PACE NSC 2011

Edited by Mike Bentley, Matt Bollinger, Rob Carson, Kyle Haddad-Fonda, Hannah Kirsch, Trygve Meade, Bernadette Spencer, Guy Tabachnick, and Andy Watkins

Packet 7

Tossups

1. This deity was syncretized with the funerary god Seker and the scimitar-wielding Tenen. Much of the myth of this god is recorded on the Shabaka Stone. In depictions, a menat hangs from the back of his neck, and he wears a skullcap. The deified physician Imhotep is said to be this god's son. He created the world by imagining words, which became objects when spoken. The reincarnating (*) bull god, Apis, was worshipped in this deity's temple. This consort of Sekhmet created the metal plate that supports the vault of heaven with his skills as a craftsman. For 10 points, name this creator god of Memphis.

ANSWER: <u>Ptah</u> <Bollinger>

2. A soldier from this country put the head of King Muqrin on his coat of arms after beheading Muqrin and claiming Bahrain for this nation. This country gained power over one territory by overthrowing the Jaffna Kingdom. Although this nation tried to assert its rights over the colonies delineated on the Pink Map, it yielded to the British Ultimatum. Following independence, another of its former colonies issued the (*) Golden Law of 1888 to abolish slavery. Its final colonies were largely eliminated following its Carnation Revolution, and this country gained claim to territories east of the Cape Verde Islands via the Treaty of Tordesillas. For 10 points, name this European country that established colonies in places like Brazil.

ANSWER: <u>Portugal</u> [or the <u>Portuguese</u> Republic; or Republica <u>Portuguesa</u>] <Bentley>

3. This school of thought disregards universals because it holds that all things in existence are instead particular. This school of philosophy also states that different beings are given qualities and held together as unified objects by types of a sustaining force called *pneuma*. Practitioners of this school of philosophy included Cleanthes and Chrysippus, and this school of philosophy maintains that virtue alone is sufficient for (*) happiness. For 10 points, name this Greek school of thought named for the porch on which it met, founded by Zeno of Citium and espoused by Marcus Aurelius in his *Meditations*.

ANSWER: **Stoic**ism [accept word forms]

<Angelo>

4. This artist painted himself and a friend dressed in black surveying the title scene of his *The Martyrdom of the Ten Thousand*. This artist's detailed nature studies in watercolor include a young hare on an off-white background and a chaotic piece of turf. In one self-portrait, this man's curly hair is splayed out on his shoulders to complement his symmetrical face, and he clutches the (*) fur collar of his robe. In one of his works, one title character rides unperturbed by another character holding an hourglass and a horned demon, while another features an irregular polyhedron and a magic square. For 10 points, name this German artist whose engravings include *St. Jerome in His Study, Knight, Death, and the Devil*, and *Melencolia I*.

ANSWER: Albrecht **Dürer**

<Tabachnick>

5. One author who wrote in this form described his native village as a bramble to the touch. That author ruefully characterized his life as changing from an infant bathtub to a burial tub shortly before he died in his friend's warehouse. A sub-genre of this form included such works as the *Saga Diary* and *Hut of the Phantom Dwelling*. Many works in this form contain a cutting word and a seasonal reference, both of which are present in those describing a (*) road where nobody else travels and a frog jumping into an old pond. This form was developed in *Narrow Road to the Deep North* by Matsuo Basho. For 10 points, identify this 17-syllable poetic form.

ANSWER: haiku

<Gupta>

6. One member of this family started the Western observance of the Feast of the Transfiguration to celebrate a victory over the Turks in Belgrade. Another member of this family once sought an alliance with Bayezid II to counteract the advances of the French king Charles VIII. Calixtus III was from this family, as was a Duke of Valentinois who launched multiple campaigns to pacify Romagna. This family was a rival of (*) Sixtus IV, a leader of the della Rovere family. One of their most prominent members was used as the model for the title character of Machiavelli's *The Prince* and was named Cesare. Also the family of the famous poisoner Lucrezia, for 10 points, name this Spanish family that controlled the papacy under Alexander VI.

