

2016 NSC - Official Scoresheet

Round	05	Room	
Bracket			
Reader			

Team									Team								
Player Names																	
Q#					Bonus	Steals	Ques. Total	Run. Score					Bonus	Steals	Ques. Total	Run. score	
1																	
2																	
3																	
4																	
5																	
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18																	
19																	
20																	
OT																	
Player 20s																	
Player 10s																	
Point totals																	
Final score																	
	Substitutions before Tossup 11								Substitutions before Tossup 11								
	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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PACE2016

National Scholastic Championship

PACE NSC 2016 - Round 05 - Tossups

1. Two of these bonds react in Dorothy Wrinch's incorrect cyclol model. The oxidation of these bonds by copper is described in the most heavily cited scientific paper of all time. These bonds are artificially synthesized in a cycle consisting of coupling, wash, deprotecting, and wash steps. The six coplanar atoms in these bonds include carbons labelled C-alpha and C-prime, and have only two (*) dihedral angles labelled phi and psi, plotted against each other in a Ramachandran plot. Trypsin hydrolyzes these bonds. The formation of these bonds occurs at the P site of t-RNA, and the order of these amide linkages makes up primary structure. For 10 points, name these bonds that link amino acids in proteins.

ANSWER: peptide bonds [or amide bonds until it is read; prompt on protein bonds] <Silverman>

2. This politician's wife controversially appointed a former Al Sharpton spokeswoman named Rachel Noerdlinger as her chief of staff. This man's administration ended an ongoing appeal of Shira A. Scheindlin's decision in a case filed by David Floyd. This man proposed 850 million dollars for the "Thrive" mental health plan, partly inspired by his daughter (*) Chiara's struggle with depression. This politician once fatally dropped a rodent named Chuck during a Groundhog Day ceremony, and successfully established a universal free pre-K program in his city. At the funeral for Wenjian Liu, many officers broke with their boss William Bratton and turned their back on this mayor over his handling of the Eric Garner protests. For 10 points, name this Mayor of New York City.

ANSWER: Bill de Blasio [or Bill Wilhelm or Warren Wilhelm Jr.] <Bentley>

3. Soldiers who formerly fought for this state resorted to cannibalism when they were lured into a canyon called "the saw" during the "Truceless War." Shortly after forming an alliance with this state, King Syphax was beaten at the Battle of Great Plains. This state's forces employed a turning movement in an ambush that destroyed the legions of Gaius Flaminius. After this state violated the Ebro Treaty, it besieged the town of Saguntum. After this state was (*) victorious at the Battle of Lake Trasimene, Fabius Maximus began employing a delaying strategy against its forces. Years after this empire failed to follow up on its victory at Cannae, Scipio Africanus defeated this state at the Battle of Zama. For 10 points, what empire fought the three Punic wars with Rome?

ANSWER: Carthage [or Punic Empire until "Punic" is read] <Jose>

4. The power of this phenomenon for a particular order is optimized in a technique known as "blazing," which generally minimizes its zeroth order form. This phenomenon can be used in an experiment in combination with the Scherrer equation to determine the size of particles of a powder. It is common to measure the thickness of a strand of hair using this phenomenon and Babinet's principle. James Gregory theorized a device consisting of periodic (*) "gratings" which would induce this phenomenon. The formula "two times distance times sine of the scattering angle is equal to n times wavelength" describes this phenomenon; that equation, Bragg's law, describes this phenomenon's use in crystallography. For 10 points, name this phenomenon in which a light wave bends around an obstacle.

ANSWER: diffraction [accept diffraction grating] <Jose>

5. In a piece by this composer, the pianist plays octave tremolos in the right hand to depict the eerie light emitted by skulls. This composer used a scene from Goethe's *Faust* in which Mephistopheles enters Auerbach's cellar as the basis of his "Song of the Flea." A suite by this composer begins with a piece alternating between 5/4 and 6/4 time, and includes the movements "Con (*) Mortuis in Lingua Mortua" and "The Market at Limoges." After this composer died, Rimsky-Korsakov edited many of his works, including a symphonic poem in which a church bell interrupts a witches' sabbath. Viktor Hartmann's sketches inspired him to write a piano suite that opens with a "Promenade." For 10 points, name this Russian composer of *Night on Bald Mountain* and *Pictures at an Exhibition*.

