ACF Regionals 2016: Ben There, Didn't Do That
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TOSSUPS:

1. The prices of this man's works became absurdly volatile in the ' 50 s and ' 60 s , causing art dealers to frantically add or remove zeroes from pieces sometimes within the same day. He was inspired by Michelangelo's depiction of God touching Adam's finger to create a ring-shaped sculpture with two points bursting out from each side and touching in the middle. This creator of Spindle Piece designed a giant bowstring equatorial sundial, standing outside of Chicago's Adler Planetarium. The University of Chicago commissioned him to create a mushroom-shaped sculpture commemorating the splitting of the atom. This sculptor of Man Enters the Cosmos and Nuclear Energy was inspired by Chac Mool statues to create a series of abstract figures in supine positions. For 10 points, name this British sculptor of the Reclining Nudes series.
ANSWER: Henry Moore
2. This man coined a term to hide the theoretical nature of his research from Secretary of Defense Charles Wilson. The continuous time generalization of this man's namesake "equation" is named for him, Hamilton, and Jacobi. The discrete case of that equation named for him sets today's V equal to today's objective function plus a discount factor times tomorrow's V , then solves using value function iteration. This man pointed out that the difficulty of finding an optimum grows exponentially with the number of variables in a "curse of dimensionality." He's the first namesake of an algorithm whose handling of negative edge weights makes it slower than Dijkstra's shortest path algorithm. For 10 points, what inventor of dynamic programming co-names a shortest path algorithm with Lester Ford? ANSWER: Richard Bellman
3. In the first story from this collection, a prince who stole a kill from a pack of white, red-eared hounds must defeat Hafgan with exactly one blow. A story from this collection tells of a man who kills a hundred soldiers hidden in bags of flour hung from the columns of a house after earlier offending Matholwch ["MATH-oll-ooch"]. A widely read translation of this text was made by Sioned Davies, though it was first translated by Lady Charlotte Guest. A woman in this work is framed for the murder of her son after her maidens smear dog blood on her face, and later marries Manawydan fab Llyr. The only character to appear in all four "Branches" of this collection is Rhiannon's son Pryderi. For 10 points, name this collection of tales from Welsh mythology and folklore.