ANSWER: the <u>Borgia</u> family [or the <u>Borgias</u>; or the House of <u>Borgia</u>] <Bentley>

7. Systems with a discrete upper energy limit can possess negative absolute values of this quantity. This quantity is defined as one over the energy partial derivative of the entropy; its reciprocal is referred to as beta. Mean kinetic energy is defined as one half times the Boltzmann constant times this quantity. The (*) third law of thermodynamics predicts an unattainable lower limit for this quantity, which is a measure of the average energy in a substance due to heat, called absolute zero, and this quantity is equal for two bodies in thermodynamic equilibrium. For 10 points, name this quantity, measured in scales like Kelvin.

ANSWER: temperature

<Watkins>

8. In the first act of this work, the Queen dances the Grand Polonaise with a drunken Wolfgang, the tutor of her son. That act comprises a birthday party for that son, at which he dances a pas de cinq with four potential suitors. After one pas de deux in this work, four figures seen as maidens gathering flowers in the prologue do a dance involving sixteen pas de chat in unison. The revival of this work was choreographed by Lev Ivanov and Marius Petipa. Two characters in this work, the (*) white protagonist and her black evil counterpart, are danced by the same ballerina. That latter character, who lures Prince Siegfried in a pas de deux, is Odile. For 10 points, name this ballet in which Baron von Rothbart transforms Odette into the title bird, written by Pyotr Tchaikovsky.

ANSWER: <u>Swan Lake</u> [or <u>Lebedinoye ozero</u>] <Tabachnick>

9. This country's city of Rason is a directly governed city on the border of Primorsky Krai. Two of this country's main ports are Nampho and Wonsan, while Hamhung is an important center for its chemical industry and is its second most populous city. This country's maritime holdings are delimited by the Northern Limit Line. The provinces of Jilin and Liaoning are connected to this country by bridges that were rebuilt after all but one was (*) destroyed when the area was known as "MiG Alley"; those bridges cross the Yalu River. In November 2010, this country caused an international incident when it shelled the island of Yeonpyeong. For 10 points, name this country north of the demilitarized zone along the 38th parallel.

ANSWER: <u>North Korea</u> [or <u>Democratic People's Republic of Korea</u>; or <u>DPRK</u>] <Haddad-Fonda>

10. This religion encourages the practice of Nit-nem, in which certain banis are meant to be read daily, and its adherents undergo baptism by drinking water. Those who have been baptized are called amritdhari, become a part of the Khalsa, and are permitted to wear items known as the (*) "Five K's," including kachera, referring to a specific type of cotton undergarment, kesh, and the kirpan, a curved dagger. Houses of worship in this religion, such as the Golden Temple, are known as gurdwaras, and its central religious text, compiled in the 1600s, is the Adi Granth. It has ten major holy figures, the last of which was Gobind Singh. For 10 points, identify this religion founded by Guru Nanak in the Indian state of Punjab. ANSWER: Sikhism

<Surva>

11. This case was the subject of Otto Olsen's book *Thin Disguise*, and the majority opinion referenced *Roberts v. City of Boston* to provide an example about school legislation. The law in question during this case had a specific exception for nurses attending children, and a contrast to *Strauder v. West Virginia* was drawn in the majority opinion by Henry Billings Brown. This case was referenced heavily in *Briggs v. Elliott*. The epigram "badges (*) of servitude" originated in Albion Tourgee's brief in this case and was borrowed for John M. Harlan's lone dissent. The plaintiff's pre-planned arrest involved switching train cars. For 10 points, name this case whose plaintiff was one-eighth black, in which the Supreme Court established the standard of "separate but equal."

ANSWER: Homer A. <u>Plessy</u> v. <u>Ferguson</u> [accept either underlined answer in either order] <Jackson>

12. In this novel, the protagonist's lover contacts him in prison by flashing a lamp from a tower nine times to signify the ninth letter of the alphabet. That protagonist of this novel sets out from home to join the army with the diamonds his aunt sewed into his coat. In this novel, a rascal named Giletti ambushes the protagonist, who kills him and takes his lover, the actress Marietta. The protagonist joins Napoleon's army and kills an officer during the Battle of (*) Waterloo. One subplot in this novel follows the romance between the protagonist's Aunt Gina and Count Mosca. The main character of this novel seduces Clelia Conti, but after their child dies, he retires to a monastery. For 10 points, name this novel about Fabrizio del Dongo, by Stendhal.

