

## DEES 2014: Desperate Editors Elicit Support

Edited by Will Alston, Rob Carson, Mike Cheyne, Ike Jose, Shan Kothari, John Lawrence, Brian McPeak, Victor Prieto, and Tejas Raje, with additional help from Saul Hankin, Mik Larsen, Jacob Reed and Matt Weiner.

Packet by Columbia B (Irit Huq-Kuruvilla, Kailee Marie Pedersen, Wilton Rao, Shreyas Vissapragada)

### Tossups

1. One text from this school of thought tells of monkeys who are placated when they are given four chestnuts every morning and three every evening, pointing to the limitations of fixed modes of cognition and advocating “walking two roads.” Another work from this school of thought insists that “names that can be named are not constant names” and notes that while thirty spokes make a wheel, the use of the wheel depends on empty spaces. A work from this school describes a discussion with Huizi about how the author knows what fish enjoy. This school emphasizes acting through “non-action”, or *wuwei*. This philosophy was espoused by Liezi and by a philosopher who dreamed that he was a butterfly, Zhuangzi. For 10 points, name this school of philosophy founded by Lao Tzu.

ANSWER: Daoism [or Taoism]

2. In Pokemon, Aspear berries cure this effect, and a glitch in the first generation causes Pokemon healed of this effect to gain 63 PP to a move. In a PC game expansion pack partly titled for this adjective, Rexxar founds Durotar and the Warden Maiev Shadowsong battles a non-playable race of Nagas. In *Avatar*, this happens to a girl after she uses an underhanded lightning bolt to win an Agni Kai, which allows her to be chained to a grate. Besides naming a “throne” in a *Warcraft III* expansion pack, this happens to a princess just as she blocks Prince Hans’ sword strike, saving her sister in an act of true love. For 10 points, identify what happens to Anna’s heart after an accident with Elsa in a certain 2013 Disney movie.

ANSWER: getting frozen in ice [accept equivalents, such as becoming encased or trapped in ice; accept being turned into ice, accept FRZ]

3. This leader, whose wife called him the “bald rat,” was known as the “little monkey” during his service as a sandal bearer. After an exchange with Gaspar Coelho in which he questioned the persecution of monks, this leader abolished slavery in his country. This leader attempted to ensure his family’s succession by setting up the Council of Five Elders and ordered the killing of twenty-six martyrs in Nagasaki. The Battle of Yamazaki was the defeat of Akechi Mitsuhide by this leader, who placed his son in Osaka Castle for safety. Admiral Yi Sun-Sin repulsed this leader’s disastrous invasion of Korea. For 10 points, name this second of the three Sengoku-era unifiers of Japan.

ANSWER: Toyotomi Hideyoshi [prompt on “Toyotomi”]

*Note to moderator: please read the names in red ahead of time, so you don't trip up! Thanks!*

4. A character from this drama plays cards for ten years with **Serge Esmerldovich Upgobkin** in the author’s “coda” to this play titled *Slavs!*. In this work’s epilogue, which takes place at Bethesda Fountain, a character discusses the creation of a healing spring in Jerusalem. The questions “Are we doomed?” and “Will the Past Release us?” are posed by **Aleksii Antedilluvianovich Prelapsarianov** at the beginning of its second part. Another character in this work, who is addicted to Valium, hallucinates that her imaginary friend Mr. Lies is taking her to Antarctica. In this drama’s second section Perestroika, the ghost of Ethel Rosenberg visits Roy Cohn as he slowly dies of AIDS. For 10 points, name this “gay fantasia on national themes,” written by Tony Kushner.

ANSWER: Angels in America: *A Gay Fantasia on National Themes*

5. The energy generation rate in the p-p chain and CNO cycle both scale linearly with this quantity. The condition for hydrostatic equilibrium in stars is that the derivative of pressure with respect to radius equals this quantity times  $G M$  over  $r$  squared. The linear stellar model assumes that this quantity decreases linearly from the center of a star to the edge and finds that its “central” value is equal to three  $M$  over  $\pi r$  cubed. Polytropes model star pressure as a constant times this quantity to the  $n$  plus one over  $n$ , where  $n$  is the polytropic index. Neutron stars’ extremely high value for this quantity is around that of an atomic nucleus and more than 10 to the 14 times that of the sun. For 10 points, name this quantity which, if constant throughout a star, can be given by mass over volume.