ANSWER: Modest Mussorgsky [or Modest Petrovich Mussorgsky] <Magin>

6. In one story, this god granted the left half of his body to his wife, resulting in a combined form called Ardhanarishvara. This god tore off a fingernail to create the wrathful Bhairava, who guards places where the ashes of Shakti are worshiped. The Vedic Rudra is considered a predecessor to this deity, who lives atop Mount Kailasa. This god is often depicted trampling a (*) dwarf representing ignorance in the form of Nataraja, the lord of the dance. His throat turned blue when he swallowed the Halahala poison during the churning of the ocean of milk. His mount is the white bull Nandi, and he had two children, Kartikeya and Ganesha, with his wife Parvati. For 10 points, name this "destroyer" god of the Hindu Trimurti, in which he is joined by Brahma and Vishnu.

ANSWER: Shiva [or Shiv; or Siva] <Carson>

7. In 1991, this country stopped distributing communal plots of lands known as *ejidos* (ay-HEE-doze) to its peasants. In 1994, this country faced massive capital flight after it suddenly unpegged its currency from the U.S. dollar, during what became known as the "December Mistake." That same year, a pipe-smoking, ski-mask-wearing revolutionary known as "Subcomandante Marcos" became the public face of an (*) indigenous uprising in this country's south. This country, where hundreds of student protesters died in the 1968 Tlatelolco Massacre, witnessed the PAN party come to power for the first time in 2000, under Vicente Fox. This country's participation in NAFTA was opposed by the Zapatistas in its state of Chiapas. For 10 points, name this country long led by the PRI.

ANSWER: Mexico <Wang>

8. This novel's narrator recalls seeing two Yemeni children strangling each other for coins thrown by a French tourist. After being beaten in a warehouse, the protagonist of this novel is comforted by a French girl who pretends not to speak German. Characters in this novel include Mrs. Schachter, who is bound and gagged for constantly shouting that she sees fire, and Julie, a young violinist who plays Beethoven. In this novel, the narrator's teacher (*) Moshe the Beadle attempts to warn the citizens of Sighet. The question "Where is God?" reappears in this novel, in which the narrator's father dies when they are forced on a death march through the snow to Buchenwald after the Soviet army approaches Auschwitz. For 10 points, name this Holocaust memoir by Elie Wiesel.

ANSWER: ***Night*** [or *La Nuit*] <Brownstein>

9. On Twitter, Donald Trump called the leader of this denomination's Ethics & Religious Liberty Commission, Russell Moore, a "nasty guy with no heart." Starting in the late 1960s, this denomination faced a Conservative Resurgence whose proponents insisted on biblical inerrancy. Pastors of this denomination include the author of *The Purpose Driven Life*, Rick Warren, as well as (*) Billy Graham. This denomination's opposition to female pastors led Jimmy Carter to sever ties with it in 2000. This denomination is the largest of those that believe that being born again requires complete immersion, which is reserved for professing believers. For 10 points, name this largest Protestant denomination in the United States, which split from its Northern counterpart in 1845.

ANSWER: **Southern Baptist** Convention [or **SBC**; accept word forms; prompt on **Baptist**] <Jose>

10. In the prefatory section of this novel, a man unties a package held together with "faded red tape," which contains a manuscript authorized by Governor Shirley and written by Jonathan Pue. One character in this novel, who is described as "well stricken in years," gained knowledge of "native herbs" during his year long captivity with Indians and is constantly referred to as "The Leech." This novel begins with a section called "The (*) Custom House." A character in this novel dies after giving his sermon on Election Day because he was driven to insanity by Arthur Dimmesdale. In this novel, Roger Chillingworth leaves his inheritance to the child Pearl. For 10 points, name this novel about the consequences of Hester Prynne's adultery, written by Nathaniel Hawthorne.

