

2016 NSC - Official Scoresheet

Round	23	Room	
Bracket			
Reader			

Team									Team								
Player Names																	
Q#					Bonus	Steals	Ques. Total	Run. Score					Bonus	Steals	Ques. Total	Run. score	
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	Out:				In:				Out:				In:				
	Out:				In:				Out:				In:				

Circle winning team above. Clearly mark if game goes to OT/SD. Fill out "Point totals" row completely. If there are substitutions, please note tossups by each player in "20s" and "10s" rows. Below is for Tab Room use only:

RH	RS	BH	BS	Left	Right	BH	BS	RH	RS
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National Scholastic Championship

PACE NSC 2016 - Round 23 - Tossups

1. A composer from this country played his *Night in the Tropics* at "monster concerts" and used the song "When the potato's baked" in his *Bamboula*. Another composer from this country wrote *Ten Woodland Sketches*, including "To a Wild Rose," while a third used folk tunes in her *Gaelic Symphony*. The director of a National Conservatory in this country quoted the song of the scarlet tanager in a quickly-written F major string quartet. Louis Moreau Gottschalk (Louie muh-ROW GOT-shalk), (*) Edward MacDowell, and Amy Beach are from this country. Harry Burleigh introduced this country's music to the composer of an E minor symphony whose English horn solo later became a spiritual titled "Goin' Home." For 10 points, name this country where Antonín Dvořák wrote the *New World Symphony*.

ANSWER: United States of America [accept either underlined portion; or USA] <Lifshitz>

2. An eighteen-paragraph novel set in this country climaxes at a shootout during a performance of Beethoven's *Eroica*. That book, *The Chase*, was written by a European-born author who worked in this country. A novel by that author from this country includes a preface which introduces the term "marvelous real" and depicts the construction of the Citadel and the resistance of two Haitian slaves named Mackandal and Ti Noel. The author of *The (*) Kingdom of This World* is from here, as is the author of "I Have a White Rose to Tend," a poem found in his *Versos Sencillos*. That writer from this country inspired a patriotic work whose lyrics open "I'm a sincere man." For 10 points, name this country whose writers include José Martí, who wrote the words of "Guantanamera."

ANSWER: Republic of Cuba <Jose>

3. Every year, the Greek gods honored the Ethiopian king Memnon by creating a geographical feature composed of this substance. Aphrodite created the first anemone by mixing nectar with this substance. During the Trojan War, Zeus created a rain of this substance to commemorate the death of Sarpedon. Ash-tree nymphs called the Meliae and the Furies were both born when some of this substance touched (*) Gaea. A robe treated with a form of this substance caused the death of Heracles, who earlier used a different type of it that came from the Lernaean Hydra to make his arrows toxic. Greek gods and immortals possess golden ichor instead of this substance. For 10 points, name this bodily fluid that was often sacrificed to gods.

ANSWER: blood <Jose>

4. Matrix multiplication algorithms that are "oblivious" to this entity are usually stored in row-major order. The MESI protocol is a write-back scheme used to maintain coherence in this component. The problem with "direct-mapped" schemes for maintaining this component is that data may be overridden in it even if it is not completely full. Like paging schemes, this component may make use of the LRU algorithm to decide which data to (*) store. Multi-level schemes use L1, L2, and L3 types of this component, which exploits the temporal and locality principles to avoid accessing RAM. For 10 points, name this hardware component that stores recently accessed data, and which operates similarly to the same-named component of a web browser that holds recently visited websites.

ANSWER: caches <Jose>

5. A recurring speech in this novel begins with variants on "Guys like us are the loneliest guys in the world." In this novel, a woman discusses her ambitions to be an actress in a scene punctuated by the sounds of a game of horseshoes. In this novel, after an old, lame sheepdog is taken away to be shot, a man is insulted for wearing a "glove fulla Vaseline." While his friend is at a brothel, a character in this novel visits a black stable buck with a (*) crippled spine known as Crooks. While thinking about growing alfalfa and "living on the fatta the lan'," that character in this novel is shot in the back of the head to save him from a mob angry over the death of Curley's wife. For 10 points, name this novel about George and the rabbit-loving Lenny by John Steinbeck.

