin; prompt on "Chinese" or "Mandarin"; do NOT accept or prompt on "classical Chinese"]

[10] The use of written vernacular Chinese was promoted by the May Fourth Movement, which included the short stories of this author of "The True Story of Ah Q" and "A Madman's Diary."

ANSWER: Lu Xun [or Zhou Shuren; or Lu Hsun]

[10] The aforementioned stories appeared in this 1922 collection by Lu Xun, whose preface includes a memorable metaphor about waking sleepers who are about to suffocate in an indestructible iron house.

ANSWER: A Call to Arms [or Nahan; or Outcry]

4. The Cook-Levin theorem demonstrated that this problem was NP-Complete. For 10 points each:

[10] Name this problem, which asks if it is possible to replace variables in a Boolean formula with either "trues" or "falses" in such a way that the formula evaluates to true.

ANSWER: SAT [or Boolean satisfiability problem]

[10] If P is not equal to NP, then no algorithm exists that can solve the satisfiability problem with this tight upper bound on the runtime. Problems that can be solved with algorithms with this runtime are found in P.

ANSWER: polynomial runtime

[10] A problem can be shown to be NP-Complete by translating the problem statement to the satisfiability problem in polynomial time, which is a reduction technique named for this computer scientist. A paper of his proved the NP-Completeness of 21 problems.

ANSWER: Richard Karp

5. Access to the holy writings of this religion is only granted to the “uqqal,” or initiated, and not the “juhhal” members of the community. For 10 points each:

[10] Identify this monotheistic branch of Shia Islam practiced by communities in Syria and Lebanon, which worship the caliph al-Hakim.

ANSWER: **Druze**

[10] In Islam, the forms of lying to non-believers include *muruda*, *kitman*, and this doctrine used by the Druze, which empowers a person to deny his or her faith or commit illegal acts when in fear of persecution because doing so promotes the faith.

ANSWER: **al-Taqiyya**

[10] The Druze were referred to in the writings of this Jewish traveler from a town in Navarre, whose 12th century globetrotting produced a detailed account of Baghdad and fantastical descriptions of Cochin, China, and Ceylon.

ANSWER: **Benjamin** of **Tudela** [or **Benjamin MiTudelo**; prompt on “**Benjamin**”]

6. This artist suspended 625 cardboard cutouts of ships in his installation *All the Submarines of the United States of America*. For 10 points each:

[10] Name this artist, who in performed an exhibit called *Shoot*, in which he was shot with a 22 caliber rifle in the arm by his assistant.

ANSWER: Christopher “Chris” **Burden**

[10] At the end of Chris Burden’s performance piece *Doomed*, he destroyed one of these items. Christian Marclay made a 24-hour video art installation in which he spliced together various footage depicting these objects.

ANSWER: **clocks** [or **watches**; or **timepieces**]

[10] Chris Burden’s installation piece *Urban Light* consists of about 200 antique lights found in this city and placed outside its museum of art. This metropolitan area is also where one can find the Getty Museum.

ANSWER: **Los Angeles** [or **L.A.**]

7. This advertisement only aired once, during a telecast of the Gregory Peck film “David and Bathsheba,” before being pulled. For 10 points each:

[10] Name this political ad aired by Lyndon Johnson’s campaign in 1964 that switched from the image of a little girl trying to count petals of a flower to a nuclear countdown and explosion.

ANSWER: **Daisy** Advertisement [or **Daisy** Girl Ad]

[10] In this seminal 1944 book, based upon interviews conducted by Bernard Berelson and Hazel Gaudet in Ohio’s Erie County, Paul Lazarsfeld introduced his “two-step theory of communication.” It was published with the subtitle “How the Voter Makes Up His Mind in a Presidential Election.”

ANSWER: The **People’s Choice**

[10] In a 1961 speech to the National Association of Broadcasters, Newton Minow invited people to keep their eyes glued to a television set all day, and assured them that what they would observe would be one of these entities.

