2016 "stanford housewrite"
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PACKET 1

TOSSUPS

1. **During a battle near this city, William Jasper received a mortal wound while raising his regiment's flag, but was able to bring the colors to safety before dying. At that battle, an assault on this city was repelled when the attacking army failed to capture the Spring Hill redoubt. This city was defended by Fort McAllister during the Civil War. The Comte d'Estaing and a detachment of free Africans from Saint-Domingue participated in an assault on this city, which was defended by British general Augustin Prévost. That 1779 American siege of this city, which was led by (*)** Benjamin Lincoln, led to the death of Casimir Pulaski. William Hardee organized a military evacuation of this city, which was blockaded after Union ships captured a fort on Tybee Island. Along with "25,000 bales of cotton," a general presented this city as a "Christmas gift" to Abraham Lincoln at the end of a campaign he had begun in Atlanta. For 10 points, name this Georgia city captured at the end of Sherman's "March to the Sea."
ANSWER: **Savannah**

2. **In a paper titled for Practical Reason and this concept, Hilary Bok used the notion of a Pocket Oracle to argue against the strict conception of possibility as *tout court*. It's not a person, but in a paper titled for this concept, one thinker imagined a physician who wants to want drugs in order to define a second-order, or higher-order, type of a different concept. In another work concerning this subject, that author used various cases involving a man named Jones to argue against the principle of alternate** (*) possibilities. Galen Strawson developed the "Basic Argument" against it and Schopenhauer divided it into physical, intellectual, and moral types. Intuition pumps are used to explain this concept according to a book about the varieties of it "worth wanting." That book is Daniel Dennett's *Elbow Room*. Libertarians resolve issues surrounding this idea by arguing that our actions are not all causally determined. For 10 points, name this idea, which compatibilism argues is reconcilable with determinism.
ANSWER: **free will** [accept **freedom**; go ahead and prompt on **moral responsibility**]

3. **Early on in the novel he appears in, this character convinces Giovanna to help him escape a clinic because he believes the doctor is having an affair with his wife. This character unsuccessfully tries to best a rival suitor by sabotaging his Ouija board and criticizing his ability to play Bach. As a joke, this character gets certified as mentally insane after his father calls him crazy. This man often annotates his diary entries with the letters "L.C." This character's brother-in-law and business partner fakes a** (*) suicide to save his failing marriage, and after losing big at the stock exchange, dies trying to fake another. This character is rejected by that man's wife, Ada, and her sister Alberta, before deciding to marry a third sister named Augusta. The novel named for this character is structured as an autobiography he writes as part of his therapy with the Freudian Dr. S, and begins with his attempts to quit smoking. For 10 points, name this comical character whose "confessions" title a novel by Italo Svevo.
ANSWER: **Zeno** Cosini [accept The **Confessions of Zeno** or **Zeno's Conscience**]

4. **A professional string quintet named for this composer was founded in Rome in 1949 in the interest of reviving his chamber music. Luciano Berio superimposed four different versions of a movement of one of this man's works entitled "Retreat," and one of his quintets was nicknamed "The Aviary." In one movement of another of his works, the cellos are instructed to use their nails as they play pizzicato chords on each beat. The most popular version of one of this man's concertos was arranged by (*)** Friedrich Grützmacher. One of this composer's works includes movements depicting a "Passacaglia of Street Singers" and an approaching night watch announcing curfew. This composer of twelve concertos for the cello, the most famous of which is the ninth in B-flat major, also wrote quintets entitled *Fandango* and *Night Music in the Streets of Madrid*. For 10 points, name this Italian composer of a String Quintet in E major that includes a famous minuet.
ANSWER: Luigi Rudolfo **Boccherini**

5. A set of logs nearly derailed a train that was carrying this leader during an assassination attempt known as the Lithgow Plot. This leader stated that "it will be for us, the children of today, to make the world of tomorrow a better and happier place" as part of a speech for the radio program *Children's Hour*. After trespassing in this person's home, Michael Fagan helped himself to a bottle of white wine and obtained some cigarettes from a maid while sitting in this leader's bedroom. This leader drove (*) trucks in the Auxiliary Territorial Service during World War II. Edward Ford used the phrase *annus horribilis* to describe a year in which three of this person's children divorced or separated from their spouses. This woman reportedly saved ration coupons to pay for the materials for her wedding gown, and was met with public outcry after declining to fly her flag at half-mast upon the death of her former daughter-in-law in 1997. For 10 points, name this current queen of the United Kingdom.
ANSWER: **Elizabeth II** of the United Kingdom [prompt on "Queen of England"]

