

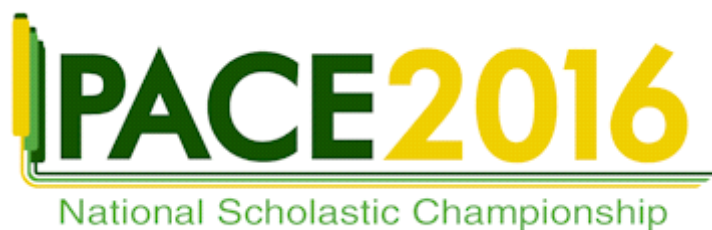
2016 NSC - Official Scoresheet

Round	14	Room	
Bracket			
Reader			

Team									Team								
Player Names																	
Q#					Bonus	Steals	Ques. Total	Run. Score					Bonus	Steals	Ques. Total	Run. score	
1																	
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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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PACE NSC 2016 - Round 14 - Tossups

1. Some devices for carrying out this process are characterized by the rotational transform, which is the inverse of the safety factor. The efficiency of this process is expressed by the "triple product" of density, temperature, and confinement time. Modern experiments on this process include the Wendelstein 7-X and ITER, which are examples of a stellerator and (*) tokamak, respectively. The CNO cycle and the proton-proton chain are astronomical mechanisms for this process, which generally doesn't produce elements heavier than iron. The world's energy problems could be solved by achieving this process at room temperature, the so-called "cold" variety of this process. The Sun's energy is produced by, for 10 points, what process in which two nuclei merge into one nucleus?

ANSWER: nuclear **fusion** [do NOT accept or prompt on "fission"] <Busse>

2. This lake features a rock called Carleton's Prize, which was once bombarded for an hour after British forces mistook the rock for an enemy ship. This lake's northern shore was the site of Fort Blunder, so-named because it was accidentally built in the wrong country. This lake's Fort Crown Point was abandoned by (*) Benedict Arnold after his fleet lost the Battle of Valcour Island. It lies east of the Adirondacks and west of the Green Mountains, which were the base of Ethan Allen's Green Mountain Boys. Fort Ticonderoga defended this lake, which served as a northeastern gateway to the Hudson River Valley. For 10 points, name this lake that forms the border between Vermont and upper New York.

ANSWER: Lake **Champlain** <Wang>

3. While visiting this place, Howard W. Campbell Jr. tries to recruit men for the Free American Corps. This building's residents work at a factory spooning malt syrup into bottles. A character whispers the address of this building while being rescued by Austrian ski instructors from a plane crash that kills a barbershop quartet on their way to an optometrists' convention. After this building's (*) destruction, the theft of a teacup prompts the execution by firing squad of Edgar Derby. The protagonist revisits this building while being kept with Montana Wildhack in a Tralfamadorian zoo by becoming "unstuck in time." For 10 points, name this building where Billy Pilgrim is imprisoned before its destruction during the bombing of Dresden in a namesake Kurt Vonnegut novel.

ANSWER: **Slaughterhouse**-Five [or the **prison** from **Slaughterhouse-Five** or similar answers; prompt on "Dresden"] <Brownstein>

4. Along with a swirl and a red dot, these body parts are painted onto the four sides of many Nepalese stupas. A danger caused by these body parts is warded off with a *hamsa*, or open-palm amulet. Some Hindu traditions state that the *ajna chakra* was an additional one of these body parts, a concept many Theosophists associated with the (*) pineal gland. Some Hindu women place a bindi between these parts. The Book of Matthew states that this part is the lamp of the body and that you should pluck out your right one if it causes you to sin. These are the only body parts visible through a *niqab*. The King James Bible translates a common phrase as "the apple of" this body part. For 10 points, name these body parts that are kept closed during many prayers.

ANSWER: eyes <Reinstein>

5. A character in this novel is delighted by a boy's dislike for a Russian family and learns that his name is pronounced with a long "u" sound. In this novel, an unlicensed driver ignores the protagonist's request to be taken to a steamer-landing. The protagonist of this novel imagines himself as Socrates lecturing Phaedrus about love after having a barber paint his cheeks, paralleling the makeup worn by an old man in a wig he had seen earlier. In this (*) novella, an Englishman warns the main character about the cover-up of an outbreak of cholera. After eating ripe strawberries, its protagonist expires on the beach while watching the Polish boy Tadzio. For 10 points, name this novella in which Gustav von Aschenbach dies in an Italian city, a work of Thomas Mann.