## ANSWER: The Mabinogion

4. This book claims that when love is born "the woman cannot resist the voice calling forth her terrified soul." Two characters argue about whether the accidental beauty of New York City is attractive or frightening in one entry in this novel's "Dictionary of Misunderstood Words." A character in this novel becomes paranoid after having sex with an engineer who she met at her bartending job. Another character in this novel is forced to become a window washer after publishing a controversial article comparing his country's government to the myth of Oedipus. In this novel, Sabina wears her grandfather's bowler hat while having sex. For 10 points, name this novel about the lives of Czech citizens Tereza and Tomas by Milan Kundera.
ANSWER: The Unbearable Lightness of Being [or Nesnesitelná lehkost byti]
5. After making a deal with Akbar Bugti, this leader launched a raid on the Iraqi embassy that revealed a startlingly robust arms cache intended to support an uprising in Balochistan. He promised to "break the legs" of anyone who broke his parliamentary boycott following the victory of Sheikh Mujibur Rahman's Awami League. This leader resolved to develop nuclear weapons "even if we have to eat grass" after his nation's major rival conducted the Smiling Buddha test. Operation Fair Play ousted this successor of Yahya Khan, who signed the Simla Agreement with Indira Gandhi. This founder of the PPP was executed after a coup by Zia-ul-Haq. For 10 points, name this Pakistani leader of the 1970's, whose office was later held by his daughter Benazir.
ANSWER: $\underline{Z} u l f i k a r$ Ali Bhutto [prompt partial answer]
6. This book claims that philosophy exists not to resolve contradictions, but to clarify the state of affairs that existed before a contradiction is resolved. The claim that "if a lion could talk, we could not understand him" appears in this book, which labels the Cartesian view of private mental states as "a grammatical fiction." This book distinguishes between "seeing that" and "seeing as" using the example of a "duckrabbit." It begins with an attack on the theory of language presented in Augustine's Confessions. It argues against the possibility of a private language and defines words' meanings by their use, attacking its author's earlier "picture theory of meaning." For 10 points, name this posthumous magnum opus by Ludwig Wittgenstein.
ANSWER: Philosophical Investigations [or Philosophische Untersuchungen]
7. Every time one character in this play refers to herself in first person, she says the word " I " four times. In this play, one character's dying words are: "Next time around: I don't want to be a man. I wanna be an octopus". One character in this play hallucinates conversing with a member of the International Order of Travel Agents after being transported to Antarctica. Another character in this work pretends that his illness is liver cancer and is told by Ethel Rosenberg's ghost on his deathbed that the New York Bar Association has disbarred him. This play's characters include the valium-addicted Harper Pitt, the AIDS-infected Prior Walter, and a fictionalization of Roy Cohn. For 10 points, Millennium Approaches and Perestroika are the two parts of what long play by Tony Kushner?
ANSWER: Angels in America: A Gay Fantasia on National Themes
8. This artist was inspired by the Oresteia to depict the title girl's orange legs protruding from under a black cone in his painting of The Sacrifice of Iphigenia. During this artist's Surrealist phase in the 1940's, he painted two hourglass shaped humanoid figures on a beach in Slow Swirl at the Edge of the Sea, which may represent his courtship of Mell Beistle. Barnett Newman's sculpture Broken Obelisk sits in a reflecting pool in front of a building named for this artist. That building is located next to the Cy Twombly Pavilion, and is a chapel on the campus of the Menil Collection. This artist broke his contract with The Four Seasons restaurant, leaving behind the incomplete Seagram Murals. For 10 points, name this Latvian-born abstract painter who pioneered color-field painting.
ANSWER: Mark Rothko [or Marcus Yakovlevich Rothkowitz]
9. This quantity is proportional to the Coulomb logarithm in Spitzer's model of it for plasmas. The fractional change in this quantity over strain equals the gauge factor. The RMS voltage equals 2 times the square root of kT times the square root of this quantity in Johnson-Nyquist noise. Fert and Grunberg discovered an alteration in this quantity in structures with alternating layers of ferromagnets and nonmagnetic materials. This quantity decreases as light intensity increases in devices most commonly made of cadmium sulphide. This quantity equals one over crosssectional area times length times rho, and the power dissipated by a circuit element equals it times current-squared. For 10 points, what quantity is equal to voltage divided by current, according to Ohm's law?
ANSWER: electrical resistance [accept giant magnetoresistance, accept resistivity before "rho"]
10. Wearing all white, a prince from this dynasty showed a relief column how to cross a river and reach besieged Polotsk, which came as a surprise to the army as that prince had been dead for 30 years. A daughter of this dynasty headed a short-lived religious haven in Hungary after taking over for her husband, John Zapolya. This dynasty's founder signed the Treaty of Melno to end the Hunger War. The "Prussian Homage" was carried out by this dynasty's King Sigismund the Old on Albert, the last "Teutonic Grand Master." Its founder agreed to the Union of Krewo and together with Vytautas the Great won the Battle of Tannenberg. For 10 points, name this dynasty of Poland and Lithuania that was founded by Władysław II, also known as Jogaila.
ANSWER: Jagiellonian Dynasty
11. One of this author's speakers declares "Only I discern / Infinite passion, and the pain / Of finite hearts that yearn". One poem by this author describes a woman waiting for the speaker "In the turret whence the charioteers caught soul / For the goal". That poem by him ends with the speaker declaring "Shut them in, / With their triumphs and their glories and the rest! / Love is best". A long poem by this author concerns the murder trial of Guido Franceschini by Pope Innocent XII. This author of "Two in the Campagna" and "Love Among the Ruins" wrote a poem that mentions Claus of Innsbruck's statue of Neptune after discoursing on a painting of the speaker's deceased wife by Fra Pandolf. For 10 points, name this Victorian poet of The Ring and the Book and "My Last Duchess".