ANSWER: **density**

6. One of this composer’s violin concertos unusually includes a written-out cadenza between the development and the recapitulation of its first movement, which is marked “Allegro molto appassionato”. The solo violin enters in the second measure of that violin concerto by him, in which a bassoon holding a B seamlessly connects the first and second movements. The finale of this composer’s fifth symphony begins with a solo flute playing “A Mighty Fortress is Our God”; that symphony by him was written for the 300th anniversary of the Augsburg Confession. His third symphony was inspired by the same trip to Scotland that inspired an overture depicting Fingal’s Cave. For 10 points, name this German Romantic composer of the “*Reformation*” *Symphony* and *The Hebrides Overture*.

ANSWER: Felix **Mendelssohn**-Bartholdy

7. This author’s *A Little Book in C Major* cites “democracy, hay fever, and any fat woman” as proof that God has a sense of humor. This writer argued that Puritanism infected the works of Mark Twain and William Dean Howells in an essay found in *A Book of Prefaces*. In his work “A Neglected Anniversary” he started a hoax that claimed the bathtub was popularized by Millard Fillmore. He coined the term “booboisie” [like “bourgeoisie”] to describe the stupid people of a class. This author defended the title tongue from its British counterpart in *The American Language*. With George Jean Nathan, he founded *The American Mercury*. The term “Monkey Trial” was coined by, for 10 points, what American humorist who was known as the “Sage of Baltimore?”

ANSWER: H. L. **Mencken** [accept Henry Louis **Mencken**]

8. In this state, Socialist CIO leader Powers Hapgood instigated the Lewiston-Auburn Shoe Strike. The general tasked by Grant to officially accept the Confederate surrender at Appomattox hailed from this state. Its 20th regiment played a critical role in protecting the Union line on Little Round Top under the command of Joshua Lawrence Chamberlain during the Battle of Gettysburg. A war about this state’s border was resolved by the Webster-Ashburton Treaty and was called the Aroostook War. James Blaine was mocked as a “continental liar” from this state. For 10 points, name this New England state, the namesake of the ship whose explosion set off the Spanish-American War.

ANSWER: **Maine**

9. *Zambezi* and *The Marriage of Reason and Squalor* are among the 69 paintings in a 1959 series of this name, in which uniform stripes separated by thin strips of unpainted canvas are arranged in “deductive structures”. Frank Stella’s *Die Fahne Hoch!* is part of one series of this name, while another such series was declared “the last paintings one can make” by their creator, Ad Reinhardt. In a third series of this name, a woman in a veiled dress who props her left elbow on a large rock is identified as *Leocadia*, while other paintings in that series depict a robed man wearing goat’s horns amid a huddled mass of old witches, two men knee-deep in mud swinging wooden clubs at each other, and the bloody stump of a left arm being shoved into the mouth of a frenzied Titan. For 10 points, name this color which titles 14 frighteningly dark Francisco de Goya paintings.

ANSWER: **Black** Paintings [or pinturas **negras**; prompt on Frank **Stella** until “series” is read]

10. The bandwidth theorem says that the product of width in the frequency domain and width in the time domain is approximately this number. The Q factor is this quantity times energy stored over energy lost per cycle. Inductive reactance is equal to frequency times inductance times this quantity. For a pendulum, the period equals this quantity times the square root of length over  $g$ . The wavenumber is equal to this quantity divided by wavelength, and Planck's constant divided by this value gives the reduced Planck constant. In wave mechanics, a phase shift of any multiple of this quantity is equivalent to the original wave. For 10 points, name this quantity, equal to the number of radians in a circle.

ANSWER:  $2\pi$  [accept  $\tau$ , accept equivalents like two times pi, do not accept "pi"]

11. In Japanese folklore, a *yokai* called a futakuchi-onna uses this part of her body to feed her voracious second mouth. In Greek myth, Comaetho destroyed the magical version of this body part given to her father Pterelaus by Poseidon. The city of Megara was protected from invasion by its king's own example of a magical version of this body part. That king, who later transformed into a sea eagle and attacked his daughter Scylla after she betrayed him to King Minos, was named Nisus, who had a purple example of this body part. In Norse myth, Thor forced Loki to have Brokk and Sindri make a replacement version of this body part for Sif out of finely-wrought gold. For 10 points, name this body part which, for Stheno, Euryale, and Medusa, was made of snakes.