6. The speaker of a work by this poet wonders whether "a sea of fire envelope[d] once this silent snow" before musing, "None can reply—all seems eternal now." The addressee of that ode is told that it can "repeal large codes of fraud and woe" in the third section, which opens, "Some say that gleams of a remoter world visit the soul in sleep, that death is slumber." This author of a poem that muses on the "Ravine of Arve" also wrote of a "dome of many-colour'd glass" in a long work about a man whose "fate and fame" echoes "till the (*) Future dares Forget the Past." The lines "the everlasting universe of things flows through the mind" open a poem he wrote in the Vale of Chamouni about the title landform, which is compared to human imagination. An elegiac poem by this author of "Mont Blanc" mourns a man whose soul, "like a star, beacons from the abode where the Eternal are." For 10 points, name this English Romantic poet who commemorated his friend John Keats in the poem *Adonais*.
ANSWER: Percy Bysshe **Shelley**

7. An event in this country involved the rescue of eighty-six hostages who were being held by the Popular Front for the Liberation of Palestine after the hijacking of Lufthansa Flight 181. This country was the location of Operation Fire Magic, and gives its name to an affair in which members of the Canadian Airborne Regiment tortured and murdered the unarmed teenager Shidane Arone. This country won the First Battle of Jijiga in a war that caused the creation of an opposition party led by the Majerteen clan. The bombing of Taleh ended a war in this country between the British Empire and an Islamic state led by Mohammed (*) Abdullah Hassan, who was also known as the "Mad Mullah." Operation Gothic Serpent targeted this country, where the Unified Task Force gave military support to UN aid efforts in Operation Restore Hope. For 10 points, name this country where the fall of Siad Barre began a period of anarchy that saw the downing of two Black Hawk helicopters in Mogadishu.
ANSWER: **Somalia**

8. Assurance contracts are game theoretical mechanisms that help govern the creation of these entities. The Groves mechanism proposes a method to get people to honestly reveal their demand for these entities. The point at which these things are most efficiently allocated occurs when individuals' marginal rates of substitution equal the economy's marginal rate of transformation. Ronald Coase challenged the idea that lighthouses are (*) examples of these entities in his paper "The Lighthouse in Economics." Mancur Olson authored a book on how collective action leads to a problem associated with these entities. Paul Samuelson names a condition that describes when these entities are most efficiently provided. These entities are non-rivalrous and non-excludable, and the free rider problem arises from these kinds of goods. For 10 points, name these types of goods that can be accessed indiscriminately by members of a community.
ANSWER: **public good**s [do not accept or prompt on "goods"]

9. Diagonal lines on syntenic self-self dot plots reflect the presence of this phenomenon. Peaks appearing in the time distribution of the synthetic substitution rate, or K-sub-s, can be used to detect widespread historical instances of this phenomenon. This phenomenon may cause certain features to be elongated or enlarged in a result referred to as the "gigas effect." The effects of this phenomenon in the genus *Brassica* may be visualized with the "Triangle of U." This phenomenon can be induced using chemicals such as oryzalin or (*) colchicine. This phenomenon is responsible for many instances of speciation in ferns and angiosperms, and can be used to produce seedless fruit. Endoreplication is one way in which this phenomenon may occur, and it sometimes occurs because of irregularities in prophase I of meiosis. For 10 points, name this phenomenon in which cells possess multiple pairs of homologous chromosomes.
ANSWER: **polyploidy** [accept **paleopolyploidy**; prompt on "ploidy"]

10. **This organic compound may be formed by reacting aluminum carbide with water. The nickel-catalyzed Sabatier reaction is usually applied after the electrolysis of water in a process for synthesizing this compound. A sulfate reduction is typically coupled to the anaerobic oxidation of this compound. Water-gas shift is usually performed in conjunction with the steam reforming of this compound. The chlorination of this compound is a standard free radical halogenation reaction that can be used to create** (*) chloroform. When this compound is trapped in crystallized water, it can form its namesake clathrates. This compound is typically produced by reacting carbon dioxide with hydrogen gas. The presence of this compound in Mars' atmosphere has led some to speculate about the possibility of extraterrestrial life there, and it is a major component of natural gas. For 10 points, identify this simplest alkane with formula CH_4.
ANSWER: **methane** [accept **CH_4** before mentioned]