ANSWER: **vast wasteland** [prompt on “**wasteland**”]

8. When asked to recite the Ten Commandments by Reverend Hale, this character names all of them except for “Thou shalt not commit adultery”. For 10 points each:

[10] Identify this character who has an affair with Abigail Williams in his stables and attempts to expose her as a liar before Deputy Governor Danforth.

ANSWER: **John Proctor** [prompt on “**John**” or “**Proctor**”]

[10] John Proctor appears in *The Crucible*, in which he fails to save this wife of his from condemnation. John can’t convince the court of his charges against Abigail because this character doesn’t recognize that he and Abigail had an affair.

ANSWER: **Elizabeth** Proctor

[10] Proctor claims to be “not worth the dust on the feet of them that hang” and cries “I have given you my soul[!]” during a speech given at the end of Act IV, when he refuses to do this last thing necessary to save himself from the gallows.

ANSWER: **sign** his confession [or provide his **signature**; prompt on “**confess** to witchcraft” or equivalents; prompt on things like “**lie**” or “give his **name**”]

9. At an American trial resulting from this conspiracy, the chief accused man named Ram Chandra was shot dead by Ram Singh in a crowded courtroom. For 10 points each:

[10] Name this conspiracy which included the Annie Larsen arms plot. It was a joint effort between members of the Ghadar Party and the Indian Independence Community to overthrow British rule in India.

ANSWER: **Hindu-German** conspiracy [or **Indo-German** conspiracy; or “mutiny” or “plot” in place of “conspiracy”; prompt on “**German**” or “**Hindu**” conspiracy (or mutiny) (or plot)]

[10] Another event in the Hindu-German conspiracy was the 1915 mutiny of the 5th Light Infantry in this colony, which was first established by Stamford Raffles in 1819.

ANSWER: **Singapore**

[10] This Chancellor of the German Empire from 1909 to 1917 authorized support for the Ghadar Party. He was appointed by Wilhelm II when Bernhard von Bulow left office, and published a book *Reflections on the World War* three years after his resignation.

ANSWER: Theobald von **Bethmann-Hollweg**

10. The Morse potential accounts for the effects of bond dissociation and this phenomenon in order to describe chemical bonds. For 10 points each:

[10] Name this deviatoric behavior that can be modeled using perturbation theory by adding an  $x$  to the third power or an  $x$  to the fourth power term to a potential that describes vibrational oscillations.

ANSWER: **anharmonicity** [or word forms, such as **anharmonic** behavior; prompt on descriptive answers, such as “**deviations from a quantum harmonic oscillator**”]

[10] The behavior of phonons in an anharmonic crystal can be described using this parameter symbolized gamma and named for a German dude. It equals the negative of the derivative of the natural log of the phonon frequency with respect to the natural log of the volume.

ANSWER: **Grüneisen** parameter

[10] Another potential, the Lennard-Jones potential contains a  $1/R$  to the 6th power attractive term which represents these intermolecular forces. London dispersion forces are a type of these forces.

ANSWER: **van der Waals** forces

11. This concerto’s second movement includes a “fanfare for the cavalry of Naples.” For 10 points each:

[10] Name this concerto written for Andrés Segovia, noted for its lively third movement, “Dance of the Axes.”

ANSWER: **Fantasia para un gentilhombre** [or **Fantasia for a Gentleman**]

[10] Joaquín Rodrigo’s *Fantasia for a Gentleman* and *Concierto de Aranjuez* are concerti for this instrument on which Segovia was a virtuoso. It is extremely popular in Spanish music, including flamenco.

ANSWER: classical **guitar** [or **guitarra**]

[10] The final movement of *Fantasia for a Gentleman* includes an imitation of this sort of sound. This type of sound inspired *La fauvette des jardins* and the third movement of *Quartet for the End of Time*, both by Olivier Messiaen.