ANSWER: *The <u>Charterhouse of Parma</u>* [or *La <u>Chartreuse de Parme</u>] <Bollinger>*

13. This composer rearranged "Tea for Two" into "Tahiti Trot," part of a ballet depicting the travels of a soccer team to U-town, *The Golden Age*. His choral third symphony is subtitled "The First of May." In his tenth symphony, a five-note motif representing a young woman named Elmira interacts with the four-note theme (*) D-E flat-C-B, which appears frequently in his work. After his work was attacked, this man's next symphony was described as "A Soviet Artist's Reply to Just Criticism. Another of his symphonies sets poems by Yevgeny Yevtushenko to music. This composer's seventh symphony contains an "invasion theme" depicting the Nazis' march into Russia. For 10 points, name this composer of the *Babi Yar* and *Leningrad* symphonies.

ANSWER: Dmitri Dmitriyevich **Shostakovich** <Kirsch>

14. One posthumous publication by this psychologist contained the image of a black snake who accompanied Salome and Eljiah; that Elijah figure would eventually transform into Philemon. He described a pairing of contrasexual opposites in another book. In addition to describing (*) syzygy, this psychologist described personality in terms of variations from two individual types, the introvert and the extrovert, and wrote about archetypes. For 10 points, name this author of *Psychological Types* who studied under Freud and proposed a universal memory accessible to the whole human race, the collective unconscious.

ANSWER: Carl Gustav Jung

<Meade>

15. A sufficient condition to check if one of a subset of these objects is irreducible is Eisenstein's criterion, and Hilbert's basis theorem demonstrates that the ideals of rings of certain types of these objects are finitely generated. The Horner scheme is a process to rapidly approximate their (*) roots, and Abel demonstrated that closed-form roots only generally exist when these entities have degree less than five. For 10 points, name these expressions, the sum of one or more variables and their products and powers, such as $x^2 + x + 1$. ANSWER: polynomials

<Watkins>

16. This character is compared to Bill Clinton during Thanksgiving by his probable daughter Annabelle, who bonds with his son and nurses this man after he is bedridden from saving Judy from drowning at the beach. He spends 1969 in a love triangle with angry Vietnam veteran Skeeter and eighteen-year-old runaway Jill. He is haunted by his indirect role in the death of his infant daughter (*) Rebecca, who drowned in a tub. He provokes his own cardiac arrest after sleeping with Pru and also has dysfunctional relationships with exprostitute Ruth and his wife Janice. For 10 points, name this former basketball star who is "rich" and "at rest" in two John Updike novels.

ANSWER: <u>Harry</u> "<u>Rabbit</u>" <u>Angstrom</u> [accept any name] <Ray>

- 17. This group's honorary rank of Group Leader was given to lawyer Arthur Seyss-Inquart, and former members of this group used escape routes called "ratlines" to avoid prosecution after joining the ODESSA Network. Founded with Josef Dietrich as head of a thirty-man personal bodyguard, this division massacred 84 prisoners of war at Malmedy and many civilians at (*) Babi Yar. This division contained the Death's Head Batallions, smaller Einsatzgruppen, and the army-like Waffen. Led after 1929 by Heinrich Himmler, for 10 points, name this black-uniformed Nazi paramilitary division that grew out of the SA, symbolized by two lightning bolts evoking its acronym and not to be confused with the Gestapo.

 ANSWER: Schutzstaffel [or SS; accept Protection Squadron; prompt on Nazi Party or Nazis or Nazi Army until "Josef" is read but not thereafter]

 Schutzstaffel [or SS; accept Protection Squadron; prompt on Nazi Party or Nazis or Nazi Army until "Josef" is read but not thereafter]
- 18. The second derivative of this quantity with respect to its thermal and mechanical natural variables is equal to the pressure derivative of temperature by a Maxwell relation. A flow at a stagnation point is characterized by a form of this quantity equal to constant-pressure heat capacity times temperature times speed squared over two. A differential amount of this quantity may be given as the sum of (*) T dS plus V dp. This quantity may be computed as the sum of internal energy with the product of pressure and volume. For 10 points, name this thermodynamic measure of a system's heat content at a given pressure.