11. **Cryptids supposedly native to this country include the Beast of Bodmin. A rumored population of escaped zoo animals that roam this nation's countryside is referred to as this country's "ABCs" or "alien big cats." The oldest recorded footsteps outside of Africa were discovered in this country's coastal town of Happisburgh. The tongue twister "she sells seashells by the seashore" was inspired by a pioneering female paleontologist who is best known for studying this country's coast, Mary Anning. A collection of five historic beach towns in this country's south are referred to as the (*)** Cinque Ports. Many shingle beaches are found on this country's Jurassic Coast and a group of coastal cliffs in this country are known as the Seven Sisters. Popular tourist locations on this country's coast include the city of Torquay, Chesil Beach, and a line of chalk-colored cliffs. For 10 points, name this country whose southern coast contains the White Cliffs of Dover.
ANSWER: **England** [or Great **Britain**; or **U**nited **K**ingdom; prompt on "Scotland" or "Wales" until "discovered," because they also have alien big cats; do not accept or prompt on "Northern Ireland"]

12. **In addition to being a judge, a figure of this profession was married to Scéne, who died at sea, and helped the Milesians survive a magical storm during their invasion of Ireland against the Tuatha Dé Danann. The Welsh Triads name Aneirin as "prince of [this profession]," which he shared with the aforementioned Amergin. A group of these people led by Heinin Vardd were enchanted to say only the nonsense word "blerwm," causing their king Maelgwin to think they were drunk. While in an undersea palace, a Russian folk hero used a** *gusli* **and his skills in this profession to win the daughter of the (*)** Sea Tsar. One of these people used the finger of a kitchen maid to prove that his foster mother, the wife of Elphin, had not been seduced by Rhun. That member of this profession was a reincarnation of Gwion Bach, who had been swallowed by Ceridwen, and had a name that meant "radiant brow." For 10 points, name this profession held by the Welsh Taliesin, who combined music and poetry.
ANSWER: **bard**s [accept any reasonable equivalents, such as **singer**s, **minstrel**s, etc.; prompt on **musician**s]

13. **One of this author's characters tells a priest that she keeps mannequins in her house because they cannot lie. An essay by this author begins by claiming that the Cinderella story is America's national myth. That essay goes on to describe the author's discomfort and disillusionment as he wakes up in a first-class hotel suite. At the beginning of a play by this man, a woman mocks a piece of silk, saying, "This color for a shirt for a** *man*?" **This man created a character who claims that he "didn't go to the moon," but much further, "because time is the longest distance between places." This author wrote "The Catastrophe of (*)** Success," as well as a play in which a condom falls out of a man's pocket and an Italian-American widow rediscovers love upon meeting the truck driver Alvaro. In another play by this author, a woman is given the nickname "Blue Roses" by a Gentleman-Caller. For 10 points, name this American playwright of *The Rose Tattoo* and *The Glass Menagerie*.
ANSWER: Tennessee **Williams**

14. **One type of these phenomena is described by the Boland-de Jong model, while another is found in "broken ring" structures. Taylor et al. created the standard classification of these phenomena, for which Menegozzi and Lamb developed coupled radiative transfer equations. Measurements of one type of these phenomena in galaxies like NGC 4258 currently provide the most accurate reference for calibrating the (*)** cosmic distance ladder and constraining the value of the Hubble constant. Another type of these phenomena can be used to map the magnetic field distribution of the interstellar medium, because the Zeeman effect causes splitting of spectral lines in populations of hydroxyl radicals. For 10 points, name these phenomena in which molecules like silicon monoxide, formaldehyde, and water emit radiation with a wavelength longer than infrared light.
ANSWER: **maser**s [accept specific types]