ANSWER: ***The Scarlet Letter*** <Jose>

11. During this decade, a group of 50 mostly black dock workers mutinied after an explosion killed 320 of their coworkers at Port Chicago in California. African-Americans created the Red Ball Express convoy during this decade. Civil rights activists during this decade claimed to seek "double victory." During this non-1960s decade, Executive Order 8802 was signed under pressure from Brotherhood of Sleeping Car Porters leader Asa (*) Philip Randolph, who threatened to lead a March on Washington. The Tuskegee Army fought during this decade. The Great Migration accelerated during this decade as African-Americans moved to cities to take jobs in the armaments industry. For 10 points, during what decade did many African Americans enlist to fight in World War II?

ANSWER: **1940s** [prompt on **40s**] <Weiser>

12. John Conway developed the LUX algorithm for constructing these things, in which rows of *L*'s, *U*'s and *X*'s are repeatedly interchanged. A visit to Thailand inspired Simon de la Loubere to create the Siamese method for generating these constructs. These entities are called "satanic" if each of their entries are raised to an integer power and their defining properties still hold. Benjamin Franklin discovered a "semi-" type of these constructs that has order (*) eight and an associated constant equal to 260. In the simplest of these constructs, the number five is at the center and fifteen is the sum of the rows, columns and diagonals. Sudoku was created when amateur mathematicians removed numbers from them. For 10 points, name these grids whose entries sum to a certain value.

ANSWER: magic squares <Jose>

13. In a 1978 study by Howard Roffwarg, these things were altered by having subjects wear red-tinted goggles for nine days. These things are the subject of John Allan Hobson's and Robert McCarley's activation-synthesis hypothesis. These phenomena, which may be linked with phasic field potentials called PGO waves, help (*) discard unwanted information according to reverse learning theory. A book published in 1900 states that these things are attempts at conflict resolution stemming from wish fulfillment. An agent is aware of these phenomena during the "lucid" type of them. These phenomena are more vivid during stages featuring rapid eye movement. For 10 points, name these sensations during sleep which are the subject of an "interpretation" by Sigmund Freud.

ANSWER: dreams <Jose>

14. In a story by this author, Prince Florizel of Bohemia meets a young man distributing free cream tarts and subsequently joins the "Suicide Club." In another of his stories, the Hawaiian man Keawe (*kay-AH-way*) acquires a bottle containing a wish-granting imp that must always be resold at a loss. One of this author's protagonists falls asleep in a barrel of apples, where he overhears men plotting a mutiny. This author depicted the aftermath of the (*) Jacobite rising in a novel in which Uncle Ebenezer tries to kill David by making him climb a treacherous tower. In another of his novels, Billy Bones's visit to the Admiral Benbow Inn prompts Squire Trelawney and Jim Hawkins to set sail for the title location. For 10 points, name this author of *Kidnapped* and *Treasure Island*.

ANSWER: Robert Louis Stevenson <Jose>

15. A 2014 Frick exhibition contained both Scipione Pulzone's and this artist's Roman portrait of a half-armored Vincenzo Anastagi. An angel in yellow floats over some sleeping apostles as Judas leads soldiers towards Christ in his *The Agony in the Garden*. A bent-over carpenter takes a drill to the Cross as soldiers prepare to remove the brilliant red cloak of Jesus in this artist's *Disrobing of Christ*. The Castle of San Servando and a stormy sky can be seen in a (*) Mannerist landscape by this artist of the town where he worked. A 1586 painting by this artist shows Jesus, Mary and John the Baptist ready to welcome the deceased title official into Heaven. For 10 points, name this Cretan-born Spanish artist of *View of Toledo* and *The Burial of the Count of Orgaz*.

ANSWER: El Greco [or Doménikos Theotokópoulos] <Bentley>

16. Construction workers in this country began a massive strike on June 17, 1953, following an increase in individual work quotas and the announcement of the moderate "New Course" policy. Many young Olympic athletes in this country were unwittingly given performance-enhancing drugs as part of a state-sponsored doping program. Countries that recognized this country were shunned according to the Hallstein Doctrine. The "death strip" was a component of a (*) structure built by this country's government. This country was ruled by the SED government, whose leaders included Walter Ulbricht and Eric Honecker. The secret police in this country were known as the Stasi. For 10 points, name this country, whose people included those on the Communist side of the Berlin Wall.