ANSWER: enthalpy

<Watkins>

19. This agent's genome includes a poly-T SLIP element needed for crucial changes in reading frame. It uses Vif to arrest the cell cycle at G2/M, and Gag is used to make structural elements. This agent can evade the immune system thanks to variable cleavage of a surface protein that helps recognize and dock its target cells; that protein is called (*) gp120. Azidothymidine, a classic drug to treat infections by this pathogen, is a reverse transcriptase inhibitor that prevents it from replicating and further destroying those target CD4 T-cells. For 10 points, name this pathogen whose destruction of the immune system leads to AIDS. ANSWER: human immunodeficiency virus [do not accept or prompt on "acquired immune deficiency syndrome"]

<Kirsch>

20. In this novel, an old man unwisely reads certain love letters in an inn after the protagonist refuses to give him a job, and the title character's rival later ends up marrying his mistress, Lucetta le Sueur. Richard Newson marries a woman after convincing her to forget about her earlier husband, and the two end up moving to Canada in this novel. The protagonist runs a farming shop at the end of this novel, wherein Susan tells her husband that (*) Elizabeth Jane was actually fathered by a sailor. For 10 points, name this novel in which Henchard drunkenly sells his wife and daughter for five guineas years before assuming the title position, by Thomas Hardy.

ANSWER: The Mayor of Casterbridge

<Gaurav Kandlikar>

21. The Monophysite patriarch of this city, Sophronius, negotiated protection for his community before it fell to a man who humbly entered it leading his own slave. Balian of Ibelin unsuccessfully defended this city against a siege, and the status of this city was eventually confirmed by the Treaty of Ramla after the Battle of Arsuf. Raymond of St. Gilles and (*) Godfrey of Bouillon were rivals to control this city. A barefoot procession around this city—which was once led by the leprous Baldwin IV—preceded its capture from the Fatimid Dynasty in 1099, whereupon its Muslim and Jewish populations were massacred and the al-Aqsa Mosque turned into a stable until it was recaptured 88 years later by Saladin. For 10 points, identify this city that was the target of the First and Third Crusades.

ANSWER: **Jerusalem** [or al-**Quds**]

<Haddad-Fonda>

22. This work contains a story about a boy who kills an abusive man; the boy is escorted to a police station expecting a hero's welcome but is instead arrested. The preface describes a frozen carcass of a leopard that no one has been able to explain. Its protagonist is a man who recalls the various stories he has been (*) planning to write but has never had the opportunity to. That man dreams of escaping on a rescue plane after developing gangrene from a mistreated thorn wound. For 10 points, name this short story by Ernest Hemingway that takes place on an African mountain.

ANSWER: "The Snows of Kilimanjaro"

<Cohen>

23. The alternating form of a construct named for him has existential and universal states and is non-deterministic. With an American, he lends his name to a theorem expanded on by Stephen Kleene that concerns the universality of using simple mechanical methods to solve any "effective" problem. One construct proposed by this man comes cannot answer the (*) halting problem and consists of a head reading and writing symbols on a tape. The reverse form of a test named for this man can be demonstrated with CAPTCHAs, although the regular form of that test asks a human to decide if he's speaking to a machine or not. The conamesake of a theorem with Alonzo Church is, for 10 points, which British computer scientist? ANSWER: Alan Turing

<Bentley>

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Packet 7

Bonuses

1. After being shipwrecked, this king was temporarily imprisoned by Guy I of Ponthieu. For 10 points each:

[10] Identify this brother of Leofwine, Gyrth and Tostig, the last of whom he eventually fought in battle.

ANSWER: <u>Harold Godwinson</u> [or <u>Harold II</u>; or <u>Harold Godwineson</u>]

[10] Harold Godwinson was defeated by William the Conqueror in this 1066 battle.

ANSWER: Battle of **Hastings**

[10] In this earlier 1066 battle, Harold Godwinson defeated Norwegian forces led by the aforementioned Tostig Godwinson and Tostig's ally, Harald Hardrada.