15. **A watercolor version of this scene by James Tissot includes two cylindrical yellow lanterns, although most of the illumination is created by a pale white glow pouring from a doorway. The predella panels of the *San Zeno Altarpiece* set this scene at a dome-like rock with trees sprouting out of it. British artillery officer Tony Clarke refused to raze Sansepolcro because he had read Aldous Huxley's essay about a painting of this scene there. Several depictions of this scene show its central figure holding a white flag with a red cross, and almost all of them have sleeping guards in the foreground. The second view of the (*)** Isenheim Altarpiece shows this scene, in which Christ's glowing head merges into a giant sun-like halo. Dieric Bouts' version of this scene shows an angel perched on a stone bar placed vertically into the space, while Piero della Francesca's depiction shows Christ in a pink robe, with his foot on his marble tomb. For 10 points, name this religious scene in which Christ rises from the dead.
ANSWER: **Resurrection** [accept descriptive answers, such as **Christ rising** from the dead]

16. **This novel's protagonist is arrested for murdering a prince after he is tricked into carrying a bag containing the dead prince's body. At one point in this novel, the protagonist asks the reader for advice on how to judge the case of a triple suicide that begins after a debtor kills himself to escape a one-pound debt. The protagonist of this work tries to kill his son by burning down his house after his son smashes everything on the ground to pieces, including all of the animals. That son was born from (*)** his mother's thumb. The protagonist of this work refers to himself as "father of gods who could do anything in the world," and at one point in this novel, discovers a skull who rents body parts to become the "complete gentleman." Near its end, one character in this work gives the protagonist a golden egg that grants wishes. This novel's plot is set in motion when that character, the protagonist's tapster, dies after falling off a tree. For 10 points, name this novel about a quest to Deads' Town by Amos Tutuola.
ANSWER: The *Palm Wine Drinkard*

17. **In the first performance of the opera in which this action occurs, it was changed so that Giuseppe Lolli would have time to change costumes and play a different character in the epilogue. As this action occurs, a character repeatedly yells "no!" as his hand is forcibly held by another character, who chants "Pentiti!" This action is foreshadowed when two characters exchange costumes in a graveyard and notice a threatening inscription on one of the grave markers. Before it occurs, a servant does not answer a knock on the door and (*)** hides under a table. After watching a performance of the scene in which this event occurs, the protagonist of a Milos Forman film formulates a plan to dress up like his adversary's dead father. This action is carried out by Donna Anna's father, who returns as a stone statue to honor a dinner invitation and returns the favor by inviting Leporello's master to dine with him in the underworld. For 10 points, name this event from a Mozart opera in which the title libertine is killed.
ANSWER: **Don Giovanni** being **dragged to hell** [accept anything mentioning the **death** of **damnation** of **Don Giovanni**; accept the **Commendatore** scene, the **final scene** of *Don Giovanni* or **Act II, Scene 5** of *Don Giovanni*]

18. **In quantum field theory, this equation is generalized by the Kadanoff-Baym equations. Deviations from ideality are commonly represented by the Shan-Chen pseudopotential in lattice methods for solving this equation under the BGK approximation. First-order perturbative expansion of this equation in terms of the Knudsen number produces the Navier-Stokes equations via the Chapman-Enskog method. In Gouy-Chapman theory, this equation is used to calculate the local density of counter-ions and then substituted into the (*)** Poisson equation. This equation sets the action of the Liouville operator equal to that of the collision operator. For 10 points, name this central equation of non-equilibrium statistical mechanics that describes the evolution of a system's particle distribution function and directly implies its namesake physicist's H-theorem.
ANSWER: **Boltzmann** transport equation

19. **Theories regarding the composition of this text divide it into anywhere from one to five fragments, all written on separate occasions. The author of this text describes being given a thorn in his flesh to keep him from being too elated, leading him to "boast all the more gladly of [his] weaknesses" when that thorn was not taken away. In the sixth chapter of this text, the author exhorts against being "unequally yoked" with nonbelievers. The author of this text claims his addressees "suffer fools gladly, seeing [they themselves] are wise." Chapters 10 through 13 of this text may represent part or all of the (*)** "letter of tears." In the eleventh chapter of this text, the author describes having received a stoning, being beaten with rods, and getting shipwrecked, in addition to being whipped five times by the Jews and being in danger from the Gentiles. For 10 points, name this Pauline epistle that is addressed to the same church as an *earlier* text containing the line "love is patient, love is kind."
ANSWER: **Second** Epistle to the **Corinthians** [accept **2 Corinthians**; do not accept "First Corinthians"]