ANSWER: *Death in Venice* [or *Der Tod in Venedig*] <Brownstein>

6. One of these locations "of the Competaliasts" is found next to a temple to Hermes and is an archaeological remnant on the island of Delos. The southwest corner of one of these places was home to the Monument of the Eponymous Heroes. Attalos II of Pergamon built a large *stoa*, or covered walkway, that stood in one of these places. Areas of this type often contained the seat of government in a building called the Prytaneion, as these places were typically in the (*) center of the city. The largest one of these places, which was in Athens, featured the Altar of the Twelve Gods and was the place where all Attic Roads converged. This location was the equivalent of a Roman forum. For 10 points, name this center of ancient Greek life, which also functioned as a marketplace.

ANSWER: agora <Jose>

7. The "preliminary" version of this document set a deadline of January 1 the following year before its provisions would take force. This document had already been written when the *Tribune* published an editorial calling for it entitled "The Prayer of Twenty Millions." This document removed a ban on enticement and expanded on the First and Second Confiscation Acts. A famous (*) speech echoes the Gettysburg Address by noting that this document was issued "five score years ago." This document went into effect on January 1, 1863, shortly after the Battle of Antietam, and only applied to people living in states that were in rebellion. For 10 points, name this document issued by Abraham Lincoln that freed many slaves.

ANSWER: Emancipation Proclamation <Bentley>

8. This composer got his big break as the assistant to Artur Rodzinsky, when he caused a sensation while filling in for the sick conductor Bruno Walter. The first act of a work by this composer ends with a gong striking while two bodies lie dead onstage as the lighting fades to black, following a siren that disrupts a deadly fight. This composer hosted a series of televised "Young People's Concerts" as the music director of the (*) New York Philharmonic. He composed the music for the songs "Glitter and Be Gay" and "Make Our Garden Grow" for his operetta *Candide*, and wrote a musical which includes the songs "A Boy Like That" and "I Feel Pretty." For 10 points, name this American conductor and composer of *West Side Story*.

ANSWER: Leonard Bernstein [or Louis Bernstein] <Magin>

9. A work written in this century ends with the Lord Chancellor's suggestion to add "doesn't" to a law stating "every fairy shall die who marries a mortal." Rupert Murgatroyd's witch hunting causes baronets of Ruddigore Castle to be cursed in a satire written in this century. A character from an opera written in this century knows precisely what is meant by "commissariat" and can quote in elegiacs all the crimes of (*) Elagabalus. Many musical works written in this century, such as *Iolanthe*, premiered at the Savoy Theatre. The title characters of an opera set in this century release girls in Cornwall after learning that the Modern Major General is an orphan. For 10 points, name this century in which *The Pirates of Penzance* and other Gilbert and Sullivan operas were created.

ANSWER: 19th century [or 1800s] <Jose>

10. This compound and water constitute the canonical example of negative volume change from mixing. Benzene and cyclohexane are added to entrain aqueous solutions of this compound. A phase diagram of this compound with water has a relative minimum at 78.2 degrees Celsius, indicating a positive deviation from Raoult's Law. Hydration of the simplest (*) alkene makes this compound. This compound is fully oxidized by chromate to give acetic acid and water in a basic analytical test. Although it is fully miscible with water, at 96 mole percent, this compound forms a notorious azeotrope during distillation. In the body, it is converted to acetaldehyde by ADH, or alcohol dehydrogenase. For 10 points, name this two-carbon alcohol.