ANSWER: *Of Mice and Men* <Brownstein>

6. In *On the Sublime*, Longinus argued that a decline in this subject was caused by loss of freedom under the Roman Empire. In the tenth book in a treatise on this topic, Quintilian provides an assessment of classical authors. One text on this subject divides it into deliberative, judicial and epideictic varieties, and has Crassus outline the rules of this topic to Antonius. Classical treatises on this subject often advise the reader to use (*) memory palaces. Aristotle's text on this subject addresses topics such as style, arrangement and delivery. Demosthenes used his expertise in this art to rally the Greeks against Alexander the Great. For 10 points, name this subject discussed in Cicero's *De oratore*, the art of public speaking.

ANSWER: rhetoric [accept public speaking until mentioned; accept oratory until "*De oratore*"] <Bentley>

7. This person once sat a chair between the segregated sections of a Southern Conference for Human Welfare meeting in Birmingham. This person was the namesake of fictitious African-American clubs with the supposed slogan "a white woman in every kitchen." This person organized a meeting between the president and Walter White on anti-lynching laws. In her "My Day" column, this person announced her resignation from the Daughters of the American Revolution to protest a policy involving (*) Constitution Hall. This author of the Universal Declaration of Human Rights then organized a concert on the steps of the Lincoln Memorial given by singer Marian Anderson. For 10 points, name this first lady who supported the "Black Cabinet" and the New Deal of her husband FDR.

ANSWER: Eleanor Roosevelt [or Anna Eleanor Roosevelt; prompt on Roosevelt] <Brownstein>

8. This peninsula lies east of a group of islands that were accidentally shelled by then-U.S. naval officer L. Ron Hubbard in 1943. Despite the efforts of explorer Francisco de Ulloa (ooh-YO-ah), maps continued to show this peninsula as an island up until the 17th century. Three years before his invasion of Nicaragua, the filibuster William Walker tried to establish an independent republic on this peninsula. After the Jesuits were expelled from this peninsula in 1767, (*) Junípero (hoo-NEE-peh-roh) Serra established one mission here before moving north. The delta of the Colorado River is on the northeastern base of this peninsula, which runs by the Sea of Cortez. For 10 points, name this Mexican peninsula whose northern end contains the city of Tijuana (tee-WAH-nah).

ANSWER: **Baja** California [Peninsula] <Wang>

9. Molecules undergoing this process may be surrounded by a complex formed by the barrel-shaped GroEL (grow-E-L) and lid-shaped GroES (grow-E-S). The rate of this process's "co-translational" form can be controlled by swapping synonymous codons for each other. Molten globules are theorized to exist partway down the energy funnel modelling this process. Christian (*) Anfinsen believed it was controlled entirely by the amino acid sequence. This process sometimes regulated by chaperonins (CHAPERONE-ins) turns denatured polypeptides (poly-PEP-tides) into their native states by minimizing contact between hydrophobic regions and water. Prions (PREE-ons) are proteins where this process has not occurred properly and has gotten stuck in the wrong shape. For 10 points, name this process where proteins acquire tertiary, three-dimensional structure.

ANSWER: protein **folding** [prompt on tertiary structure formation] <Prieto>

10. During this period, the phrase "Boys, be ambitious!" became a popular slogan after it was uttered by William Smith Clark. Guido Verbeck and this period's oligarchs organized one of the world-touring missions that embarked during it. An adviser offered to provoke his own murder to justify the invasion of a nearby country in this period's Seikanron debate. During this period, the unification of the classes was promised by the five-point (*) Charter Oath. This movement was opposed by the Boshin War and by Saigo Takamori's Satsuma Rebellion, and catalysts for it include the arrival of the "black ships" of Matthew Perry and the subsequent end of the Sakoku period. For 10 points, name this period of modernization in Japan, a "restoration" named for the emperor who led it.

ANSWER: **Meiji** Restoration [or **Meiji** Period; or anything like **Meiji** Renovation, Reform, etc] <Brownstein>

11. This character imagines several people cheering for him as he laboriously turns a key to prevent the calling of a locksmith. This character's father refuses to take off the gold-buttoned uniform he wears for his job at a bank. In one scene, this character tries to hide the picture of a woman in a fur hat which hangs on his wall. This character is seen by (*) three bearded tenants while his sister plays the violin, and he dies shortly afterwards from a wound received when his father pelted him with apples. This character hides in his room when the Chief Clerk comes to his family's apartment to inquire about his absence from his job as a travelling salesman. For 10 points, name this character who finds himself transformed into a cockroach-like vermin in Franz Kafka's *The Metamorphosis*.