ANSWER: East Germany [or German Democratic Republic or GDR or Ostdeutschland or Deutsche Demokratische Republik; do not accept or prompt on "Germany"] <Bentley>

17. The cable equation models these cells in one dimension. Agrin is required for their development. Growth factors for these cells bind to either Trks (tracks) or p75. A patch clamp experiment is done to these cells. These cells have NMDA and AMPA receptors that allow them to develop plasticity during (*) long-term potentiation. They are stained by potassium dichromate, then silver nitrate, during a Golgi stain. A sequence of depolarization, repolarization, and hyperpolarization causes these cells' membrane potentials to change during an action potential. Nodes of Ranvier stick out where these cells are not covered by myelin. For 10 points, name these cells that synapse with each other at dendrites and axons.

ANSWER: neurons [or neural cells; or nervous cells; or nerve cells] <Yu>

18. A building in this city features spandrels of circular *tondos* of babies wrapped in swaddling clothes and is the oldest hospital in Europe dedicated to foundlings. In this city, a grain market that was converted into a church features niches holding Donatello's *St. George*. The Hospital of the Innocents and the Orsanmichele can be found in this city, for which Arnolfo di Cambio designed the three naves of a cathedral. That building in this city was accompanied by a campanile, or bell tower designed by Andrea Pisano and (*) Giotto. A set of bronze doors of this city's Baptistery are called the Gates of Paradise and were designed by Lorenzo Ghiberti. For 10 points, name this Italian city whose cathedral in the Piazza del Duomo was given a large dome by Filippo Brunelleschi.

ANSWER: Florence, Italy [or Firenze, Italia] <Hothem>

19. This author wrote "Abraham should come with his axe and his wooden plate" in a poem addressed to an American soldier. This poet often wrote in green ink, which he considered the color of hope. This poet wrote "we pour oil, essential child of the olive, onto its halved hemispheres" in a poem describing a tomato as a "star of earth" in a collection whose poems praise (*) everyday foods like maize and tuna. He included the section "Let the Woodcutter Awaken" in a work that commands "Look on me from the depths of the earth, tiller of fields, weaver, reticent shepherd." This author of *Elemental Odes* proclaimed "arise to birth with me, my brother!" in "The Heights of Macchu Picchu." For 10 points, name this author of *Canto General* (HEH-neh-rall**), a Chilean poet.**

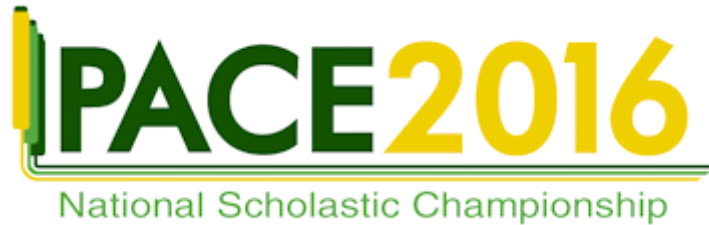
ANSWER: Pablo Neruda [or Ricardo Eliécer Neftalí Reyes Basoalto] <Alston>

20. This thinker calls his teacher, William of Champeaux, the "supreme master" of dialectic in an autobiographical letter that recounts how Anselm of Laon persecuted him. He argues that the mind's vices make one disposed to sin in his moral treatise *Ethics, or Know Thyself*. His most notable work begins with a prologue that states one should not rashly pass judgments on saints whose writings contradict each other. That work consists of 158 theological assertions and their (*) negations. This philosopher recounted how Fulbert hired a group of thieves to castrate him in *History of My Calamities*, which also describes a correspondence he maintained with a nun at Argenteuil (ARR-zhan-tuy**). For 10 points, name this philosopher who wrote the book *Sic et Non* and married Héloïse.**

ANSWER: Peter Abelard [or Petrus Abaelardus or Abailardus; or Pierre Abelard] <Jose>

21. In the leadup to the Civil War, this city's mayor briefly proposed that it secede from the Union as the "Free City of Tri-Insula." Herbert Asbury wrote a book about groups in this city such as the Dead Rabbits which fought each other during the administration of its Copperhead mayor Fernando Wood. In 1863, hundreds of black residents fled this city during unrest over a 300-dollar commutation fee. This city's powerful (*) Customs House, which once employed Chester A. Arthur as a port collector, was controlled by the Stalwart Republican leader Roscoe Conkling. This city was ravaged by the 1863 draft riots. It became a major Atlantic port due to the construction of the Erie Canal. For 10 points, name this city whose government was long controlled by Tammany Hall.