ANSWER: ethanol [or ethyl alcohol; or C₂H₅OH; or C₂H₆O; prompt on alcohol] <Silverman>

11. During this war, the Lord of Plymouth oversaw an ineffectual arms embargo as head of the Non-Intervention Committee. During this war, the police takeover of a telephone exchange held by the anarchist CNT began street fighting against the POUM in the May Events. A leader of one side of this war was killed in a plane crash caused by his heavy luggage, and a later plane crash during it killed another general who had coined the term "fifth column." Volunteers known as the (*) International Brigades fought during this war. This war began after Manuel Azana's Popular Front won an election. During this war, the German Condor Legion carried out the bombing of Guernica. For 10 points, name this war which the Republicans lost to the Falange under Francisco Franco.

ANSWER: Spanish Civil War <Brownstein>

12. The distribution of items made from this material prompted Baydu to overthrow and strangle his brother, the Ilkhanate king Gaykhatu. Abbot Wang found an early artifact made primarily of this material in the secret Cave 17 of the Mogao Caves. After the defeat of the eunuch general Gao, a facility for producing this material was established in Samarkand. Artisans who worked with this material may have been captured at the Battle of Talas, allowing the (*) Abbasid dynasty to produce it with water mills. Kublai Khan mandated the use of this material for currency. Woodblocks were used to mark this material until a goldsmith from Mainz developed movable type. For 10 points, name this material which is made of pulp and was used to make the Gutenberg Bible.

ANSWER: paper [or paper money; prompt on books, manuscripts, or money] <Brownstein>

13. Critic William Boyd wrote that an author "skillfully hijacked" this language to write a novel in which Mene contemplates his war-torn village Dukana. The novel *Sozaboy* is written in a "rotten" form of this language, which was also used to narrate Mugo's leadership of a concentration camp hunger strike in the novel *A Grain of Wheat*. The essay collection *Decolonizing the Mind* discusses its author's (*) abandonment of this language. For describing Africa as a mere "foil to Europe," Chinua Achebe called the author of a novel in this language a "thoroughgoing racist" in his essay "An Image of Africa," and missionaries speaking it come to Umuofia during Okonkwo's exile in *Things Fall Apart*. For 10 points, name this language colonially imposed on Nigerian and Kenyan writers.

ANSWER: English <Jose>

14. This quantity is given by " n divided by n minus 1 times the sum of the squares of the estimated differences" in the jackknife method. For the central limit theorem to apply, this quantity, which is one of the moments of a distribution, must be finite. For the binomial distribution, this quantity is defined as the number of trials, times the probability p of the trial, times one minus p ; that is because this quantity is defined as the expected (*) value of the square of a random variable minus the square of the expected value of the random variable. Stratified sampling is one way to decrease this quantity, which tends towards 0 as n gets large. The square of the standard deviation is, for 10 points, what measure of how much a distribution is "spread out?"

ANSWER: variance <Jose>

15. A 13-city tour of this painting during the Great Depression inspired the city of Ashland, Pennsylvania to erect a statue version and the US Postal Service to put it on a stamp. The artist's etching of Black Lion Wharf hangs on the wall in this painting. The artist's butterfly emblem can be seen on the dark purple curtain on the left-hand side of this painting. A follow-up to this painting shows Thomas Carlyle in the same (*) pose as its subject. This painting was supposedly made after a model failed to arrive at its artist's London studio in 1871, forcing its subject to step in. This painting depicts a woman wearing a white bonnet and black dress and is officially titled *Arrangement in Grey and Black, No. 1*. For 10 points, name this painting of Anna Matilda McNeill Whistler.

ANSWER: *Whistler's* Mother [accept Arrangement in Grey and Black, No. 1 or Arrangement No. 1 until "arrangement"] <Bentley>

16. In Yoruban myth, the death of these subjects may cause the creation of an *abiku* spirit. Mormo, a companion of Hecate, was a vicious monster that ate these creatures. On the Isle of Man, the appearance of a caul on these creatures meant that they had connections to the Otherworld and could never be drowned. Six maidens kill a puppy and smear its blood on Rhiannon's face to frame her for the disappearance one of these creatures. Some societies believed that these creatures could be (*) replaced with changelings. In Aztec society, these subjects were fire sacrificed to the god Tlaloc for good rain. Apollo and Artemis killed fourteen of them belonging to Niobe. Heracles strangled two serpents when he was, for 10 points, in what stage of human development?