ANSWER: **Gregor** Samsa [or Gregor **Samsa**] <Brownstein>

12. Donepezil and galantamine inhibit enzymes that degrade this compound. A single molecule of it induces the miniature end plate potential. Dale's principle originally contrasted adrenergic cells with cells that produce this compound, whose receptors also bind nicotine. Organophosphates like sarin prevent the hydrolysis of this compound by inhibiting its namesake (*) esterase. This compound activates sodium-potassium pumps, causing hyperpolarization, in the sliding filament model. Synthesis of this compound at the presynaptic cleft is slow in Alzheimer's patients, and it is targeted by botulinum toxin, or Botox. For 10 points, name this neurotransmitter that stimulates muscle contractions, abbreviated ACh.

ANSWER: **acetylcholine** [or **ACh**] <Silverman>

13. The opening sequence of a film partially titled for one of these things cuts between the antagonist's and protagonist's walking feet until they accidentally bump into each other under a table. In a memorable scene from *Pather Panchali*, Apu and his sister run through a wheat field to glimpse one of these things. A film set mostly on one of these things ends with a shot of a bandit firing his gun (*) directly into the camera. A 50-second Lumiere brothers film which depicts one of these things arriving at La Ciotat apocryphally terrified audiences. In a 1903 Edwin Porter film, bandits commit a "Great Robbery" on one of these vehicles. For 10 points, name this vehicle that appears in the title of an Alfred Hitchcock film about two *Strangers* who "swap murders."

ANSWER: **trains** <Weiser>

14. One of these places is the setting of the second part of the memoir *Journey into the Whirlwind* by Eugenia Ginzburg. People in one of these places tried to get help using carrier pigeons after seizing control of it during the forty-day Kengir uprising. The use of these places replaced the katorga system, which was used for targets of the Third Section and the Okhrana. Under Genrikh Yagoda, tens of thousands of people from these places constructed a 141-mile-long shipping canal. These places were (*) operated by the NKVD. Many people were released from these places during the Thaw that followed the Secret Speech. These places are compared to a vast archipelago by an Aleksandr Solzhenitsyn book. For 10 points, name this system of forced labor prison camps in Soviet Russia.

ANSWER: **Gulag** prison camps [or **Glavnoye upravlenie lagerei**; or **Main Camp Administration**; prompt on more general answers such as labor camps, Soviet prison camps, etc] <Brownstein>

15. Piero the Gouty was the model for the man riding a white horse on the left of a fresco of a procession of these people by Benozzo Gozzoli. A painting of these people set in a Gothic, three-arched gold frame is the masterpiece of Gentile da Fabriano. A self-portrait of a young Leonardo can be seen in an unfinished painting titled for these people commissioned for the San Donato a Scopeto. A scene named for these people is often set in a ruined house with a flimsy thatched roof, as in (*) Botticelli's version. Giotto painted one of these men holding a chalice in a scene where two camels stand to the left of these men. Many artists inserted these men into the Adoration of the Shepherds. For 10 points, name these men commonly depicted bringing gifts to the infant Jesus.

ANSWER: The **Magi** [or **Three Wise Men**; or **Three Kings**] <Bentley>

16. The city of Chios (KEY-ose) used one of these creatures as its symbol and minted coins depicting them. Shirley Temple, who is called the "youngest most sacred monster of the cinema in her time," is depicted as one of these creatures in a painting by Salvador Dalí. Nummulitic limestone was used to create a sculpture of one of these creatures that is the largest monolithic artwork in the world. A (*) cannonball from Napoleon's artillery is sometimes suggested to explain why that sculpture of this creature does not have a nose. One of these creatures killed herself after her question about about a two-footed, three-footed, and four-footed being was answered by Oedipus. For 10 points, name this Greek monster known for its deadly riddle, a creature with a lion's body and human head.