20. **James Shields was a prominent shipbuilder in the early days of this colony, overseeing the construction of the first ship built here, the *Phoenix*. The doctor George Anton Schäffer squandered much of this colony's money after trying to take over Hawaii, and managed to set up the short-lived Fort Elizabeth on Kauai. An incident referred to as the "Wounded Knee" of this colony involved the killing of hundreds of natives at Refuge Rock. The Awa'uq Massacre took place in this colony, whose first settlement was Three Saints Harbor. This colony was governed by Ferdinand von Wrangel, who negotiated with the (*)** Hudson's Bay Company for a fur trading agreement. Governed and defined by several proclamations called *ukase*, this colony's forces established Fort Ross in California and defeated the Tlingit at the Battle of Sitka, all under Alexander Baranov, its first governor. For 10 points, name this North American colony that was sold to the United States in a purchase known as Seward's Folly.

ANSWER: **Russian America** [or **Russkaya Amerika**; accept **Russian Alaska**; prompt on **Alaska**]

BONUSES

1. Dominick Sabre saves this character during a shootout at Bainbridge Hall, which contains Poussin's *The Shepherds of Arcadia II*, a painting that holds clues for reaching the Library of Alexandria. For 10 points each:
[10] Name this protagonist of *The Alexandria Link*, a friend of Henrik Thorvaldsen and Stephanie Nelle whose first appearance was in *The Templar Legacy*. He is the protagonist of a conspiracy thriller series by Steve Berry.
ANSWER: **Cotton Malone** [accept either name]
[10] In this novel, the Templars and the Priory of Sion are guardians of a secret concerning the relationship of Jesus Christ with the Magdalen, whose descendants include Sophie Neveu. This novel's protagonist is Robert Langdon.
ANSWER: *The **Da Vinci Code***
[10] This character from *Assassin's Creed* is a scientist at Abstergo Industries who breaks Desmond Miles out of the facility. However, she is revealed to be loyal to the Templars and is killed by Desmond under Juno's influence.
ANSWER: **Lucy Stillman** [accept either name]

2. At one point in this novel, the magical devil Pooka Fergus MacPhellimey and the Good Fairy have a lengthy discussion about whether the former's wife is a kangaroo. For 10 points each:
[10] Name this meta-fiction novel about a nameless student, whose stories begin to converge as his fictional author Dermot Trellis is attacked by his own characters, a group led by his son Orlick and the 'depraved' John Furriskey.
ANSWER: *At Swim-Two-Birds*
[10] *At Swim-Two-Birds* is a novel by this Irish author, whose fictional philosopher De Selby invents D.M.P. in his novel *The Dalkey Archive* and is referenced extensively in the footnotes of his *The Third Policeman*.
ANSWER: Flann **O'Brien** [or Brian **O'Nolan**]
[10] Flann O'Brien claimed that this man "hated *At Swim-Two-Birds* so vehemently he started World War II in order to interfere with its sales." This man's writings include the posthumously published *Zweites Buch* and *Mein Kampf*.
ANSWER: Adolf **Hitler**

3. This agency guarded the border between Alaska and the Yukon Territory during the Klondike gold rush. For 10 points each:
[10] Name this Canadian agency originally created to instill governmental authority in the lawless western regions of the country. This agency's members wear red serge uniforms and today, despite its name, often drive cars.
ANSWER: **Mounties** [or **Royal Canadian Mounted Police**; or **RCMP**; or **Gendarmerie Royale du Canada**; or **GRC**; accept Royal **North-West Mounted Police** or R**NWMP**]
[10] The Mounties put an early end to this Depression-era event at the Regina Riot. This event began in Vancouver when unemployed men led by Arthur "Slim" Evans voted to walk out of relief camps and board trains headed east.
ANSWER: **On-to-Ottawa** Trek
[10] This spy who worked at the Soviet embassy in Ottawa turned himself into the custody of the Mounties on September 5, 1945 in what is sometimes called the first event of the Cold War.
ANSWER: Igor Sergeyevich **Gouzenko**