ANSWER: children [accept synonyms like kids or babies or infants; prompt on answers like offspring or young people; prompt on humans or people] <Jose>

17. A cytoskeletal protein which shares its name with these animals is deficient in a syndrome causing eczema and thrombocytopenia. The family Agaonidae of these organisms coevolved with figs. Douglas Hofstadter coined a term for mindless activity that appears purposeful after the *Sphex* genus of these animals. Polydnaviruses (paw-LID-nah-viruses) have a mutualistic relationship with the braconid and ichneumonid families of these animals, which are parasitoids often used for biological control. The (*) "digger" types of these insects nest in ground cavities, and some of these insects use wood fibers to build paper-like nests. Like ants and bees, these insects are often eusocial and found in the suborder Apocrita of order Hymenoptera. For 10 points, name this kind of insect that includes hornets and yellow jackets.

ANSWER: wasps [prompt on Hymenoptera or Apocrita; do not prompt or accept "bees"; the leadin describes the Wiskott-Aldrich syndrome protein, or WASp] <Kothari>

18. In this play, a joke about an Englishman in a brothel is interrupted when a character yells "STOP IT!" and flees the stage. After the repeated question "You want to get rid of him?" is answered, a character in this play begins to cry, then kicks the shins of a character who tries to wipe his tears. Two boys who appear in this play may be brothers who tend the sheep and goats of the title character. In this play, a discussion of the "public works of Puncher and Wattmann" opens an (*) incoherent monologue that begins after the command "think!" This play's set features a single tree, and its characters, including Pozzo and his slave Lucky, all wear bowler hats. For 10 points, name this play about Vladimir and Estragon, who hope to see the title character, written by Samuel Beckett.

ANSWER: Waiting for Godot [or En attendant Godot] <Brownstein>

19. Robert Dahl developed five criteria to describe this kind of system in a book about it "and its Critics." Richard Rorty wrote that this idea is prior to any philosophical justification. The second volume of a work about this kind of system argues that its literature expresses a greater number of "new ideas" and "new words." The idea that these systems do not wage war against each other was first outlined in Immanuel (*) Kant's essay *Perpetual Peace*. An author's travels with the Frenchman Gustave de Beaumont led him to conclude that this system suffers from the "tyranny of the majority;" that book by Alexis de Tocqueville examines this concept "in America." For 10 points, name this system of government in which people elect rulers, which began in Athens.

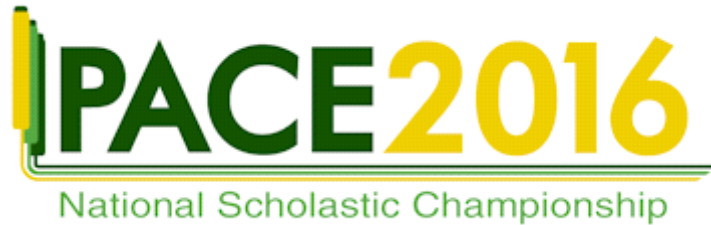
ANSWER: democracy <Jose>

20. A recent Nobel Laureate from this country has studied the pricing of two-sided platform markets like credit cards or operating systems. Another thinker from this country used examples from Jane Austen and Balzac to illustrate the stability of the value of money in the nineteenth century. An economist born in this country proved that excess demands must sum to zero across markets; like Jevons and Menger, that father of (*) general equilibrium theory helped introduce the marginal revolution. An economist from this country argued that returns on investment are persistently higher than overall growth, exacerbating already existing wealth inequality, in the book *Capital in the Twenty-First Century*. For 10 points, name this country home to Jean Tirole, Léon Walras, and Thomas Piketty.

ANSWER: Republic of **France** [or **French Republic**] <Bailey>

21. In a movement marked "Allegro pomposo," this composer used a solo double bass to quote Berlioz's "Dance of the Sylphs." Like Rachmaninoff, this composer heavily quoted the Dies Irae chant in his third symphony, which retains a four-movement structure despite being in two movements. A solo violin has its E string tuned down a half-step in a tone poem by this composer that begins with a harp plucking a single note twelve times to signal midnight. This composer wrote a piece in which (*) xylophones imitate skeletons playing cards in the movement "Fossils", while two pianos accompany a solo cello melody depicting the graceful motion of the title bird in the movement "The Swan." For 10 points, name this composer of *Danse macabre* and *The Carnival of the Animals*.