ANSWER: **birdsong** [or obvious equivalents, such as **bird calls**]

12. This state was established by Muhammad Abdullah Hassan, known to the British as the Mad Mullah, who organized its army into seven regiments. For 10 points each:

[10] Name this revolutionary Sunni state in the Horn of Africa from 1896 to 1920, which fought against European powers during the Scramble for Africa.

ANSWER: **Dervish** State [or Dawlada **Daraawiish**; or Dawlat ad-**Darawish**; prompt on “**Somaliland**” or “**Somalia**”; do NOT accept “British Somaliland”]

[10] The Dervish State was based in this modern-day country which fought its neighbor Ethiopia in the Ogaden War, and saw Operation Gothic Serpent in Mogadishu.

ANSWER: Federal Republic of **Somalia** [or Jamhuuriyadda Federaalka **Soomaaliya**; or Jumhuriyyat as-**Sumal** al-Fideraaliya]

[10] This sultanate, whose capital was Las Khorey, ruled much of Somalia from 1218 to 1886. Its powerful later ruler Mohamoud Ali Shire resisted the encroachment of the Dervish State. After it signed a treaty with Britain, British Somaliland was established.

ANSWER: **Warsangali** Sultanate [or Saldanadda **Warsangeli**]

13. This man's travels to Tenerife inspired his book describing the problem-solving skills of chimpanzees, *The Mentality of Apes*. For 10 points each:

[10] Name this Gestalt psychologist who found that the residents of Tenerife associated two made-up words with a rounded and jagged shape.

ANSWER: Wolfgang **Köhler**

[10] With Edward Hubbard, V. S. Ramachandran replicated Köhler's results on made-up words with English and Tamil speakers using these two words. They found that one of these words corresponds to a round shape and the other word to a sharp shape 98% of the time.

ANSWER: **kiki** and **bouba** [accept in either order]

[10] Only 56% of people with this condition agreed that "bouba" corresponded to the round shape and "kiki" to the jagged shape. Ramachandran theorizes that this condition is caused by a lack of mirror neurons in the brain.

ANSWER: **autism** spectrum disorders [or **ASD**]

14. These episodes include one where a character marches around a swimming pool with twenty other naked women, while her lover shouts orders and shoots anyone that disobeys. For 10 points each:

[10] Identify these sequences, one of which inspired a character to use the phrase "two rolls and a bee" for her pet's epitaph.

ANSWER: **Tereza's dreams** [or obvious equivalents; prompt on "**dreams**"; accept but DO NOT OTHERWISE MENTION "**dream** sequences from *The Unbearable Lightness of Being*"]

[10] This dog, who gives birth to two rolls and a bee in a dream, is frequently referred to as a male despite being female, and is named for the title character of a book that Tereza carries around. She dies of cancer at the end.

ANSWER: **Karenin**

[10] Karenin is owned by Tomas and Tereza in this novel by Milan Kundera.

ANSWER: The **Unbearable Lightness of Being** [or **Nesnesitelna lehkost byti**]

15. Answer the following about the interaction picture of quantum mechanics for 10 points each:

[10] In the interaction picture both the operators and the state vectors depend on this quantity. The Schrödinger equation comes in two versions, one "dependent" on and one "independent" of this quantity.

ANSWER: **time**

[10] In the interaction picture, this expression is used to solve the integral equation to obtain the propagator. The operator  $V-1$ , which corresponds to the perturbation in the Hamiltonian, is split into time-ordered components in each term of this expression.

ANSWER: **Dyson series**

[10] The propagator is one of these functions for the Schrödinger equation. These functions represent the impulse response of a linear inhomogeneous differential equation.

ANSWER: **Green's** functions

16. After his time in Congress, he served as the first president of Alcorn College and ran against Adelbert Ames for the governorship of Mississippi. For 10 points each:

[10] Name this man, born free in North Carolina, who became the first black man elected as a U.S. Senator. He represented Mississippi in 1870.