## ANSWER: Robert Browning

12. A family of pore-forming beta barrel toxins first found in this species includes Panton-Valentine leukocidin and various hemolysins. It's not pyogenes, but this organism secretes pyrogenic superantigens like TSST-1, which activate a large number of T cells. This species is most dangerous when it has acquired the SCCmec cassette. A sunburn-like rash covering the whole body can develop in one illness caused by this organism, which has been linked to the use of super-absorbent tampons. This organism is responsible for impetigo and toxic shock syndrome. Methicillin-resistant strains of this bacterium are responsible for MRSA infections in hospitals. For 10 points, name this species that is the main cause of staph infections.
ANSWER: $\underline{\boldsymbol{S}}$ taphylococcus $\underline{\text { aureus }}$ [prompt on Staphylococcus]
13. This man won an election that featured a controversial debate about a girl awaiting ear surgery, the "War of Jennifer's Ear." Public services could receive special "marks" under the Citizen's Charter established by this politician, which featured a widely-derided public hotline for reporting unnecessary traffic cones. After two elected officials had a love child, another was outed as gay, and a fourth died during auto-erotic asphyxiation, this man launched the apologetic "Back to Basics" campaign. The infamous headline "It's The Sun Wot Won It" ran after this man defeated Neil Kinnock's Labour Party. This man signed the Treaty of Maastricht and withdrew the pound from the ERM, triggering Black Wednesday. For 10 points, name this Tory Prime Minister who served between Thatcher and Blair.
ANSWER: John Major
14. A thinker who is most famously associated with this practice held a widely attended and acclaimed Prayer for Interfaith Peace, which he then followed up with a somewhat-less-acclaimed prayer to terminate the Jews before they could destroy al-Aqsa. Among the tricky parts of this practice is encountering problematic noons, which can be merged or converted. This action is termed khatm when it concludes with "al-Nas." or "the People." The rules for performing this action are known as tajweed, and those who could perform it in its entirety were known by the title hafiz. "Al-Fatiha" is the most commonly used text for this action, as it is recited in every salaah. For 10 points, identify this action in which a Muslim speaks aloud from the Islamic holy text.
ANSWER: reciting the Qur'an [accept reading the Qur'an]
15. In a clumsy attempt to impersonate a fictional resident of this city, one character responds to a work text from a high-powered lawyer by replying simply, "bitches, right?" While updating a résumé, a resident of this city wonders rhetorically whether to list "day drinking" under "experience" or "special skills."After having his dessert of zuppa inglese disrupted, another resident of this city smashes a Russian's skull with a car door. Residents of this city include art curator named Vanessa, who is poisoned during a mayoral fundraiser by Madame Gao. Flashbacks reveal how a boy in this city was helped by an old man named Stick to use his other senses after being blinded. A private eye in this city is pitted against Luke Cage by her nemesis, Kilgrave. For 10 points, name this setting for the shows Jessica Jones and Daredevil.
ANSWER: New York City [anti-prompt on specific answers like Manhattan, etc.]