ANSWER: Camille **Saint-Saëns** [or Charles-Camille **Saint-Saëns**] <Kim>



PACE NSC 2016 - Round 14 - Bonuses

1. One of these events resulted in the death of Button Gwinnett, a signer of the Declaration of Independence. For 10 points each:

[10] Identify these events, one of which took place at Weehawken, New Jersey in 1804.

ANSWER: **duels**

[10] This first Treasury Secretary was killed in the aforementioned duel with Aaron Burr at Weehawken.

ANSWER: Alexander **Hamilton**

[10] Hamilton's animosity towards Burr began when Burr defeated this man, Hamilton's father-in-law, in a Senate race in 1791. This man was acquitted of charges of incompetence at a 1779 court martial after being relieved of his command and replaced by Horatio Gates.

ANSWER: Philip **Schuyler (SKY-ler)** [or Philip John **Schuyler**] <Bentley>

2. An imagined painting by this artist drives the plot of Hannah Rothschild's 2015 novel, *The Improbability of Love*. For 10 points each:

[10] Name this artist who pioneered the genre of the *fete galante* (**fet gal-ont**). This artist depicted pairs of lovers surrounded by flying cherubs as they either leave or arrive on the island birthplace of Venus.

ANSWER: Jean-Antoine **Watteau**

[10] Watteau painted in this ornate style of the 18th-century, also employed by Jean-Honoré Fragonard and by Germain Boffrand for the Hotel de Soubise (**so-beez**) in Paris.

ANSWER: **rococo**

[10] Watteau's many paintings of characters from this genre include Gilles, in which the white-clad title character stands in front of a doctor with a donkey and several other characters from this genre.

ANSWER: **commedia dell'arte** [prompt on translations such as comedy of the profession; prompt on Italian theater/comedy] <Bentley>

3. Name these authors who wrote about macabre paintings, for 10 points each.

[10] After the actress Sybil Vane kills herself, the title character of this author's only novel stabs a painting of himself and begins to age very quickly. That novel is *The Picture of Dorian Gray*.

ANSWER: Oscar **Wilde**

[10] A picture of the "Hanging Judge" Jeffries terrorizes visitors in this author's ghost story "The Judge's House." In a novel by this author, Mina is saved from the title character when Van Helsing and Jonathan Harker kill him.

ANSWER: Bram **Stoker**

[10] Mark Studdock is taken into The Objective Room, where paintings devour his sanity, in this author's *That Hideous Strength*, the final entry in his Space Trilogy. This author also wrote a novel consisting of letters written to the bureaucrat Wormwood by his uncle.

ANSWER: Clive Staples **Lewis** <Jose>

4. According to the *Georgics*, one of these women named Parthenope cast herself into the sea and drowned herself when her charms failed to entice Odysseus. For 10 points each:

[10] Name these monsters who sat on heaps of bones and sang songs to lure sailors to their deaths.

ANSWER: **sirens** [or **Seirenes**]

[10] Some sources state that this Muse, whose primary domain was dancing, was the mother of Parthenope and the rest of the sirens with the river god Achelous.

ANSWER: **Terpischore**

[10] In the *Argonautica*, Jason's crew was protected from the Argonauts due to the efforts of this man. This man's skills had no effect on a group of Maenads who eventually tore him apart, after which his still-living head floated to Lesbos.

ANSWER: **Orpheus** <Jose>

5. During this era, Giuseppe Pinelli was killed when he allegedly fell from a police station window while being questioned about a bank bombing. For 10 points each:

[10] Give the name for this turbulent period of Italian history, which lasted from the late 1960s to the early 1980s.

ANSWER: The **Years of Lead** [or **anni de piombo**]

[10] Marxist brigades named for this color carried out terrorist activities during the Years of Lead. Like many Communist groups, the brigade had a flag whose background was this color.

ANSWER: **red** [or **rosse**]

[10] The Red Brigades specifically targeted personnel from this organization stationed in Italy in an attempt to pressure Italy to leave this organization. Article 5 of this Brussels-based organization was invoked for the first and only time in response to the September 11th attacks.