ANSWER: **sphinx** <Jose>

17. The speaker sings of this concept's "trans-shifting" before describing "how roses first came red" in the poem "The Argument of His Book." In the poem "Corinna's Going a-Maying", the speaker implores the addressee to "take the harmless folly of" this concept. The speaker of another poem urges his addressee to help him "devour" this concept "like amorous birds of prey." That poem warns that this concept's "winged (*) chariot" is "hurrying near." While *this* is "still a-flying," the speaker of another poem entreats "Gather ye rosebuds, while ye may." In the first stanza of Andrew Marvell's "To His Coy Mistress," the speaker considers the case in which he had "but world enough and" this thing. For 10 points, Robert Herrick advised virgins to "make much of" what concept?

ANSWER: **time** <Jose>

18. Plutarch pairs this man's life with Nicias and states that a prisoner of war who resembled this man was dressed in drag and paraded through the streets after he died. This politician acquired property by purchasing burning buildings for a low price, then using his fire brigade to put out the blaze. This general, who revived the practice of decimation, won the Battle of Siler River during the Third (*) Servile War, which ended with his defeat of Spartacus. While serving as Governor of Syria, he was killed by Surena, a Parthian general who supposedly ordered gold to be poured down this man's throat after he was defeated at the Battle of Carrhae. For 10 points, name this "richest man in Rome" who formed the First Triumvirate with Julius Caesar and Pompey.

ANSWER: Marcus Licinius **Crassus** <Jose>

19. A very simple one of these devices can be constructed from two pieces of glass separated by a thin "air wedge." A compensator plate can be used to correct for phase differences in these devices. On September 14, 2015, two of these devices located in Hanford, Washington, and Livingston, Louisiana, detected radiation emitted by a black hole merger. In the most common type of these devices, a coherent and monochromatic beam is split into two and (*) recombined after the two beams are sent down two "arms" oriented perpendicular to each other. LIGO uses a type of this device, which was used in an experiment to disprove the existence of the luminiferous ether. "Fringes" due to superposition of waves can be observed with, for 10 points, the Michelson form of what devices?

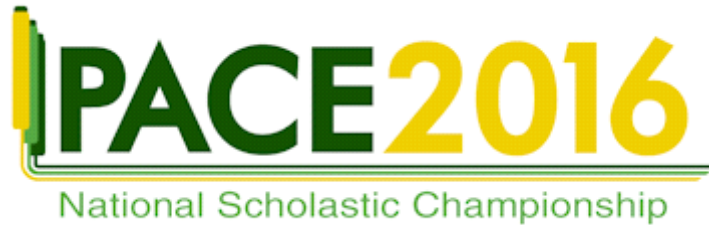
ANSWER: **interferometer** [accept more specific answers like "Michelson **interferometer**"]
<Busse>

20. The *Lives of the Prophets* claims that this man is buried in the Cave of Kenaz and that he was born in *Kariathmos*. He states "To the roots of the mountains I sank down; the earth beneath barred me in forever" in a prayer whose opening mentions "From deep in the realm of the dead I called for help, and you listened to my cry." A king takes off his royal robes and dresses in sackcloth when this son of (*) Amittai preaches to his city. This man is upset when God sends a worm to destroy a leafy plant that provides him with shade. In the first chapter of his book, this man flees to Tarshish instead of going to Nineveh, but God sends a storm and his fellow sailors throw him aboard. For 10 points, name this Biblical prophet swallowed by a giant fish resembling a whale.

ANSWER: **Jonah** [or **Yonah**; or **Jonas**; or **Yunah**; or **Yunis**] <Jose>

21. An earth sculpture of a white one of these animals at Uffington suggests that the Celts believed that one of these animals chases the sun across the sky. When Rhiannon is first introduced in *The Mabinogion*, she is seen with a fast, white one of these animals. An unnamed giant is allowed help from one of these animals when the Aesir have him (*) build the walls of Asgard in three seasons. A Celtic fertility goddess who takes the form of one of these animals is named Epona. Heimdall is accompanied by a golden-maned one of these animals named Gulltopr. Another is borrowed by Hermod to visit Helheim; that example of these animals is a child of Loki and Svadlifari and has eight legs. For 10 points, name this type of animal that includes Odin's steed Sleipnir.