4. Leonard Woolley's excavation of this city revealed the Ram in a Thicket sculpture and the tomb of Pu-Abi. For 10 points each:
[10] Name this city whose Third Dynasty reached its height during the reign of Shulgi before being conquered by Elam around 1940 BCE.
ANSWER: **Ur**
[10] Ur is the site of the "Great" one of these step pyramids, which had shrines at the top according to Herodotus.
ANSWER: **ziggurat**s
[10] This other Mesopotamian city near Ur is the site a pair of cylinders with a long cuneiform inscription detailing the construction of the Temple of Ningursu by its ruler Gudea, who also left behind a bunch of statues of himself.
ANSWER: **Lagash**

5. This work posits the "re-potting hypothesis" as a possible cause of the title phenomenon, and this work notes that there has been a decline in "social capital." For 10 points each:
[10] Name this text that notes that, though there have been more Americans engaging in the title activity, there has been a decline of doing said activity in social groups.
ANSWER: *Bowling Alone: The Collapse and Revival of the American Community*
[10] *Bowling Alone* partially blames the title phenomenon on the increased use of this technology. This technology falls under McLuhan's category of "cool media" and was criticized in Neil Postman's *Amusing Ourselves to Death*.
ANSWER: **television** [or **TV**]
[10] This thinker discusses how advancements in technology and artificial intelligence can degrade organic social interactions in *Alone Together*. She also explores the boundary between humanity and AI in *Life on the Screen*.
ANSWER: Sherry **Turkle**

6. Two drugged-out hospital orderlies aid a patient who has been stabbed with a fork in his eye in this author's story "Emergency." For 10 points each:
[10] Name this author who included the stories "Dundun" and "Car Crash While Hitchhiking" in the collection *Jesus' Son*.
ANSWER: Denis **Johnson**
[10] The narrator of this Johnson story, the final story of *Jesus' Son*, recovers from a drug addiction while working at the title home for the disabled. Every night, the narrator of this story spies on a Mennonite woman as she showers.
ANSWER: "**Beverly Home**"
[10] The title location of "Beverly Home" resembles the mental hospital setting of this Ken Kesey novel, which depicts Randle McMurphy's struggle against Nurse Ratched.
ANSWER: *One Flew Over the Cuckoo's Nest*

7. In this theory, the namesake types of compounds are divided into two classes, one consisting of small and weakly polarizable members and one with large and strongly polarizable members. For 10 points each:
[10] Name this theory developed by Pearson to predict inorganic reactivity.
ANSWER: **HSAB** theory [or **hard** and **soft** **acid** and **base** theory]
[10] Examples of soft bases include members of this class of ligands, for which the concept of the Tolman cone angle was initially developed.
ANSWER: **phosphine**
[10] Phosphines also function as this kind of base, because they can donate a lone pair of electrons through their highest occupied molecular orbital, or HOMO.
ANSWER: **Lewis** base

8. This text relates a wisdom contest in which one monk says the mind is a mirror that needs polishing to remove dust and his opponent retorts that because the mind is emptiness, there is nowhere for dust to gather. For 10 points each:
[10] Name this sutra that unusually contains autobiographical elements, albeit apocryphal ones, relating the story of the transmission of the *dharma* from Hongren to Huineng and from Huineng to his disciples.
ANSWER: *Platform Sutra of the Sixth Patriarch*
[10] Huineng was the sixth patriarch of this sect of Buddhism, whose members seek enlightenment through personal insight, aided by meditation and contemplation of koans.
ANSWER: **Zen** Buddhism [or **Chan** Buddhism]
[10] This "blue-eyed barbarian" was the first patriarch of Zen Buddhism. This man steadfastly refused to allow Huike to become his apprentice until Huike cut off his own arm and gave it to this man to prove his devotion.
ANSWER: **Bodhidharma**

9. This city was the site of a 1987 car bombing that killed 21 people at the Hipercor shopping center, the deadliest ETA attack to date. For 10 points each:

[10] Name this city whose metropolitan area suffered from many attacks in the early 1990s, causing concern for an upcoming international event which the ETA planned to interrupt by bombing electricity supplies.
ANSWER: **Barcelona**
[10] The ETA, or Euskadi Ta Askatasuna, is a terrorist group that advocates the separatist goals of this ethnic group, who inhabit a region in northern Spain that contains Bilbao.
ANSWER: **Basque**s
[10] Luis Carrero Blanco, the planned successor of Francisco Franco, was killed by the ETA in this 1973 operation, which involved the detonation of explosives as Blanco's car passed, sending it flying over a five-story building.
ANSWER: Operation **Ogre** [or Operación **Ogro**]