ANSWER: Battle of **Stamford Bridge**

<Nediger>

- 2. Paul Samuelson updated this concept using the example of a man who is both the best lawyer and the best secretary. For 10 points each:
- [10] Name this economic concept, which states that England, which produces cloth efficiently, and Portugal, which produces wine efficiently, are better off specializing and trading with each other than producing both products alone.

ANSWER: comparative advantage

[10] Name the man who developed the idea of comparative advantage in his *Principles of Political Economy and Taxation*.

ANSWER: David Ricardo

[10] This Stockholm School theory of trade uses analysis of factors of production of particular countries to build on comparative advantage to describe international trade. It implies the Rybczynski theorem.

ANSWER: Heckscher-Olin model

<Meade>

3. This sculpture's abstract form is meant to capture "the essence of flight." For 10 points each:

[10] Name this sculpture, which shows a limbless, faceless body on a conical footing. Its angled tip looks a bit like a beak.

ANSWER: <u>Bird in Space</u> [or <u>L'Oiseau dans l'espace</u>]

[10] This Romanian-born artist made *Bird in Space*, as well as *The Sleeping Muse* and the phallic *Princess X*.

ANSWER: Constantin Brâncuşi

[10] This sculpture, part of a park designed by Brâncuşi for his home town of Târgu Jiu, stands almost thirty meters high and contains seventeen rhomboidal sections stacked up.

ANSWER: *The <u>Column of the Infinite</u>* [or <u>Coloana infinitului</u>; or *The <u>Infinite Column</u>*; accept synonyms for "infinite" or "infinity" as well]

<Tabachnick>

- 4. This physical stochastic phenomenon is best described as a discrete version of the Wiener process. For 10 points each:
- [10] Name this type of motion named for a Scottish botanist observing pollen in water.

ANSWER: **Brownian** motion

[10] This physicist's work on Brownian motion culminated in a relation sometimes co-named for Marian Smoluchowski giving the diffusion constant as proportional to Boltzmann's constant times temperature. That work was part of his annus mirabilis.

ANSWER: Albert Einstein

[10] Donsker's theorem holds that the aforementioned Wiener process is just the scaling limit of this process. In one dimension, the expected translation distance after n steps of this process is the square root of 2n over pi.

ANSWER: random walk

<Watkins>

- 5. Among this country's prominent statesmen were Ferhat 'Abbas, who founded its government-in-exile, and Houari Boumediène, who ruled it from 1965 to 1978. For 10 points each:
- [10] Identify this North African country once home to the FLN.

ANSWER: Algeria [or al-jumhuriyya al-jaza'iriyya al-dimuqratiyya al-sha'biyya]

[10] Algerian independence was acknowledged by the French in these 1962 accords, although the French population in Algeria launched a two-day strike in protest.

ANSWER: Evian Accords [or Accords d'Evian]

[10] The most notable international event of the presidency of Algerian leader Ben Bella was the October 1963 Sand War, in which Algeria fought against an invasion from this country, which was then led by King Hassan II.

ANSWER: Kingdom of **Morocco** [or al-mamlaka al-**maghrib**iyya]

<Haddad-Fonda>

- 6. The British government formally endorsed this idea in the Balfour Declaration. For 10 points each:
- [10] Name this doctrine holding that the Jewish people should have their own homeland.

ANSWER: **Zion**ism [accept variations; accept **Tsion**oot]

[10] A prominent early Zionist was this writer of the pamphlet "The Jewish State." He saw a Jewish homeland as the only solution to anti-Semitism.

ANSWER: Theodore **Herzl** ("HURTS-ull") [or Binyamin Ze'ev **Hertsl**]

[10] Following the First Zionist Congress, Herzl became pessimistic about the prospect of establishing a state in Palestine and instead proposed using this British colony.

ANSWER: Uganda

<Greenthal>

- 7. In February 2011, Barack Obama called for a six-year, \$53 billion commitment to building these in the United States. For 10 points each:
- [10] Identify this type of transportation infrastructure, for which Wisconsin refused to accept \$810 million in federal funding in November 2010.