ANSWER: New York City [or NYC] <Wang>



PACE NSC 2016 - Round 05 - Bonuses

1. Answer the following about various mythological figures named Pallas, for 10 points each.

[10] This Greek goddess of wisdom accidentally killed her friend Pallas as a youth, and thus took the name as an epithet to commemorate her.

ANSWER: **Athena** [or **Athene**; accept Pallas **Athena**]

[10] Turnus's possession of one of these articles of clothing taken from a companion of Aeneas named Pallas inspires Aeneas to kill Turnus in a rage at the end of the *Aeneid*.

ANSWER: a **belt**

[10] In some stories, Athena kills a being called Pallas during this conflict, during which Heracles shot an arrow at Alcyoneus. In another part of this conflict, Porphyryon is hit by a thunderbolt during an act of attempted rape.

ANSWER: the **Gigantomachy** [or **Gigantomachia**; accept answers involving a **war** with the **Giants**; do not accept or prompt on "war with the Titans" or "Titanomachy"] <Jose>

2. This woman is shown pointing at a vision of a floating head in Gustave Moreau's *The Apparition*.

For 10 points each:

[10] Name this woman. She isn't Lysistrata, but a play about her was illustrated with black and white pen and ink drawings by Aubrey Beardsley.

ANSWER: **Salome**

[10] Beardsley was heavily influenced by the art of this country. Mary Cassatt's print *The Bath* shows the influence of *ukiyo-e* prints by artists such as Hiroshige from this country.

ANSWER: **Japan** [or **Nippon**]

[10] One of Beardsley's *Salome* illustrations is titled for an elaborate skirt of this type worn by a woman in the drawing. A room named for this bird designed by James McNeill Whistler is now located in the Smithsonian's Freer and Sackler galleries.

ANSWER: **peacock** <Bentley>

3. This man resigned as governor of Tennessee after his 19-year-old wife Eliza Allen left him and returned to her parents. For 10 points each:

[10] Name this man, the first and third president of the Republic of Texas. The most populous city in Texas is now named for him.

ANSWER: Samuel **Houston**

[10] Sam Houston secured the independence of Texas from Mexico by winning this 20-minute rout, at which the forces of Santa Anna were defeated

ANSWER: Battle of **San Jacinto**

[10] This politician served as the president of Texas in between Houston's terms. During his tenure, he issued a worthless currency called "redbacks."

ANSWER: Mirabeau B. **Lamar** [or Mirabeau Buonaparte **Lamar**] <Jose>

4. Many scenery generators, such as SpeedTree, a program that generates foliage for video games and movies, procedurally create shapes using these other shapes. For 10 points each:

[10] Name these self-similar curves, exemplified by the Menger (**MENG-er**) sponge. Their name comes from the Latin word for "broken."

ANSWER: **fractals**

[10] The "set" named for this mathematician is an example of a fractal. His paper asking "How long is the coastline of Great Britain?" first proposed the concept of fractals.

ANSWER: Benoit **Mandelbrot** [accept **Mandelbrot** set]

[10] This quantity is often used to measure the "amount of space" a fractal occupies, and is generally greater than its topological dimension. For the Koch curve, this quantity is approximately 1.26.

ANSWER: **Hausdorff** dimension [do not accept or prompt on dimension alone] <Jose>

5. Judith Thompson proposed a variant of this problem in which the "one man" has been replaced with the "fat man." For 10 points each:

[10] Name this thought experiment posed by Philippa Foot, which asks if it is morally acceptable to alter the course of the namesake object to kill one man, instead of letting five people die.

ANSWER: **trolley** problem

[10] The trolley problem is often studied in this branch of philosophy, which is concerned with concepts of right and wrong.