ANSWER: the hair [or "a lock of hair" or "a head of hair" or equivalents]

12. While this treaty was being negotiated, Ferdinand III issued the Diploma of Linz to confirm Bremen as a Free Imperial City, though a party to this treaty gained the Bremen archbishopric. This treaty split the Palatinate, with the Rhenish Palatinate going to Charles Louis and the Upper Palatinate going to Bavaria. Eleven years after this treaty, some of its territorial changes were confirmed by the Treaty of the Pyrenees. This treaty consisted of two documents, signed at Osnabrück and Münster. It was largely orchestrated by Cardinal Richelieu, and it amended an earlier German treaty by allowing states to be Calvinist; that earlier treaty was the Peace of Augsburg. This treaty ended a war that featured battles at White Mountain and Lützen. For 10 points, name this 1648 treaty that ended the Thirty Years' War.

ANSWER: Peace of Westphalia [accept Peace of Osnabrück or Peace of Münster before they're mentioned]

13. The term for these people was coined by Ernst Gennat in an article about Peter Kürten. Jim Henderson and Hugh Aynesworth discovered that a massive hoax had been perpetrated by Henry Lee Lucas, so he probably isn't one of these people. These people often satisfy at least two parts of the Macdonald triad. One of them was the subject of the "geometric design" theory proposed by Gareth Penn, as well as two books by Robert Graysmith. Another of them worked with Benjamin Pitezel to build a block-long house full of windowless rooms during the 1893 World's Fair, as detailed in Erik Larson's *Devil in the White City*. A famous example of them operated in Whitechapel in the 1880s. For 10 points, name this type of criminal, examples of which include H.H. Holmes and Jack the Ripper.

ANSWER: serial killers [or serial murderers; prompt on partial answers; antiprompt on "thrill killers"; do not accept "spree killers" or "mass murderers"]

14. This artist created a sextet of sculptures in which a perforated triangular spoon with a bronze sugar cube on it is balanced on top of an absinthe glass. In another of his sculptures, he used an unrolled spring, a pot, and a pair of toy cars to cast parts of a mother baboon. He was taught to weld iron by a man who created the openwork *Project for a Monument to Guillaume Apollinaire* according to this artist's designs. A flat oblong face with a single eye is central to an untitled sculpture by this man in Daley Plaza in Chicago. His mistress Fernande Olivier was depicted in his *Head of a Woman*, which was executed in the same style as paintings like *Dora Maar au Chat*. For 10 points, name this Spanish artist who pioneered sculpture in Cubism, a style he also used for paintings like *Guernica*.

ANSWER: Pablo **Picasso** [or Pablo Ruiz y **Picasso**; or Pablo Diego José Francisco de Paula Juan Nepomuceno María de los Remedios Cipriano de la Santísima Trinidad Mártir Patricio Clito Ruiz y **Picasso**]

15. The purity of these molecules is calculated using the ratio between the G and D bands on Raman spectra. The geometry of those molecules may be classified as chiral, zig-zag or armchair. The Kratschmer-Huffman method produces them, and they undergo a 1,3-dipolar cycloaddition to form substituted pyrrolidines in the Prato reaction. These molecules are cyclopropanated in the Bingel reaction. The first of them was discovered as a mass spec peak at 720, after powerful lasers fired at a sample of graphite in a helium filled chamber. One of them called a SWNT (swint) can be thought of as a sheet of graphene rolled up into a cylinder. For 10 points, name these molecules that include carbon nanotubes and a spherical one made from sixty carbons, the buckyball.

ANSWER: **fullerenes** [or buckminster**fullerenes**, antiprompt on **buckyballs** or carbon **nanotubes**, prompt on **carbon**]

16. A poet from this country imagined the rose and the violet becoming intelligent in his poem "Revolt of the Flowers." Another writer from here wrote about Adam Pollo, an amnesiac who breaks into a deserted beach house in his novel *The Interrogation*. A detective named Guy, who discovers that he is a Jew named Jimmy Pedro Stern, forms the plot of this country's novel *Missing Person*. *The Accursed Poets* is a collection by an author from this country who penned *Saturnine Poems*. A school of poets from here expressed the doctrine of "art for art's sake" and were known as the Parnassians. The first winner of the Nobel Prize in Literature is from this country, as is the 2014 winner. For 10 points, name this country of origin of Sully Prudhomme and Patrick Modiano.

ANSWER: Republic of **France**

17. An offshoot of this group, which graffitied pictures of dwarves on political propaganda, was the Orange Alternative. The official publication of this group was the Electoral Gazette, and in 1989 it briefly entered into a coalition with the PZPR. The Workers' Defense Committee and Interfactory Strike Committee were forerunners of this group, and its creation was sparked by the firing of Anna Walentynowicz. The first "round table" negotiations of 1989 were between members of this union and Wojciech Jaruzelski. This union was founded in the Lenin Shipyards of Gdańsk by Lech Wałęsa. For 10 points, name this independent trade union of communist Poland.