ANSWER: high-speed <u>rail</u> lines [accept equivalents like <u>trains</u>]

[10] Outgoing Governor Ted Strickland derided his Republican successor, John Kasich, for also refusing federal funds to build high-speed rail lines in this state that was hit hard by the financial crisis.

ANSWER: Ohio

[10] Name either of the two states, both of which have Republican governors, that have received the majority of the federal rail funding diverted from Wisconsin and Ohio.

ANSWER: California or Florida [accept either answer]

<Haddad-Fonda>

- 8. According to legend, this father of Mama Quilla and Pachamama created the sun, moon, and stars before walking across the ocean and never returning. For 10 points each:
- [10] Name this god who either fathered the legendary emperor Manco Capac or saved him from a great flood.

ANSWER: Kon-Tiki Viracocha

[10] Viracocha led the pantheon of this people whose outlying myths included the rain god Ilyap'a. Their *Intihuatana* stone commemorated the sun god Inti within the archeological remains of Machu Picchu.

ANSWER: **Inca** empire [or **Tawantinsuyu**]

[10] The Inca festival Inti Raymi was held on this date, also held to be the date Amaterasu emerged from her cave. The Roman festival of Saturnalia always included this date.

ANSWER: the <u>winter solstice</u> [accept <u>shortest day</u> of the year or close equivalents; prompt on <u>first day of winter</u>; do not accept "new year"]

<Jackson>

9. Name these important roads in American history, for 10 points each.

[10] This road was an extension of the Cumberland Road and stretched from Baltimore, Maryland to Vandalia, Illinois. It is commonly referred to as the first interstate highway.

ANSWER: The Historic **National** Road [or **National** Pike]

[10] This road, much celebrated in song, stretched from Chicago to Los Angeles and was the primary migration route from the Southwest to California during the Dust Bowl.

ANSWER: U.S. Route 66

[10] Andrew Jackson vetoed a bill providing federal funding for the Maysville Road on the grounds that it would only provide a benefit for Kentucky. Don Carlos Buell would later help the Union secure Kentucky by winning this October 8th, 1862 battle in the state.

ANSWER: Battle of <u>Perryville</u> [or Battle of <u>Chaplin Hills</u>] <Wynne>

10. These cells mature in the spleen, and their "memory" type proliferates after a primary immune response to an antigen and can quickly respond to that antigen upon a second exposure. For 10 points each:

[10] Name these antibody-producing cells.

ANSWER: **B** lymphocytes [or **B** cells]

[10] B cells mediate this type of immunity. It involves antibody and cytokine production and activity, as well as all other non-cellular immune factors and processes.

ANSWER: humoral immunity

[10] Naive B cells are contained in these organs of the immune system that store B and T cells until they come into contact with an antigen during these organs' filtration of interstitial fluid. When antigen contact occurs, B cells rapidly proliferate, often causing these organs to swell.

ANSWER: **lymph node**s

<Kirsch>

- 11. It is based on the encomium form of the Greek satirist Lucian. For 10 points each:
- [10] Name this critical work whose narrator and title entity, a daughter of Plutus, was born in the Fortunate Islands and nursed by Drunkenness and Ignorance.

ANSWER: The <u>Praise of Folly</u> [or In <u>Praise of Folly</u>; or <u>Morias Enkomion</u>]

[10] This presumed author of *Julius Excluded from Heaven*, a Flemish Reformation-era Catholic humanist, dedicated his work *The Praise of Folly* to one of his friends.

ANSWER: Desiderius Erasmus

[10] Name the man to whom *The Praise of Folly* was dedicated, an English thinker whose principal work described an ideal community, *Utopia*.

ANSWER: Thomas More

<Jackson>

12. The title figure of this poem "was a gentleman from sole to crown." For 10 points each:

[10] Name this poem whose title character "went home and put a bullet in his head" despite being "admirably schooled in every grace" and "richer than a king."

ANSWER: "Richard Cory"

[10] This poet, who told of a man "born too late" in "Miniver Cheevy" and set many of his works in Tilbury Town, wrote "Richard Cory."