16. A character in this novel recalls his disgust at his father's hobby of memorizing railroad timetables, after witnessing the trial of a man whom he compares to a "yellow owl". An asthma patient in this novel despises clocks so much that he keeps time by shelling beans. One character in this novel constantly rewrites a description of a woman riding a sorrel mare down the Bois de Boulogne, and dreams of a publisher declaring "Hats off!" after reading his novel. This novel ends with a dog dying in a shootout between the police and the criminal Cottard. Father Paneloux delivers several sermons to the citizens of Oran in this novel, which is narrated by Dr. Bernard Rieux. For 10 points, a lot of rats die at the beginning of what novel about a disease outbreak, written by Albert Camus?
ANSWER: The Plague [or La Peste]
17. The finale of one piece by this composer features a melody in $6 / 16$ time, in which a low flute plays the notes F sharp - G-sharp - A - G-natural in an eighth-sixteenth rhythm. One piece by this composer includes a movement that features five cadenzas for brass, violin, flute, clarinet, and harp respectively; that movement is titled "Scena e canto gitano". He used only examples from his own music to demonstrate instrumentation in his posthumously published textbook Principles of Orchestration. This composer, who featured two Asturian "Alborada" movements in his Capriccio Espagnol, included movements titled "The Young Prince and the Young Princess" and "The Sea and Sinbad's Ship" in a four-movement symphonic poem inspired by The Arabian Nights. For 10 points, name this Russian composer of Scheherazade, whose opera The Tale of Tsar Saltan includes "Flight of the Bumblebee."
ANSWER: Nikolai Rimsky-Korsakov
18. 75 people died during a WFM Christmas party in this state after a company operative literally shouted "fire" in a crowded building. Police and protesters clashed at the "Battle of the Running Bulls" during a strike organized by Wyndham Mortimer in this state, which experienced the Italian Hall Disaster during a strike in its Copper Country. Harry Bennett took a pair of pet lions to work with him to intimidate workers in this state, who mass-produced the B-24 at Willow Run and led a "Hunger March" that ended at its River Rouge Complex. Walter Reuther was savagely beaten in this state at the Battle of the Overpass during a protest by the United Automobile Workers. For 10 points, name this state that saw the Flint sit-down strike and numerous protests against Detroit industry. ANSWER: Michigan
19. This element is the most common one used in the central tube of a Walden reductor. An ion of this element is back-titrated in order to find the concentration of the chloride ion in the Volhard method for a procedure named after it. A quaternary ammonium salt is reacted with this element's oxide in the second step of the Hofmann elimination. Salts consisting of this element and carboxylic acids are halogenated in the Hunsdiecker-Borodin reaction. The similar structure of this element's iodide to ice makes it useful for cloud seeding. Reaction of Tollens' reagent with aldehydes causes this element to precipitate and form a namesake mirror. For 10 points, name this transition metal found right above gold on the periodic table.
ANSWER: silver [or Ag before mention]
20. A 2000 study by Duka et. al. found that getting people hammered makes them less susceptible to this process if they were already intoxicated to begin with. Ernest Renan's "What is a Nation" pairs this process with "historical error" as essential for national creation. Endel Tulving theorized that this process was caused by a lack of cues, which Godden and Baddeley tested with divers. This process can be modeled by the equation "R equals e to the power of negative t over S," and its magnitude was studied using a series of nonsense syllables. This process occurs when unrehearsed traces fade away according to Henrich Ebbinghaus, who developed a "curve" for it and suggested it could be mitigated by mnemonic devices. For 10 points, name this process of losing information from memory. ANSWER: forgetting