10. Infliximab binds to this cytokine and prevents it from triggering an inflammatory response. For 10 points each:
[10] Name this trimeric cytokine that does a lot of harmful things, including triggering apoptosis via activation of caspase-8, and strongly activating the stress-related JNK pathway.
ANSWER: **TNF**-alpha [or **tumor necrosis factor** alpha; or **cachexin**]
[10] TNF-alpha is secreted by these cells when active. These cells engulf and phagocytose foreign particles and are a major line of defense in the innate immune system.
ANSWER: **macrophage**s
[10] TNF-alpha can also inhibit or divert neutrophils as they move in response to a signaling gradient, a process given this name. Neutrophils generally perform this in response to signals like fMLP.
ANSWER: **chemotaxis**

11. This man conspired with Frederick Eaton to steal water from the Owens Valley to irrigate the San Fernando Valley, where he had purchased land. For 10 points each:
[10] Name this leader of the Los Angeles Water and Power Department during the early 20th century.
ANSWER: William **Mulholland**
[10] Mulholland's career ended after this dam collapsed in 1928, a day after he had declared it safe. Over 400 people died after the water trapped by this dam flowed into the outskirts of Santa Clarita.
ANSWER: **St. Francis** Dam
[10] This government agency, set up during the New Deal, built many dams in its namesake valley to provide electricity for the rural South.
ANSWER: **T**ennessee **V**alley **A**uthority

12. In a Nikos Kazantzakis novel, the shepherd Manolios is asked to perform the lead role in one of these works. For 10 points each:
[10] Name these community-run religious plays that depict the trial, torture, and death of Jesus Christ.
ANSWER: **passion** plays [or **Easter pageant**s]
[10] One of the best-known passion plays is performed every year ending in the number 0 in this Bavarian village, which has put on a passion pay every decade since 1634. Recently, this village has amended the traditional passion play script to avoid charges of anti-semitism.
ANSWER: **Oberammergau**
[10] In this other religious play, the title character searches for someone to accompany him on his journey to face death. This allegory ends with Good Deeds joining the title character in his coffin after Fellowship, Cousin, and Goods all abandon him.
ANSWER: *Everyman* [or *The Summoning of Everyman*; or *The Somonyng of Everyman*; or *Jedermann*]

13. In P.D.Q. Bach's *New Horizons in Music Appreciation*, the conductor is put in the penalty box after a brief scuffle with the principal player of this instrument. For 10 points each:

[10] Name this instrument that has a short, cadenza-like solo during the recapitulation of the first movement of Beethoven's Fifth Symphony. It also has a large solo in the second movement of Brahms's violin concerto.
ANSWER: **oboe**
[10] In this other Beethoven symphony, the oboe imitates a quail towards the end of the second movement, subtitled "By the Brook."
ANSWER: *__Pastoral__* Symphony [or Symphony No. **6**, Op. 68]
[10] Beethoven used the unusual combination of two oboes and an English horn in a set of eight variations on this aria. A different composer's variations on this duet were used in the 1976 ballet *A Month in the Country*.
ANSWER: "**Là ci darem la mano**"

14. Two early statistical models for this problem are IBM-1 and IBM-2, which use probabilistic alignments and conditional lexical probabilities. For 10 points each:
[10] Name this task carried out by a popular Google website that uses an algorithm created by Franz Och. That website for this task announced support for Amharic and Kurdish in February 2016.
ANSWER: machine **translation**
[10] Most automatic speech recognition systems use a decoder that uses this trellis-based algorithm for finding the most likely sequence of states in a hidden Markov model consistent with an observed sequence.
ANSWER: **Viterbi** algorithm
[10] Both the machine translation and speech recognition research communities have been shaken by the rise of "deep learning" systems that outperform traditional approaches and make use of the recurrent variant of these biologically-inspired machine learning models.
ANSWER: **neural network**s

15. This principle holds that if S knows P and S knows that P entails Q, then S knows Q. For 10 points each:
[10] Name this idea that knowledge is transferable via entailment. It was argued against by Fred Dretske and is generally opposed by knowledge reliabilists.
ANSWER: epistemic **closure** principle
[10] This philosopher also argued against the closure principle in his *Philosophical Explanations*. He critiqued Rawls' *Theory of Justice* in *Anarchy, State, and Utopia*.
ANSWER: Robert **Nozick**
[10] Robert Nozick espoused this theory of knowledge, which claims that S can be said to know P if S can determine whether or not P is true through all possible worlds.
ANSWER: truth **tracking** theory of knowledge [accept other forms, like the **tracking** theory of truth]