ANSWER: Edwin Arlington Robinson

[10] This Robinson poem concerns a woman "will not let" her lover "be/the Judas that she found him." At the end, the narrator says that "They/that with a god have striven...take what the god has given."

ANSWER: "Eros Turannos"

<Angelo>

13. The background of this painting is largely taken up by a map of the Netherlands. For 10 points each:

[10] Name this painting depicting an artist and his model, who is carrying a book and a trumpet.

ANSWER: The <u>Art of Painting</u> [or The <u>Allegory of Painting</u>; or The <u>Painter in His Studio</u>]

[10] The Art of Painting is by this painter of Girl with a Pearl Earring and The Music Lesson.

ANSWER: Jan **Vermeer** [or Johannes **Vermeer**]

[10] This Vermeer painting is a cityscape depicting his hometown.

ANSWER: View of Delft

<Nediger>

14. This event occurs after cell membrane polarity has been perturbed beyond a threshold. For 10 points each:

[10] Name this cellular event, best known for occurring in neurons, in which sodium, calcium, and potassium ion channels open in response to disturbances in a cell's electrochemical gradient.

ANSWER: action potential

[10] This is the term for the duration following an action potential during which another action potential cannot be initiated, as sodium channels are inactivated until the cell repolarizes.

ANSWER: refractory period

[10] Action potentials propagate along axons without weakening significantly because axons are wrapped in this fatty material.

ANSWER: myelin sheath

<Kirsch>

15. Prior to this meeting, many of the major powers signed the Treaty of Chaumont, and delegates to it included Prussia's Karl August, Furst von Hardenberg. For 10 points each: [10] Identify this 1814-1815 meeting organized by Prince Metternich that established the "Concert of Europe."

ANSWER: Congress of Vienna

[10] France was represented at the Congress of Vienna by this man, a minister of Louis XVIII who had earlier demanded a bribe from ministers like Elbridge Gerry.

ANSWER: Charles-Maurice de Talleyrand-Perigord, prince de Benevent

[10] Although this country gained the Duchy of Lauenburg through the Congress of Vienna, due to its alliance with Napoleon it had to give up territory like the Heligoland in the Treaty of Kiel.

ANSWER: Kingdom of <u>Denmark</u> [or Kongeriget <u>Danmark</u>] <Bentley>

- 16. The narrator of this story examines three books in the drawing room where his house's last occupant, a priest, died. For 10 points each:
- [10] Name this story, in which the narrator goes to the title bazaar to buy something for Mangan's sister, but decides not to. At the end, his eyes burn "with anguish and anger." ANSWER: "**Araby**"
- [10] "Araby" is part of this James Joyce collection of short stories, which also includes "A Painful Case" and "Ivy Day in the Committee Room."

ANSWER: **Dubliners**

[10] In this story from "Dubliners," a nineteen-year-old employee at the Stores hands her wage of seven shillings to her father and can't bring herself to run off with Frank to Buenos Aires.

ANSWER: "Eveline"

<Gupta>

- 17. It is based on a song with text by poet Henri Cazalis, and the soloist in this work is required to tune the violin's E string down a half-step, which is called *scordatura* tuning. For 10 points each:
- [10] Name this composition for solo violin and orchestra that uses xylophones to imitate clacking bones.

ANSWER: <u>Danse macabre</u> [or <u>Dance of Death</u>]

[10] This other work by the composer of *Danse macabre* features a solo cello in its *Swan* movement. Its *Fossils* movement shares a theme with *Danse macabre*, and other movements include *Personages with long ears*.

ANSWER: The Carnival of the Animals [or Le Carnaval des animaux]

[10] This man wrote Carnival of the Animals and Danse macabre, as well as the opera Samson and Delilah.

ANSWER: Charles-Camille Saint-Saëns

<Kirsch>

- 18. Burlaga et al. defined these events by three factors, including low proton density and temperature. For 10 points each:
- [10] Name these events, a major component event of the solar wind.

ANSWER: magnetic clouds

[10] Magnetic clouds are frequently signs of these events, wherein a great deal of material is released from the namesake region of the Sun.