ANSWER: **horses** <Jose>



PACE NSC 2016 - Round 23 - Bonuses

1. The shunting yard algorithm converts formulas written in infix notation to this other format. For 10 points each:

[10] Identify this system in which every operand in a mathematical expression is inputted first, and every operator is inputted second.

ANSWER: **reverse Polish** notation [accept **RPN**; accept **postfix** notation; do not accept or prompt on "Polish notation"]

[10] Some of Hewlett-Packard's devices of this kind use reverse Polish notation. There are "scientific" and "graphing" types of these tools.

ANSWER: **calculators**

[10] Reverse polish notation does not require the use of these symbols if the arity of each operator is fixed. In another context, these symbols are used to express intervals that are open.

ANSWER: **parenthesis** [or **parentheses**] <Jose>

2. People who paid a tax for having these things carried a token called the *znak*. For 10 points each:

[10] Name these things, widely worn among Old Believers and the boyar class, which were targeted in some 1705 decrees implemented by a leader after his Grand Embassy tour of Europe.

ANSWER: **beards**

[10] This reforming czar of Russia personally began shaving off the beards of noblemen after returning from his Grand Embassy. This "Great" czar fought the Great Northern War with Sweden.

ANSWER: **Peter** I the Great [or **Pyotr**]

[10] Peter's other attacks on the traditional power of the boyars included this system of official positions which was based a grid layout of military, civil, and court posts.

ANSWER: **Table of Ranks** [or **Tabel' o Rangakh**] <Brownstein>

3. This character tries to recruit Dr. Kemp as an accomplice, but the doctor turns him in to the police. For 10 points each:

[10] Name this violent scientist whose body reappears after his death. His invisibility is the result of his meddling with the refractive indices of his own cells.

ANSWER: **Griffin** [prompt on the Invisible Man]

[10] This other novel by H. G. Wells, who created Griffin in *The Invisible Man*, tells of a Martian invasion of Earth shortly after a meteor is found in the narrator's backyard. It ends with the Martians leaving since they lack biological defenses against Earth's microbes.

ANSWER: *The **War of the Worlds***

[10] In this other novel by H. G. Wells, Edward Prendick discovers that the character is a vivisectionist who has been creating animal-human hybrids.

ANSWER: *The **Island of Dr. Moreau*** <Jose>

4. This goddess's name means "face painted with bells," and a stone found in the Templo Mayor depicts her with belt of snakes. For 10 points each:

[10] Name this sorceress who killed her mother Coatlicue (**KWOT-lee-kway**) after she learned that she was impregnated with a ball of feathers. After she was dismembered and decapitated, her head became the moon.

ANSWER: **Coyolxauhqui** (**koh-yohl-SHAO-kee**)

[10] Coyolxauhqui was slain by this god, who sprung fully formed from his mother Coatlicue. This god of war was the subject of annual sacrifices of human hearts, since he protected his people from the forces of darkness.

ANSWER: **Huitzilopochtli**

[10] Huitzilopochtli was the war god of this Mesoamerican people. He served as the patron deity of their city of Tenochtitlan.

ANSWER: **Aztecs** [or **Mexicas**] <Jose>

5. Answer the following about the "Dean of Arabic Literature," Taha Hussein. For 10 points each:

[10] Hussein suffered from this disability from the age of three. John Milton acquired this disability later in life and described it in his poem "When I consider how my light is spent."

ANSWER: **blindness** [accept equivalents indicating the author is **blind**]

[10] Hussein heavily influenced this countryman of his, who created the hashish-smoking cafe owner Kirsha and the sexually insatiable Salim Alwan in the novel *Midaq Alley*. He also wrote *Miramar*.

ANSWER: Naguib **Mahfouz**

[10] Hussein produced an Arabic translation of this Voltaire novel, whose title character lusts after Sémire and becomes the slave of Sétoc in Egypt. It's set during the reign of King Moabdar of Babylon.

ANSWER: **Zadig**, or *The Book of Fate* [or **Zadig ou la Destinée**] <Alston>

6. The first use of one of these texts was used by James Monroe to criticize Congress for passing a bill limiting the size of the army. For 10 points each:

[10] Name these texts issued by presidents when authorizing legislation from Congress. Christopher Kelly defined the "political" form of these things as directions from the President on how agencies should enforce ambiguous legislation.