ANSWER: **ethics**

[10] A similar ethical thought experiment involves asking whether using this technique to stop a ticking time bomb is ever acceptable. Michael Walzer discusses the effects of using this policy in "Political Action: The Problem with Dirty Hands."

ANSWER: **torture** <Jose>

6. In a play about this man, the Common Man appears as a steward, a jailor, a juror, and an executioner. For 10 points each:

[10] Name this character who is killed at the end of Robert Bolt's play *A Man for All Seasons*. This real-life author wrote a book in which Raphael Hythlodæus describes the communistic society on the title fictional island.

ANSWER: Thomas **More**

[10] Thomas More's island has this name, derived from the Greek for "nowhere," which has since come to denote any imaginary perfect society.

ANSWER: **Utopia** [or **Utopy**]

[10] In this 2009 novel by Hilary Mantel, Thomas More appears as a fanatic who accuses its protagonist, Thomas Cromwell, of supporting heretics. This novel's sequel is *Bring Up the Bodies*.

ANSWER: **Wolf Hall** <Brownstein>

7. Useful heterologous DNA elements called "morons" are expressed during this process. For 10 points each:

[10] Name this reproductive cycle in which an infectious agent incorporates itself into the host's DNA and remains quiescent, allowing the host to divide normally, rather than bursting.

ANSWER: **lysogenic** cycle [or **lysogeny**]

[10] The lysogenic and lytic cycles are the two modes of reproduction for these viruses that infect bacteria.

ANSWER: bacteriophages [or **phages**]

[10] The *sopE* and *sieA* morons are expressed by this bacterial genus, which is grouped into serotypes by the Kauffman-White system. Its species like *enterica* and *typhimurium* causes diseases like typhoid fever.

ANSWER: **Salmonella** [or **Salmonella enterica**; or **Salmonella typhimurium**] <Jose>

8. Identify the following about some ancient archaeological sites, for 10 points each.

[10] The citadel mound at this site contains structures like College Square and the Great Bath. Located in the modern-day province of Sindh in Pakistan, it was largely built out of unbaked bricks.

ANSWER: **Mohenjo-daro**

[10] This monument consists of carved blocks of silcrete organized into a circular post-and-lintel structure. It is located in modern-day Wiltshire, England.

ANSWER: **Stonehenge**

[10] This modern-day country is home to Middle Stone Age sites such as the Blombos Cave, which contains 80,000-year-old bone tools. The skull of the Taung Child was found in this country's Cradle of Humankind.

ANSWER: Republic of **South Africa** <Bentley>

9. A woman in this play develops a morphine addiction after being given some by a cut-rate doctor. For 10 points each:

[10] Identify this play in which the patriarch, James, is an actor who has been playing the same role for years. Another family member in this play, Edmund, develops consumption.

ANSWER: **Long Day's Journey into Night**

[10] This playwright demanded that Random House seal the script to his play *Long Day's Journey into Night* for twenty-five years after his death. He also wrote *The Iceman Cometh*.

ANSWER: Eugene **O'Neill** [or Eugene Gladstone **O'Neill**]

[10] In the play, Mary Tyrone is bothered by one of these things, which "won't let you alone. It keeps reminding you, and warning you, and calling back." One of these things sounds throughout the night in Act IV of the play.

ANSWER: **foghorns** [prompt on horns or similar answers] <Bentley>

10. The winner of these events would receive a *kotinos*, a branch that was cut from an olive tree using golden scissors. For 10 points each:

[10] Name these ancient Greek contests that, like the Pythian Games, were held every four years.

ANSWER: **Olympic** Games [accept **Olympics**]

[10] These kinds of events were the only ones in which women could participate at the Olympics. They often made use of a *quadriga*, and a woman named Cynisca was recorded as a winner of these events.

ANSWER: **horse** race [or **chariot** race; or **equestrian** race]

[10] In the years before and after each Olympic Games, a games was held on the isthmus outside of this city. This city names a war which it fought against Sparta with Thebes, Athens, and Argos.