16. For lossless transmission, these equations are *(read slowly)* d-V d-x equals negative L times d-I d-t and d-I d-x equals negative C times d-V d-t. For 10 points each:
[10] Name these equations that describe an infinite series of infinitesimal two-port networks, each with a series resistor, series inductor, shunt resistor, and shunt capacitor.
ANSWER: **telegraph**er's equations
[10] For a lossless transmission line, the characteristic value of this quantity is the square root of inductance over capacitance. This complex quantity equals the sum of resistance and reactance and is symbolized Z.
ANSWER: **impedance**
[10] The power transfer along a transmission line is maximized when the load impedance and source impedance have this relationship.
ANSWER: complex **conjugate**s

17. This performer shot to international prominence after singing "Ol' Man River" in the film adaptation of *Show Boat*. For 10 points each:

[10] Name this African-American singer and actor who was blacklisted for his communist sympathies and frequent visits to the Soviet Union.
ANSWER: Paul Leroy **Robeson**
[10] Robeson often recorded these religious songs, hymns commonly performed in African American churches. Examples of them include "Goin' Home," "Wade in the Water" and "Swing Low, Sweet Chariot."
ANSWER: **spiritual**s [accept Negro **spiritual**s]
[10] This African American baritone and contemporary of Robeson originated the role of Porgy in *Porgy and Bess*. He became the first African American operatic singer to perform with an all-white cast as Tonio in a 1934 New York City Opera production of *I Pagliacci.*
ANSWER: Robert Todd **Duncan**

18. René Magritte's reimagining of this painting preserves all of the immobile elements, down to a white cloth hanging down to a footstool and the blue-and-yellow cylindrical cushions. For 10 points each:
[10] Name this painting that shows the wife of a Parisian banker sitting in her white dress on an antique-style sofa. A single tall candelabra topped by a bronze lamp is the only other object in this Neoclassical work.
ANSWER: *Portrait of **Madame Récamier*** [accept *Portrait of **Juliette Récamier***]
[10] This artist painted the *Portrait of Madame Récamier*. An Athenian philosopher points upward as he is handed a cup of hemlock in this painter's *The Death of Socrates*.
ANSWER: Jacques-Louis **David**
[10] Instead of participating in the Salon of 1800, David secured a large room in the Louvre, where he implemented this display feature to allow viewers to immerse themselves in his massive *The Intervention of the Sabine Women*.
ANSWER: a **mirror** opposite the painting [accept anything about a **mirror** reflecting viewers onto the painting]

19. This poet compared "men grinding in the strobe & black lights" with a youthful experience shared with Curtis, who cut his foot on a broken bottle in the creek, in the poem "At Pegasus." For 10 points each:
[10] Name this Pittsburgh-based poet who won the National Book Award in 2010 for his collection *Lighthead*. He wrote, "I am a black wound, what's left of the deed," in his poem "Cocktails with Orpheus."
ANSWER: Terrance **Hayes**
[10] Another poet who wrote about Orpheus was this Austrian, who addressed 55 sonnets to the Greek bard. He also wrote the *Duino Elegies*.
ANSWER: Rainer Maria **Rilke**
[10] This novel by Salman Rushdie about Ormus Cama and Vina Apsara explores the Orpheus and Eurydice story in the context of an alternate history of rock and roll.
ANSWER: *The **Ground Beneath Her Feet***

20. This figure married all 16,000 of the women he freed from captivity after slaying Narakasura. For 10 points each:
[10] Name this figure who also had eight principal wives, including Rukmini and Satyabhama. As a young man, he sported with Radha and other *gopis* while employed as a cowherd.
ANSWER: **Krishna**
[10] During the Kurukshetra War, Krishna served as the charioteer of this member of the Pandavas known for his skills in archery.
ANSWER: **Arjuna**
[10] This is the name of Krishna's sister, who Arjuna kidnapped at Krishna's own request. She married Arjuna and became the mother of Abhimanyu.
ANSWER: **Subhadra**