ANSWER: **signing statements**

[10] Signing statements might be less common if the President had a line-item form of this power. Presidents can perform this action by not signing a bill passed by Congress.

ANSWER: **vetoing** legislation

[10] Under Reagan, this man authored a document arguing for the president to make greater use of signing statements. This man took over the seat vacated by Sandra Day O'Connor on the Supreme Court.

ANSWER: Samuel **Alito** [or Samuel Anthony **Alito**, Jr.] <Bentley>

7. During osmoregulation, aldosterone promotes retention of this element. For 10 points each:

[10] Name this element, three atoms of which are transported out of a cell by an ATPase pump that exchanges it with potassium.

ANSWER: **sodium** [or **Na**/S+/S]

[10] After glomerular filtration, sodium ions are first reabsorbed in this part of the nephron. This part of the nephron is followed by the descending loop of Henle, which does not allow any water to pass through.

ANSWER: **proximal tubule** [prompt on **tubule**]

[10] Aldosterone is synthesized from this molecule, whose own biosynthetic pathway contains mevalonate and squalene intermediates.

ANSWER: **cholesterol** <Zhang>

8. An op-ed in Columbia University's newspaper argued that one of these should be used for a class in which Ovid's *Metamorphoses* were read. For 10 points each:

[10] Name these prefatory notes that inform a person that disturbing material lies ahead.

ANSWER: **trigger warnings** [or **content warnings**]

[10] This author of *Stardust* recently released a collection of "short fiction and disturbances" called *Trigger Warning*. It includes the cultural tribute "The Man Who Forgot Ray Bradbury" and "Down to the Sunless Sea."

ANSWER: Neil **Gaiman**

[10] *Trigger Warning's* story "A Collection of Tales" are 12 micro-stories that were inspired by these kinds of fan-submitted pieces of writing. Dan Sanker's novel about Chicago mayor Rahm Emmanuel's "epic quest" is mostly composed of these kinds of writings, which depend on a company founded by Jack Dorsey and Evan Williams.

ANSWER: **tweets** [prompt on answer mentioning Twitter] <Jose>

9. Answer the following about composer George Rochberg (ROCK-berg), for 10 points each:

[10] In his early career, Rochberg was an exponent of this technique, but he found it incapable of expressing his grief after the death of his son. Arnold Schoenberg developed this technique, which generates music from a tone row.

ANSWER: **twelve-tone** serialism [or **twelve-tone** technique; or **twelve-tone** composition; or **dodecaphony**; prompt on serialism]

[10] Rochberg's many quotation-heavy postmodernist works include his sixth string quartet, which contains a set of variations on this Johann Pachelbel piece originally paired with a gigue (zheeg).

ANSWER: **Canon in D**

[10] Earlier, this composer moved in the opposite direction as Rochberg, writing pieces like the *Dumbarton Oaks* concerto in a neoclassical style before using twelve-tone composition in *Agon* and *Threni*.

ANSWER: Igor Fyodorovich **Stravinsky** <Kothari>

10. In its original sense, this adjective denotes a philosophical approach that advocates using logic to achieve conceptual clarity. For 10 points each:

[10] Give this term, which also denotes the Anglophone philosophical tradition, as distinct from the European "continental" tradition.

ANSWER: **analytic** philosophy [or **analytical** philosophy]

[10] This philosopher stated that analytic judgments were "explicative of the concept of the subject" in his book *A System of Logic*. He proposed the "harm principle" in *On Liberty*.

ANSWER: John Stuart **Mill**

[10] Another progenitor of analytic philosophy was this non-Anglophone logician who created an alternative to Mill's theory of names. He debated David Hilbert over the role of axioms in mathematics.

ANSWER: Gottlob **Frege** <Jose>

11. Barracks life becomes boring for this man after he meets Aaron Burr, who convinced him to rebel against the U.S. with him. For 10 points each:

[10] Identify this character, created by Edward Everett Hale and based on Clement Vallandigham, who lives a life aboard numerous ships after he curses his country during a court-martial chaired by Colonel Morgan.