## BONUSES:

1. In his "literary tribute" to this author, E.E. Cummings says, "tears and laughter be his golden wage, / And that sweet caroling which never dies." For 10 points each:
[10] Name this author who responded to the "busy prayer" of his son Lewis in A Treatise on the Astrolabe. In another of his works, an eagle transports the speaker to a building that stops the names of past lives from melting away from the ice on which they are inscribed.
ANSWER: Geoffrey Chaucer
[10] Chaucer is better known for this poetry collection, whose framing device establishes it as a series of stories told by pilgrims, such as The Pardoner and The Wife of Bath, en route to visit the shrine of Thomas Becket.
ANSWER: The Canterbury Tales [or Tales of Caunterbury]
[10] This story from The Canterbury Tales is about the rooster Chanticleer, who is captured by a fox but tricks him into letting him escape.
ANSWER: "The Nun's Priest's Tale"
2. Answer some questions about Civil War historiography, for 10 points each:
[10] This historian, who wrote the massive three-volume tome The Civil War: A Narrative, is perhaps best known for providing much of the commentary in Ken Burn's documentary The Civil War.
ANSWER: Shelby Foote
[10] This Princeton historian wrote the Pulitzer Prize-winning book Battle Cry of Freedom: The Civil War Era. He shares his name with the Union commander of the Army of Tennessee who was killed during the Battle of Atlanta. ANSWER: James McPherson
[10] This university's Dunning School promoted a pro-Redeemer interpretation of Reconstruction. The author of Reconstruction: America's Unfinished Revolution, Eric Foner, currently teaches at this Ivy League school in New York City.
ANSWER: Columbia University
3. Lennard-Jones used the LCAO method to calculate these things. For 10 points each:
[10] Identify these functions which describe the locations of electrons in multi-atom compounds. The theory of these entities explains oxygen's paramagnetic behavior.
ANSWER: molecular orbitals [or MOs]
[10] This term is given to the highest-occupied and lowest-unoccupied molecular orbitals. Thinking in terms of them can help elucidate what's going on in pericyclic reactions.
ANSWER: frontier molecular orbitals
[10] The energy of the HOMO greatly increases when molecules are confined within these structures, whose presence is responsible for the properties of zeolites.
ANSWER: micropores [or nanopores]
4. Answer the following about the painter Thomas Cole, for 10 points each.
[10] Thomas Cole was, along with Frederic Edwin Church, part of a group of American landscape painters named for this New York geographical feature.
ANSWER: Hudson River
[10] This Cole series shows an unspoiled wilderness in its first entry, titled "The Savage State." The foreground of its last entry shows a column that is overgrown with weeds.
ANSWER: The Course of Empire
[10] This other Cole painting, inspired by a 1646 poem, shows a girl in a pastoral setting kneeling on some steps before a painting of the Virgin Mary. It includes a depiction of Lake Nemi, which Cole had recently visited.
ANSWER: Il Penseroso
5. NOTE TO MODERATOR: be careful not to reveal alternate answers to the first part if they are not given. During this period, the half-day Fast of Gedalia occurs. For 10 points each:
[10] Identify this period, stretching over the first week and a half of Tishrei. The special Shabbat Shuvah also occurs during it.
ANSWER: Ten Days of Repentance [or Ten Days of Awe, accept Aseret Yemei Teshuva or Yamim Noraim, accept High Holy Days, prompt on descriptions like "the time between Rosh Hashanah and Yom Kippur"] [10] The Days of Awe are the ten day period beginning on Rosh Hashanah and ending on this holiday, the Jewish day of atonement. Like other solemn Jewish holidays, it comes with the thrilling experience of an all-day fast.
ANSWER: Yom Kippur
[10] Another Jewish fast day is this one, which commemorates the destruction of both Temples. Laments recited on this holiday are called kinnot.
ANSWER: Tisha B'Av [or Ninth of Av]
6. Forty-five seconds of violin accompanied by sparse bass notes open "Sleep Talking", a track from this musician's Pulitzer Prize-winning 2007 album Sound Grammar. For 10 points each:
[10] Name this jazz saxophonist who died in June 2015. He popularized the term "free jazz" in a 1961 album of the same name, and also recorded the album The Shape of Jazz to Come.
ANSWER: (Randolph Denard) Ornette Coleman
[10] This first track on The Shape of Jazz to Come was inspired by a photograph that Coleman saw in a department store. On this song, the alto sax and cornet open by simultaneously playing the notes A-D-G-D.

## ANSWER: "Lonely Woman"

[10] This trumpeter, whose albums include Sketches of Spain and Kind of Blue, called Coleman "all screwed up inside" after hearing him play at Five Spot.
ANSWER: Miles (Dewey) Davis III
7. This character becomes very emotional when his future lover says the name "Klopstock." For 10 points each: [10] Name this character who shoots himself with Albert's pistols after he is spurned by the married woman Lotte. His "Sorrows" title an epistolary novel by Goethe.