ANSWER: **Corinth** <Jose>

11. The bodhisattva Vajrapani is depicted holding an upturned one of these instruments. For 10 points each:

[10] Name this type of instrument which is often sounded from Christian church towers to announce religious services.

ANSWER: **bells**

[10] Hakuin, a revival of the Rinzai school of this sect, experienced enlightenment on hearing the ringing of a temple bell. This school emphasizes sitting meditation called *zazen* and the study of paradoxical stories called koans.

ANSWER: **Zen** Buddhism [or **Chan** Buddhism; prompt on **Mahayana** Buddhism or **Buddhism**]

[10] The small iron *agogo* bell is used in some rituals of this syncretic Brazilian religion based on Yoruba, Bantu, and Fon traditions. Like Umbanda, this religion's followers venerate a major god called Oludumaré.

ANSWER: **Candomblé** <Brownstein>

12. The title character of this story lives "sclusively" in the "bar, hot, shiny High Veldt" along with the Giraffe, Zebra, Eland, Koodoo, and Hartebeest. For 10 points each:

[10] Name this story in which the title creature is touched all over by the dark skin of his Ethiopian hunting companion so as to be more effective amongst the shadows of the forest.

ANSWER: "**How the Leopard Got His Spots**"

[10] "How the Leopard Got His Spots" is one of the *Just So Stories* by this author that riff on the *Jataka* tales. This man also wrote *The Jungle Book*.

ANSWER: Rudyard **Kipling** [or Joseph Rudyard **Kipling**]

[10] As the title "Lazarushian-leather" water carrier of this Kipling poem is dying, the speaker declares, "Though I've belted you and flayed you, by the living Gawd that made you, you're a better man than I am".

ANSWER: "**Gunga Din**" <Bentley>

13. A woman who married into this family, Isabella d'Este, patronized artists such as Titian and Leonardo. For 10 points each:

[10] Name this family. Federico II of this family was granted the title of Duke of Mantua for supporting Emperor Charles V in the Italian wars.

ANSWER: **Gonzaga**

[10] Charles V was a member of this dynasty which controlled both Spain and Austria.

ANSWER: **Hapsburg** [or **Habsburg**]

[10] Federico II patronized this man, whose most famous book is set over four nights in the court of Elisabetta Gonzaga. He advised readers to avoid flattery and to give the impression of *sprezzatura*, or "effortlessness," in his *Book of the Courtier*.

ANSWER: Baldassare **Castiglione** (**cass-teel-YO-nay**) <Bentley>

14. For 10 points each, name these techniques used by piano players.

[10] This term refers to pianists slightly speeding up and slowing down the tempo of a piece to make their playing more expressive. It is commonly employed while playing Chopin pieces.

ANSWER: tempo **rubato**

[10] Many pieces call for pianists to play these broken chords, in which the notes of a chord are played one at a time.

ANSWER: **arpeggios** [or **arpeggiated** chords]

[10] Most pianos have three of these features. The leftmost of them softens the notes, while the rightmost one is used to sustain notes after they are played.

ANSWER: foot **pedals** <Magin>

15. Identify the following about the caste system of New Spain, for 10 points each.

[10] Only second to the peninsulares class on *la casta* were these people. This term identified people of European descent who were born in the New World.

ANSWER: **criollos** [or **creoles**]

[10] Mestizos were officially defined as people born to a Spanish father and a mother of this race. The first Mestizo was traditionally held to be the offspring of Hernan Cortes and La Malinche, a member of this race.

ANSWER: **Indians** [or **Native Americans**; or **Aztecs**; or **Maya**; or **Nahuas**]

[10] A mestizo's father might have made his fortune by owning one of these large estates. Indians were effectively bound to work on these estates, which, unlike an *encomienda*, were generally not granted by the crown.

ANSWER: **haciendas** <Bentley>

16. This is the only interaction of its kind which does not have a well-defined propagator in the Standard Model. For 10 points each:

[10] Name this interaction, whose coupling constant is on the order of 10^{-39} ; attempts to explain why its coupling constant is so small constitute the hierarchy problem.

ANSWER: **gravity** [or **gravitational force**]

[10] Physics has yet to come up with a model which unifies a relativistic theory of gravity with this field of physics, which explains why Schrodinger's cat is both alive and dead until someone opens the box.