ANSWER: **Philip Nolan** [accept either name; accept The **Man without a Country**; accept **Plain-Buttons**]

[10] At the conclusion of "The Man without a Country" Danforth tells Nolan about the history of the US, only omitting this event, which is the subject of the poetry collection *Drum-Taps*.

ANSWER: the **Civil War**

[10] The Man without a Country" was intended to galvanize pro-Union sentiment for the Civil War; this anti-slavery book by Harriet Beecher Stowe had similar effects.

ANSWER: **Uncle Tom's Cabin**; or, *Life Among the Lowly* <Jose>

12. One of the purposes of Super-Kamiokande in Japan is to determine whether or not protons decay. For 10 points each:

[10] Super-Kamiokande was built to detect these leptons whose flavors are electron, muon, and tau. Takaaki Kajita shared the 2015 Nobel Prize in Physics for his work showing they oscillate between flavors, which means that these particles have mass.

ANSWER: **neutrinos**

[10] The detectors at Super-Kamiokande use detectors named for this effect in which particles travel faster than the speed of light in the medium they are in.

ANSWER: **Cherenkov**

[10] The discovery of proton decay could support one of these classes of theories that are a step towards a theory of everything. These theories differ from a theory of everything because they do not involve gravity.

ANSWER: **Grand Unified** Theory [or **GUT**] <Reinstein>

13. Most of what we know about these people comes from a series of reliefs in the temple of Medinet Habu, which depicts them fighting Ramesses III in the Battle of the Delta. For 10 points each:

[10] Identify these mysterious "peoples" that ravaged the eastern Mediterranean world during the Bronze Age Collapse.

ANSWER: **Sea Peoples**

[10] The invasion of the Sea Peoples may have caused the downfall of this Anatolian empire, which had earlier fought Egypt in the Battle of Kadesh.

ANSWER: **Hittite** Empire

[10] The Bronze Age Collapse ended the use of this written script, the only one in the Mycenaean language that has been deciphered.

ANSWER: **Linear B** [do not accept "Linear A"] <Wang>

14. This writer wrote about the psychological effects of the Soviet invasion of Afghanistan in her book *Zinky Boys*. For 10 points each:

[10] Name this author, who interviewed hundreds of eyewitnesses to present an "oral history of a nuclear disaster" in her book *Voices of Chernobyl*.

ANSWER: Svetlana Alexandrovna **Alexievich**

[10] Svetlana Alexievich was given this prize in 2015, making her the first writer who uses a journalistic approach to be awarded it.

ANSWER: **Nobel** Prize in **Literature** [prompt on Nobel Prize]

[10] An article in the Russian magazine *Izvestia* criticized the committee for awarding the prize to Alexievich, since every Russian winner of the Nobel Prize in Literature has been a dissident. This author, who wrote about a man who pens love poems to Lara in his only novel, was mentioned as an example.

ANSWER: Boris **Pasternak** <Jose>

15. Gisele Halimi provided legal protection to 343 French women who signed a statement admitting to have undergone this procedure. For 10 points each:

[10] Name this type of procedure legalized in France by the Veil Law, which involves the termination of an unwanted fetus.

ANSWER: **abortion** [prompt on birth control]

[10] Simone Veil oversaw the legalization of abortion in this decade, during which the International Women's Year occurred. In Spain, the ban on contraceptives was lifted after Francisco Franco's death in this decade.

ANSWER: 19**70s**

[10] Abortion and other forms of birth control were condemned as contrary to the sanctity of life in this 1968 encyclical issued by Pope Paul VI.

ANSWER: ***Humanae Vitae*** <Brownstein>

16. Recently, this man proposed a tax plan that would deduct one day's pay from anyone making over a thousand dollars a month to help fund the reconstruction of Guayaquil (**gwah-ya-KEEL**). For 10 points each:

[10] Name this current president of Ecuador.

ANSWER: Rafael **Correa**

[10] To deal with this kind of disaster that struck Ecuador on April 16, 2016, Rafael Correa proposed a "millionaire's tax" as part of a plan to rebuild infrastructure and compensate victims. One of these striking Kyūshū on the same day led to the issuance of a tsunami warning.