ANSWER: Hiram Rhodes **Revels**

[10] This journalist supported by Revels created the Boston-based weekly newspaper *The Guardian* and, together with W.E.B. Dubois, founded the Niagara Movement. He also founded the National Equal Rights League, and publicly heckled Booker T. Washington in 1903 for his race policies.

ANSWER: Monroe **Trotter** [or William Monroe **Trotter**]

[10] Trotter symbolically printed *The Guardian* out of the same office where this abolitionist had published his newspaper *The Liberator*, which he founded with Isaac Knapp.

ANSWER: William Lloyd **Garrison**

17. For 10 points each, name some artists who depicted the ocean.

[10] This American artist depicted the remains of a maritime shipwreck in *The Icebergs*, and a magnificently hued sunset in *Twilight in the Wilderness*.

ANSWER: Frederic Edwin **Church**

[10] This nineteenth century Russo-Armenian painter was interested in the Greek War of Independence, leading him to create *The Battle of Navarino*. He also illustrated the survivors of a shipwreck clinging onto a mast in *The Ninth Wave*.

ANSWER: Ivan Konstantinovich **Aivazovsky** [or Hovhannes **Aivazian**]

[10] This French artist depicted a violent ocean in a painting that uses triangular composition to show a hierarchy of human bodies after the title frigate ran aground in Mauritania; that work is *The Raft of the Medusa*.

ANSWER: Theodore **Gericault**

18. Answer the following about adrenal insufficiency, for 10 points each.

[10] Cushing's syndrome is caused by high levels of this hormone, which is produced in the zona fasciculata of the adrenals in response to ACTH. Addison's disease is the result of abnormally low levels of this steroid hormone.

ANSWER: **cortisol**

[10] Blood cortisol levels control the release of ACTH from one of these two structures, which is an endocrine organ, and the release of CRF from the paraventricular nucleus from the other of these two structures, which, together, form an "axis" with the adrenal glands. Name both.

ANSWER: the **hypothalamus** and the anterior **pituitary** gland

[10] The removal of both adrenals to cure Cushing's syndrome can cause this other syndrome, in which the pituitary gland continues to grow and produce ACTH and MSH, resulting in hyperpigmentation.

ANSWER: **Nelson's** syndrome

19. In his Gifford Lecture, *The Self as Agent*, John Macmurray criticized this Latin phrase, saying that it does not take into account the importance of action. For 10 points each:

[10] Name this Latin phrase, which appeared in Rene Descartes' *Principles of Philosophy*. The French version of this phrase previously appeared in *Discourse on Method*.

ANSWER: **cogito ergo sum** [do NOT accept or prompt on "I think therefore I am"]

[10] In *The Temptation to Exist*, this aphorist imagined man on the verge of the ruins of history, contemplating his existence with "Cogito ergo boom." He called birth "that laughable accident" in *The Trouble with Being Born*.

ANSWER: E.M. **Cioran** [or Emil Michel **Cioran**]

[10] Franz Baader, who wrote "cogitor, ergo Deus est" or "God thinks of me, therefore he is," influenced this German philosopher's account of the history self-consciousness, titled *System of Transcendental Idealism*.

ANSWER: Friedrich **Schelling**

20. In *How To Read and Why*, Harold Bloom claimed that this poem "expresses a visionary perspective only rarely achieved in poetic history," and it inspired a reply called "Mad Maudlin's Search." For 10 points each:

[10] Name this anonymous ballad about a beggar who sings "Any food, any feeding, feeding drink or clothing" and assures people that he "will injure nothing."

ANSWER: "**Tom O'Bedlam**"

[10] In a Shakespeare play, Edgar disguises himself as the madman Tom O'Bedlam during a storm and wanders out onto a heath, where he encounters this king ranting about his daughters.

ANSWER: King **Lear**

[10] In order to dissuade his father Gloucester from killing himself, Edgar says "Men must endure their going hence, even as their coming hither" before declaring that this thing "is all."

ANSWER: **ripeness**