## ANSWER: Werther

[10] The Sorrows of Young Werther may have been inspired by this epistolary novel by Jean-Jacques Rousseau centering on a romance between the title daughter of Baron d'Étange and her pseudonymous tutor St. Preux.
ANSWER: Julie; or, The New Heloise [or Julie, ou la nouvelle Héloïse]
[10] This other epistolary novel by Pierre Ambroise Laclos centers on the rival lovers Marquise de Merteuil and Vicomte de Valmont, who attempt to out-debauch another other.
ANSWER: The Dangerous Liaisons [or Les Liaisons dangereuses]
8. One half of this scheme is "high definition" (meaning: "filled with data"), and extends a single sense. For 10 points each.
[10] Name this binary classification scheme used to categorize media based on the level of participation required by the consumer.
ANSWER: hot and cool media
[10] This thinker distinguished between hot and cool media in his book Understanding Media. This thinker may be better known for his mantra "the medium is the message."
ANSWER: Marshall McLuhan
[10] This Welsh Marxist critic lambasted McLuhan's technological determinism in Television: Technology and Cultural Form. This author of Culture and Society provided definitional essays for 110 words in his book Keywords.
ANSWER: Raymond (Henry) Williams
9. A revolution described by this adjective began after students gathered to commemorate the $50^{\text {th }}$ anniversary of Jan Opletal's death. For 10 points each:
[10] Give this adjective which describes a 1989 revolution that led to the fall of the communist regime of Gustáv Husák, as well a "divorce" that led the dissolution of Czechoslovakia.
ANSWER: Velvet [or Velvet Revolution; or Velvet Divorce]
[10] This playwright, one of the original signatories of Charter 77, became president of Czechoslovakia following the Velvet Revolution and presided over the Velvet Divorce.
ANSWER: Václav Havel
[10] During the Velvet Revolution, protesters often performed this noisy action to signify the coming end of communist regime. It was commemorated in 2009 on Slovakia's $€ 2$ coin.
ANSWER: jingling keys [accept similar answers]
10. The portion of this data structure used for a single procedure call is called its namesake "frame." For 10 points each:
[10] Name this data structure that stores routines being called within a computer. It operates on a last in, first out mechanism.
ANSWER: call stack [or execution stack, or control stack, or run-time stack, or machine stack, or basically any word in front of stack]
[10] This type of error in stacks can be caused by infinite recursion. In buffers, it can be caused when a program attempts to write in memory not designated for its use.
ANSWER: stack (buffer) overflow
[10] One of these sections of data can be placed between the buffer and the rest of the stack to protect from stack smashing attacks. Their corruption indicates that a buffer overflow has occurred.
ANSWER: canary values [prompt on stack guards]
11. This man exited office amidst backlash over a trade deal negotiated by his Finance Minister, William Stevens Fielding. For 10 points each:
[10] Name this first Francophone Prime Minister of Canada, a Liberal from Quebec who settled the Manitoba Schools question.
ANSWER: Wilfrid Laurier
[10] Laurier was hampered by this hardline Quebecois politician, who protested the decision to develop a national navy and to send troops during the Boer War. He founded the paper Le Devoir, meaning "the duty."
ANSWER: Henri Bourassa [prompt on partial answer]
[10] Bourassa and Laurier agreed in opposing Robert Borden's conscription measures during this war, which saw numerous Canadians killed at the Battle of the Somme.
ANSWER: $\underline{\text { World }} \underline{\text { War }} \underline{I}$
12. One resident of this location was exiled after feuding with his brother over the boy Miletus. For 10 points each: [10] Name this location home to the giant bronze automaton Talos. Three residents of this island ended up becoming the judges of the underworld.
ANSWER: Crete
[10] This king of Crete commissioned Daedalus to construct a labyrinth for the Minotaur. This man later died of a scalding bath while in the court of King Cocalus.

## ANSWER: Minos

[10] This Cretan goddess of hunting was pursued by Minos until she flung herself into the ocean and was caught by some fishermen's nets.
ANSWER: Britomartis [do NOT accept "Britomart"]
13. In one organism, the arrangement of these structures is regulated by the SUPERMAN gene, which is silenced by the aptly named KRYPTONITE. For 10 points each:
[10] Identify these structures that are formed when induction of the CONSTANS gene causes expression of FT, which binds to FD and activates transcription of AP1.