ANSWER: coronal mass ejections

[10] Coronal mass ejections usually originate from active regions of the sun's surface. Prominent examples of such regions are groups of these entities. They are substantially cooler than the rest of the sun, and their frequency follows an eleven-year cycle.

ANSWER: sunspots

<Watkins>

- 19. This author of *Forbidden Colors* committed seppuku after a failed right-wing coup. For 10 points each:
- [10] Name this author of *The Temple of the Golden Pavilion* who wrote about Ryuji's relationship with Fusako and his violent son Noboru in *The Sailor Who Fell from Grace with the Sea*.

ANSWER: Mishima Yukio [or Hiraoka Kimitake]

[10] This four-book body of work has been referred to as Mishima's suicide note, given that he completed its final volume, *The Decay of the Angel*, shortly before his death. It concerns the lawyer Shigekuni Honda and his reincarnating friend.

ANSWER: **Sea of Fertility** [or **Hojo no Umi**]

[10] This Mishima novel follows the misfit Kochan, who courts Sonoko in an attempt to realize his heterosexuality.

ANSWER: <u>Confessions of a Mask</u> [or <u>Kamen no Kokuhaku</u>]

<Gupta>

- 20. He wrote of Julia Yañez in *Nothing Less than a Man*, one of a set with a Cervantes-inspired title, *Three Exemplary Novels*. For 10 points each:
- [10] Name this writer of *The Tragic Sense of Life*, *Mist*, and *San Manuel Bueno*, *Martyr*, a Spanish author of Basque descent who coined the term *nivola* for his realist novels.

ANSWER: Miguel de **Unamuno**

[10] Along with Antonio Machado, Unamuno belonged to this literary group, which the critic Azorín called a reaction to Spain's loss of its overseas territory in the Spanish-American War.

ANSWER: Generation of '98 [accept Generación de noventa y ocho]

[10] In a famous novel, Unamuno retold "The Story of a Passion" regarding this character, who he gave the surname Sanchez. In the original, this shepherd is killed by his brother, Cain.

ANSWER: Abel [or Hevel]

<Jackson>

21. A siege of this city was eventually abandoned by the Earl of Suffolk. For 10 points each:

[10] Identify this city on the Loire, whose defendants were relieved when Charles VII agreed to send an army to help defend it in 1429.

ANSWER: Orleans

[10] French forces at the Siege of Orleans were led by this woman, who was burned alive by the British during the Hundred Years War.

ANSWER: Saint <u>Joan of Arc</u> [or Sainte <u>Jeanne d'Arc</u>; or the <u>Maid of Orleans</u>; or la <u>Pucelle</u> d'Orleans]

[10] After Joan's death, Charles VII issued a document with this name from Bourges that sought to limit the pope's authority in France. Holy Roman Emperor Charles VI issued another document of this name in 1713.

ANSWER: **Pragmatic Sanction**

<Bentley>

22. A third verse that is sometimes included in this song is based on the poem "I Cultivate a White Rose." For 10 points each:

[10] Name this patriotic Cuban song about the title girl, whose lyrics are adapted from a poem in José Martí's collection *Versos Sencillos*.

ANSWER: "Guantanamera"

[10] This Cuban author wrote a study of the history of Cuban music, in addition to novels such as *Explosion in a Cathedral* and *The Kingdom of this World*.

ANSWER: Alejo Carpentier y Valmont

[10] Carpentier was an early proponent of this movement, common in contemporary Latin American literature. It incorporates fantastical elements into a self-consistent world, and is well exemplified by Borges and Marquez.

ANSWER: magical realism

<Bollinger>

23. The original formulation of Newton's second law of motion describes not force, but the time derivative of this quantity. For 10 points each:

[10] Name this quantity, classically equal to the product of mass and velocity.

ANSWER: linear **momentum** [prompt on **p**]

[10] This theorem explains the conservation of momentum by positing that every symmetry described by a Lagrangian is accompanied by a conservation law.

ANSWER: **Noether**'s first theorem [or **Noether**'s symmetry theorem]

[10] In particular, Noether's theorem uses the symmetry between this quantity and linear momentum to explain the latter's conservation.

ANSWER: **position** [or **translation**al symmetry]

<Greenthal>