ANSWER: **earthquake** [prompt on quake]

[10] In 2015, numerous people protested this kind of tax set at around 75 percent proposed by Rafael Correa. Correa withdrew the bill for this kind of tax and a capital gains tax shortly afterwards.

ANSWER: **inheritance** tax <Jose>

17. A woman attracts the attention a man with this job by singing "Quando me'n vo" and leaves Alcindoro to be with him. For 10 points each:

[10] Name this profession of Marcello. Another character with this job sings "Recondita armonia" while comparing the title character to Mary Magdalene.

ANSWER: **painter** [prompt on artist]

[10] Marcello appears in this opera by Giacomo Puccini, which opens with Marcello and Rodolfo burning a manuscript to keep warm. Later, Schaunard appears and explains how he made money by playing the violin for an Englishman's parrot.

ANSWER: *La bohème*

[10] The singer of "Recondita armonia" is this character, who also sings "E lucevan le stelle" and the duet "O dolci mani" before he is executed by the firing squad of Baron Scarpia in *Tosca*.

ANSWER: **Mario Cavaradossi** [accept either underlined portion] <Lee>

18. For a zeroth order reaction, one of these laws states that r is equal to k , where k is a namesake constant. For 10 points each:

[10] Name these kinds of laws, which usually express the desired quantity as a function of species concentration raised to an empirically determined exponent.

ANSWER: **rate** laws

[10] Though it is common to express the rate law as a function of the time derivative of the concentration of the species, it can also be expressed in this form, such that the time t is a function of the concentration. For a first-order equation, the half-life is expressed in this form.

ANSWER: **integrated** rate law [accept word forms indicating **integration** or **integral** form]

[10] This method helps evaluate second order kinetics by adding a ton of reactant A and treating it as a constant, although it is necessary to create a new rate constant typically labeled k prime.

ANSWER: **pseudo first order** kinetics <Jose>

19. Scholars have debated whether the Countess Livia da Porto Thiene, who stands with her daughter in a doorway in a portrait by this artist, is pregnant or not. For 10 points each:

[10] Name this Italian artist, who depicted a group of musicians seated below Jesus in his massive canvas *The Wedding at Cana*.

ANSWER: Paolo **Veronese** [or Paolo **Caliari**]

[10] Veronese was forced by the Church to rename his painting of this scene *Feast in the House of Levi*. In Leonardo's version, Judas sits cast in shadow and spills a salt cellar.

ANSWER: The **Last Supper**

[10] Veronese designed frescoes for a villa built by this architect for Daniele Barbaro. This architect's plan for an oculus over the portal of the church of San Giorgio Maggiore in Venice was not realized by the men who completed the building after his death.

ANSWER: Andrea **Palladio** [or Andrea di **Pietro** della Gondola] <Bentley>

20. This religion was spread west from the Far East to Bactria by Kanishka the Great, a ruler of the Kushan Empire. For 10 points each:

[10] Name this religion founded in India, whose "Mahayana" branch spread into Afghanistan, Bactria and other western regions in part by the Silk Road.

ANSWER: **Buddhism** [or Mahayana **Buddhism** or equivalent answers]

[10] Kanishka the Great patronized the creation of two large Buddhist statues in a cliff in this Afghani valley. These two Buddhas were unfortunately destroyed by the Taliban in 2001.

ANSWER: **Bamiyan** [or **Bamyan**; accept **Bamyan** Buddhas or equivalent answers]

[10] Kanishka also ordered the creation of one of these domed Buddhist structures to house relics in Peshawar. Bell-shaped ones of these surround a statue of a Buddha in Borobudur.

ANSWER: **stupas** <Jose>

21. This man probably lived in Valencia for a period of time, during which he unsuccessfully proposed to improve that city's harbor. For 10 points each:

[10] Name this explorer who claimed territory for England while visiting Newfoundland on his ship, the *Matthew*. He disappeared on his second voyage.

ANSWER: John **Cabot** [or Zuan **Cabotto**]

[10] Cabot and his sons were granted letters patent for an expedition to the New World by Henry VII, the first monarch from this English dynasty.

ANSWER: House of **Tudor**

[10] One of the objectives of Cabot's second voyage was to visit this country. Inhabitants of this country referred to Western knowledge as "Dutch learning."

ANSWER: **Japan** [or **Nippon**] <Bentley>