ANSWER: **quantum** mechanics [accept **QM**]

[10] A relativistic theory of gravity was put forth by Einstein, who rejected the probabilistic results of quantum mechanics by stating that "God does not play with" these objects.

ANSWER: **dice** <Busse>

17. This man wrote an essay titled "The Experimental Novel" holding that "naturalistic evolution" is the "main current of our age" and that the scientific theories of Claude Bernard should be applied to novel writing. For 10 points each:

[10] Name this leader of the *groupe des Medan*, whose novels such as *Doctor Pascal* explicate his theories of heredity. His other books include *L'Assomoir* and *Nana*.

ANSWER: Émile **Zola**

[10] Many novels in this cycle of twenty novels by Zola champion science as a sociological method. This series is named for two families and includes *Germinal*, which depicts a coal miners' strike.

ANSWER: Les **Rougon-Macquart** (**lay roo-GONN mah-CAR**)

[10] Zola's other nonfiction includes this letter addressed to Félix Faure, which criticizes him for his handling of the Dreyfus case.

ANSWER: "**J'Accuse**" <Jose>

18. In infants, lack of production of this substance can lead to IRDS, a form of respiratory distress. For 10 points each:

[10] Name this substance mostly composed of DPPC, which is secreted by type II alveolar cells to prevent alveoli from collapsing when the gas pressure in the lungs changes.

ANSWER: pulmonary **surfactant**

[10] The bronchioles that lead to alveoli are constricted in this lung disease, leading to symptoms like wheezing. Medication for this disease is often delivered with inhalers.

ANSWER: **asthma**

[10] The diffusion of gases between alveoli and capillaries is inhibited by this condition, which results from a buildup of interstitial fluid in the lungs. Congestive heart failure often results in this condition.

ANSWER: pulmonary **edema** <Zhang>

19. In 2013, scientists found zircons on Mauritius, suggesting that a third one of these landmasses may exist off its shores. For 10 points each:

[10] Name this type of landmass. The only two examples of this type of landmass officially recognized by geographers are the Kerguelen (**KURR-guh-lin**) Plateau and Zealandia.

ANSWER: **submerged continent** [do not accept or prompt on "continent"; accept **continental fragment**; accept **microcontinent**; accept anything indicating that a **continent** is now **underwater**]

[10] In antiquity, many geographers believed in the existence of a submerged continent of this name, which was described in Plato's dialogue *Timaeus*.

ANSWER: **Atlantis**

[10] Pseudo-geographers used the sunken Yonaguni Monument as evidence that these islands are fragments of a now submerged continent. The largest of these islands is Okinawa.

ANSWER: **Ryūkyū** Islands <Jose>

20. In a work about this piece, Foucault notes that this painting inspires certain "strangeness" due to its claim. For 10 points each:

[10] Name this painting of a black and brown pipe set against a beige background. Beneath the pipe is the sentence "Ceci n'est pas une pipe."

ANSWER: *The **Treachery of Images*** [or *La **Trahison des images***]

[10] This Belgian surrealist painted *The Treachery of Images*. Men in bowler hats fall from the sky in this artist's *Golconde*.

ANSWER: René **Magritte**

[10] Both versions of Magritte's *The Human Condition* depict these objects that blend into the background sky. In a satirical 1939 painting, three tight-lipped old woman, one holding a porcelain teacup, stand in front of one of these objects.

ANSWER: a **painting** [or a **canvas**; or an **easel**; prompt on a picture, an image, or similar answers]
<Hothem>

21. This body of water was known as Propontis in antiquity. For 10 points each:

[10] Name this inland sea, which is connected to the Black Sea via the Bosphorus. Water from the Golden Horn and the Bosphorus joins in a strait that empties into this sea.

ANSWER: Sea of **Marmara**

[10] The Dardanelles connects the Sea of Marmara to this marginal sea of the Mediterranean, which lies in between Turkey and Greece.

ANSWER: **Aegean** Sea

[10] The Sea of Marmara gets its name from Marmara island within it, which itself is named for the presence of this resource.

ANSWER: **marble** <Jose>