ANSWER: **NATO** [or **North Atlantic Treaty Organization**] <Bentley>

6. After drinking from the river Eunoe in the Earthly Paradise at the top of this location, the speaker is prepared to "climb unto the stars." For 10 points each:

[10] Name this mountain from a 14th century poem, which can be found on the only island in the Earth's southern hemisphere. Its terraces correspond to the Seven Deadly Sins.

ANSWER: **Purgatorio** [or **Purgatory**]

[10] Virgil shows this Florentine author the various levels of Purgatory in *The Divine Comedy*.

ANSWER: **Dante Alighieri** [accept either underlined name]

[10] In Purgatory, Dante sees the inventor of this poetic form, Arnaut Daniel, and calls him "*miglior fabbro*," or "the best smith." The 36 lines of this form are often followed by a three-line envoi.

ANSWER: **sestina** [or **sestine**; or **sextine**; or **sextain**; or **cledisat**] <Jose>

7. A collision is labeled as completely *this* if the objects remain together afterwards. For 10 points each:

[10] Name these collisions in which kinetic energy is not conserved.

ANSWER: **inelastic** [do not accept "elastic"]

[10] These pendulums use a completely inelastic collision to measure the initial momentum of an object such as a bullet.

ANSWER: **ballistic** pendulum

[10] When modelling a collision, this quantity is equal to the ratio of the difference in final velocities and initial velocities of the objects.

ANSWER: **coefficient of restitution** [or **CoR**] <Reinstein>

8. Michael Hayden's neon light installation *The Sky's the Limit* can be found as one uses the escalators in one of these building complexes in Chicago. For 10 points each:

[10] Name these building complexes, one of which contains Eero Saarinen's gullwing-shaped TWA Terminal.

ANSWER: **airports**

[10] This architect designed the Kansai International Airport in Honshu, Japan. This architect designed The Shard in London and collaborated with an American architect on a building that uses color-coded pipes.

ANSWER: Renzo **Piano**

[10] Renzo Piano was a recipient of this award, considered to be the architectural equivalent of the Nobel Prize. The most recent recipient of this award was Alejandro Aravena.

ANSWER: **Pritzker** Architecture Prize <Hothem>

9. Robert Sternberg proposed a triangular theory of this phenomenon, which suggests that varying degrees of intimacy, commitment and passion are necessary to achieve it. For 10 points each:

[10] Name this psychological emotion, which manifests itself after attraction.

ANSWER: **love** [or word forms]

[10] In *The Art of Loving*, this psychologist argues that love is more than a mere emotion and can actually be taught. In *Escape from Freedom*, he explores how psychological conditions affecting common men may lead to a totalitarian society.

ANSWER: Erich Seligmann **Fromm**

[10] In *Beyond the Pleasure Principle*, Sigmund Freud argues that the love drive, or *eros*, opposes this other drive, *thanatos*, which causes a desire in humans to return to a state of "inorganic elements."

ANSWER: **death** drive <Jose>

10. Because this ion has the unusual electron configuration of 4s0 3d9, its preferred geometry in coordination complexes is unusually square planar. For 10 points each:

[10] Name this hard cation which typically forms blue complexes in solution, such as its sulfate pentahydrate.

ANSWER: **copper (II)** [or **copper two** plus; or **cupric** ion; or **Cu 2+**; prompt on just **copper** or **Cu**]

[10] By contrast, copper (I) complexes have no ligand field stabilization energy, so they normally adopt this molecular geometry with six ligands, two of which are axial and four equatorial.

ANSWER: **octahedral** molecular geometry

[10] The ligand field stabilization energy is partially derived from this rule, which states that electrons will fill each orbital in a subshell before beginning to double up, and they all have the same spin.

ANSWER: **Hund**'s rule of maximum multiplicity <Silverman>

11. One of Narendra Modi's campaign promises was to stem the so-called "pink-revolution" happening in India in this industry, which was banned in Maharashtra in 2015. For 10 points each:

[10] Identify this industry, in whose global exports India trails only Brazil.