## ANSWER: flowers

[10] Many studies of the genetics of flowering are conducted in this plant model organism, which expresses the SUPERMAN gene.
ANSWER: $\underline{A}$ rabidopsis thaliana [accept Arabidopsis]
[10] Arabidopsis is nice to work with because it has a small one of these. The "human" one was sequenced between a government-funded namesake "project" and Craig Venter's Celera.
ANSWER: genome
14. The narrator of this work, who drives a "Pontiac Ballbuster," claims that he is a Playboy photographer in town to document an impending clash between Black Panthers and white supremacists. For 10 points each:
[10] Name this article, written as first-person narration by its author and illustrated by the caricaturist Steadman, which documents the title sporting event.
ANSWER: "The Kentucky Derby is Decadent and Depraved"
[10] This author of "The Kentucky Derby is Decadent and Depraved" wrote about Raoul Duke and Dr. Gonzo, who are sent to the title city to cover the Mint 400 in his Fear and Loathing in Las Vegas.
ANSWER: Hunter S(tockton) Thompson
[10] Besides Hunter S. Thompson another leading figure of New Journalism was this author of the "non-fiction novels" The Naked and the Dead and The Executioner's Song.
ANSWER: Norman (Kingsley) Mailer
15. A documentary titled for the Hebrew term for this event led to the prosecution of Franz Suchomel, who was secretly recorded talking about his time as a guard at Treblinka. For 10 points each:
[10] Identify this large-scale campaign that was the subject of Claude Lanzmann's epic nine-hour documentary Shoah.
ANSWER: The Holocaust [accept equivalents]
[10] Lanzmann interviewed this renowned Holocaust historian, best known for his expansive three-volume tome The Destruction of the European Jews.
ANSWER: Raul Hilberg
[10] The Holocaust effectively wiped out these small Jewish villages found throughout Eastern and Central Europe. ANSWER: Shtetls [or shtetlech]
16. The "description theory" of these things suggests that they denote a series of properties associated with the things to which they refer. For 10 points each:
[10] Saul Kripke's causal theory suggests that these things become attached to people by dubbing ceremonies, such as baptisms.
ANSWER: proper names
[10] In Naming and Necessity, Kripke introduced this term for words that refer to the same thing in every possible world.
ANSWER: rigid designators
[10] Robert Stalnaker and David Kaplan developed forms of this semantic approach to explain how one can discover a posteriori that a necessary truth is true. David Chalmers system of this kind posits the existence of primary and secondary intensions.
ANSWER: two-dimensional semantics [or two-dimensionalism]
17. According to the Ward identity in this theory, the product of a momentum four vector and a scattering amplitude equals zero. For 10 points each:
[10] Identify this quantum field theory whose extremely accurate predictions won the Nobel Prize for Schwinger and Tomonaga.
ANSWER: QED [or quantum electrodynamics]
[10] The other winner of the Nobel prize for QED was this Caltech physicist, whose namesake diagrams can be used to visualize the interactions of subatomic particles.

## ANSWER: Richard Feynman

[10] After losing a darts bet, John Ellis coined the name of this class of Feynman diagrams. They take their shape because a W boson must mediate the flavor-changing of a quark.
ANSWER: penguin diagrams
18. This composer wrote the elegy Nymphes des bois for Johannes Ockeghem, who may have been his teacher. For 10 points each:
[10] Name this 15th-century Franco-Flemish composer known for his masses, which include De beata virgine and Pange lingua.
ANSWER: Josquin des Prez [accept either name]
[10] Josquin's Missa Pange lingua is this type of cyclic mass, in which the cantus firmus is an elaborated version of a pre-existing melody. Unlike a parody mass, only the melody of the earlier music is used, and not the whole polyphonic complex.
ANSWER: paraphrase mass
[10] All of the movements in Josquin's Missa Sine nomine belong to this imitative contrapuntal genre, in which the same melody starts at different points in time in different voices. Pachelbel wrote a popular one of these pieces in D. ANSWER: canon [accept canonic mass]
19. This period saw peaceful protesters killed by police in the Turkman Gate incident, and a photograph taken during this period shows George Fernandes holding up a shackled fist. For 10 points each:
[10] Name this two-year period in Indian history characterized by mass arrests and forced sterilizations which came to an end after the 1977 elections were won by the Janata Party.

## ANSWER: The Emergency

[10] This daughter of Jawaharlal Nehru, who presided over The Emergency, was assassinated by her Sikh bodyguards after ordering an assault on the Gold Temple in Amritsar as part of Operation Blue Star.
ANSWER: Indira Gandhi [prompt on "Gandhi"]
[10] Indira Gandhi targeted members of this group in Operation Steeplechase. This group was inspired by Charu Majumdar, who issued the "Historic Eight Documents."
ANSWER: Naxalites [accept word forms]
20. This author coined the term "marvellous reality" in discussing Latin American culture, in the prologue to one of his novels. For 10 points each:
[10] Name this author of Explosion in a Cathedral whose novel The Kingdom of this World is set during the reign of Henri-Christophe.
ANSWER: Alejo Carpentier (y Valmont)
[10] Alejo Carpentier was a writer from this island nation, also the home country of Jose Marti, who wrote this country's patriotic song "Guantanamera".
ANSWER: Republic of Cuba
[10] Haiti is also a partial setting for this novel, in which Sophie Caco must submit to virginity "testing" by her mother Martine.
ANSWER: Breath, Eyes, Memory