ANSWER: **beef** industry [or **leather** industry or cattle **slaughtering** industry or **butchering** industry; prompt on **agriculture**]

[10] Modi has also pledged to offer universal access to this service to India's citizens. Japan's Softbank recently invested \$20 billion in Indian solar ventures which will help provide this service to poor, rural areas.

ANSWER: **electricity** [accept equivalents like **power**, etc.]

[10] While still Chief Minister of this Indian state, Modi broke ground on a one gigawatt solar plant, the largest in the world at the time. The Godhra train bombing took place in this western India state in 2002.

ANSWER: **Gujarat** <Bentley>

12. Answer the following about Holy Week observances in the Western and Eastern Churches, for 10 points each.

[10] After Great Lent, the Eastern Orthodox Church celebrates Pascha, which is their name for this holiday in the Roman Church.

ANSWER: **Easter**

[10] Traditionally, the Good Friday service is one of the only times Catholics venerate a crucifix in this way. On the other hand, Orthodox perform this action with great regularity after making the sign of the cross in front of an icon.

ANSWER: **kissing** it

[10] Orthodox Great Lent is a little shorter than Western Lent, both because it ends before Lazarus Saturday and because the Orthodox don't exclude these days of the week, which Catholics leave out of the count when determining the length of Lent.

ANSWER: **Sundays** <Mehigan>

13. Answer the following about Romulus Augustulus, the final emperor of the Western Roman Empire, for 10 points each.

[10] Romulus Augustulus was the son of Orestes, a Pannonian nobleman who entered the court of this leader of the Huns after his land was captured. This man's army was halted at the Battle of Chalons.

ANSWER: **Attila** the Hun

[10] This Germanic king deposed Romulus Augustulus and became the first king of Italy. In 493, Theodosius invited him to a banquet and had him murdered.

ANSWER: Flavius **Odoacer**

[10] From 402 until the collapse of the Roman Empire, this city served as its capital. In later times, this city was the seat of the Kingdom of Lombardy.

ANSWER: **Ravenna** <Jose>

14. The "genuine" type of this action involves using both the zygomatic major muscle and the orbicularis oculi muscle, while the "fake" or "botox" type of this action only uses the zygomatic major muscle. For 10 points each:

[10] Name this facial expression that may or may not require fewer muscles than frowning.

ANSWER: **smile** [or **smiling**]

[10] The muscles used in the aforementioned genuine smile were first identified by this Frenchman, who is better known for naming a degenerative disease caused by a mutation in dystrophin.

ANSWER: Guillaume-Benjamin-Amand **Duchenne** [accept **Duchenne** muscular dystrophy]

[10] So-called smiling mask syndrome, in which subjects become depressed after unnaturally smiling for too long, may afflict this country's population. An ecological therapy using seclusion and gradual resocialization has been developed to treat anxiety disorders in this country.

ANSWER: **Japan** <Jose>

15. A broken one of these objects is given as a souvenir to a man after he reveals he is "going steady" with a girl named Betty. For 10 points each:

[10] Identify this fragile group of objects, one of which is damaged while the "gentleman caller" Jim O'Connor dances with Laura Wingfield, whom he nicknames "Blue Roses," .

ANSWER: the **glass menagerie** [or obvious equivalents to **glass animal** figurines]

[10] *The Glass Menagerie* is a play by this American playwright of *A Streetcar Named Desire* and *Cat on a Hot Tin Roof*.

ANSWER: Tennessee **Williams**

[10] The broken glass figurine depicts this sort of animal. After the accident, Laura imagines that this animal has had an operation to make him feel "less freakish."

ANSWER: a **unicorn** <Brownstein>

16. The fast marching method can be thought of as a "continuous" variation of this procedure. For 10 points each:

[10] Name this algorithm which finds the shortest path for any starting point to any collection of endpoints. It is named for a Dutch computer scientist.

ANSWER: **Dijkstra's** algorithm

[10] Dijkstra's algorithm is typically used on adjacency matrices or adjacency lists, which are data structures that represent these mathematical structures consisting of vertices and edges.

ANSWER: **graphs**

[10] In terms of the number of edges ' E ,' and the number of vertices ' V ,' Dijkstra's algorithm will have a "big O of E plus $V \log V$ " runtime if it is implemented with a priority queue that uses this underlying data structure.

ANSWER: **Fibonnaci heap** [do not accept or prompt on "heap"] <Jose>

17. One youthful character of this profession is praised for "[keeping] the absolute purity of line in his movements." For 10 points each:

[10] Identify this occupation of Pedro Romero, who makes a marriage proposal rejected by Lady Brett Ashley.

ANSWER: **bullfighter** [or **matador** or **toreador**]

[10] Pedro Romero is a character in this novel. Robert Cohn calls this novel's narrator Jake Barnes a "damned pimp" after Barnes sets up Romero and Lady Brett.

ANSWER: *The **Sun Also Rises*** [or **Fiesta**]

[10] *The Sun Also Rises* is a novel by this American author who also wrote about bullfighting in his non-fiction book *Death in the Afternoon*.

ANSWER: Ernest **Hemingway** [or Ernest Miller **Hemingway**] <Bentley>

18. This composer completed the lion's share of the collaborative piece *Hexameron* and wrote a popular transcription of Bach's *Prelude and Fugue in A minor*. For 10 points each:

[10] Name this composer, whose myriad arrangements, transcriptions, orchestrations, and paraphrases make up the bulk of his catalog, from S. 351 to S. 999.

ANSWER: Franz **Liszt** [or Ferenc **Liszt**; accept either full name in reverse order as long as **Liszt** is said]

[10] Among the original pieces that appear in the second half of Liszt's catalog are the first two of these four waltzes, inspired by an episode from Lenau's *Faust*, not Goethe's.

ANSWER: **Mephisto** Waltzes

[10] Liszt orchestrated six of the "rhapsodies" he wrote based on folk themes from this country, his homeland.

ANSWER: **Hungary** [or **Magyarország**] <Gupta>

19. Patients with xeroderma pigmentosum cannot hydrolyze cyclobutanes formed by the dimerization of these compounds. For 10 points each:

[10] Name these heterocyclic, monocyclic compounds which include uracil and cytosine, but doesn't include guanine.

ANSWER: **pyrimidines** [do not accept or prompt on "nitrogenous bases" or "nucleotides"]

[10] Thymine dimerization disrupts the hydrogen bonds between thymine and this other base pair, which forms a Watson-Crick base pair with thymine.

ANSWER: **adenine**

[10] This form of DNA repair, which is damaged in patients with xeroderma pigmentosum, can reverse pyrimidine dimers. Unlike base excision repair, this type of repair works on large mutations that disrupt the helix, such as those caused by intercalating agents.

ANSWER: **nucleotide excision** repair [or **NER**] <Jose>

20. Fighting in this city broke out due to the food supplies from Operation Restore Hope being stolen by clan leaders instead of being used to feed the populace. For 10 points each:

[10] Name this city, where two Black Hawk helicopters were shot down after U.S. special forces had been tricked into thinking they had found Mohammed Farrah Aidid.

ANSWER: **Mogadishu** [accept First Battle of **Mogadishu**]

[10] Mogadishu is the capital of this nation, which had been fighting a violent civil war when the aforementioned battle was fought.

ANSWER: Federal Republic of **Somalia**

[10] This Egyptian secretary general of the U.N. had to preside over the Somali crisis. During his time leading, he submitted *An Agenda for Peace*, a proposal on how the U.N. should handle international violence.

ANSWER: Boutros **Boutros-Ghali** <Jose>

21. The Rainbow Serpent followed trails in the sky called songlines during this time to create the world. For 10 points each:

[10] Give this term for the era during which supernatural beings roamed the earth and formed the Earth's physical features.

ANSWER: **Dreamtime** [or **Dreaming**]

[10] The Dreamtime is a key feature of the creation myths of this island country's Aboriginal natives.

ANSWER: **Australia**

[10] In other Oceanic legends, these animals, which dwell on land and in water, symbolized rainbows. In Egyptian mythology, Sobek was the god of these animals and was worshiped in a city named for them.

ANSWER: **crocodiles** [do not accept "alligators"] <Jose>