ANSWER: Independent Self-Governing Trade Union "**Solidarity**" [or Niezależny Samorząd Związków Zawodowych "**Solidarność**"]

18. A molecule that causes this phenomenon was synthesized from 2-cyano-6-methoxybenzothiazole by White in 1965. In dinoflagellates, cytoplasmic bodies called scintillons carry the enzyme necessary for this phenomenon. Imaging techniques based on it include BRET and BLT, and this phenomenon is regulated in *V. fischerii* by the *lux* operon. This biological property occurs when oxidized luciferin decays to a ground state, causing an emission of electromagnetic radiation. For 10 points, name this phenomenon where living organisms, such as anglerfish and fireflies, produce light.

ANSWER: **bioluminescence** [prompt on chemil**uminescence**]

19. This text explains how experienced British sergeants during WWI would secretly encourage young lieutenants to act in flamboyant, expressive ways, quickly getting themselves killed. Those British commanders, like the management and maids on an island resort, are examples of collaborative “teams” in this book. This book describes different kinds of secrets a team may keep in a section on “Discrepant Roles.” It uses the term “front” to refer to the manner, appearance, and setting someone chooses for a routine. It regards private, unregulated spaces as the “backstage” and explains how an individual, the “performer,” behaves when she is around other people, the “audience”. For 10 points, name this book which explains social interaction through the lens of dramaturgy, a work by Erving Goffman.

ANSWER: *The Presentation of Self in Everyday Life*

20. A kiss in this poem is compared to a "watch-tower of a town which an earthquake shatters down." In a suggestive stanza, one of its speakers asks “Did you miss me? Come and kiss me. Never mind my bruises, hug me, kiss me, suck my juices.” Another stanza of this poem begins “One may lead a horse to water, twenty cannot make him drink.” This poem ends with the advice “For there is no friend like a sister in calm or stormy weather,” and it warns the reader with the story of Jeanie, who wore the flowers of the title figures as she “pined and pined away.” In this poem’s first stanza, two maidens hear merchants cry “Come buy our orchard fruits, / Come buy, come buy.” For 10 points, name this poem in which Lizzie and Laura are tempted to purchase fruit from the title creatures, a poem by Christina Rossetti.

ANSWER: “Goblin Market”

21. In one holiday of this religion, participants carry saffron-colored triangular flags in a military parade; that holiday is Hola Mahalla. The literature of this religion includes accounts of its founder’s life called *janam-sakhi*, and manuals that detail its Rahit code. This religion’s houses of worship include an eatery called a *langar*. One leader of this religion assembled a group called the Panj Piare, or “Cherished Five,” and commenced the *amrit sanskar* nectar ceremony to initiate them into the Khalsa. Members of this religion may wear a ceremonial sword and uncut hair as part of its Five K’s. For 10 points, name this Indian religion founded by Guru Nanak.

ANSWER: Sikhism [accept word forms such as Sikhs; accept Gurmat]

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### Bonuses

1. One of this tournament's editors has a poster of this artist's *Inlet at Awa Province* above his bed. Guess which one! For 10 points each:

[10] Name this Edo-period artist, who was famous primarily for landscape series like *The Fifty-three Stations of the Tokaido*, *The Sixty-nine Stations of the Kiso Kaido*, and *One Hundred Famous Views of Edo*.

ANSWER: Utagawa **Hiroshige** [or Ando **Hiroshige**]

[10] Hiroshige and the rest of the Utagawa school produced woodblock prints made in this style, whose Japanese name literally means "pictures of the floating world".

ANSWER: **ukiyo-e** [or **ukiyo-ye**]

[10] Fellow Utagawa school member Kunisada produced many of these *ukiyo-e* portraits of beautiful women. Examples include *Three Beauties of the Present Age*, a work of Kitagawa Utamaro, the leading artist in this genre.

ANSWER: **bijin-ga** [prompt on **okubi-e**]

2. The strength of fibroin, a major component of silk, results from the crystallization of many of these structures. For 10 points each:

[10] Name this protein structure held together by hydrogen bonds that may be classified as either parallel or antiparallel depending on the orientation of the C-terminus.

ANSWER: **beta**-pleated **sheet** [prompt on **beta strand**]

[10] Along with alpha helices, beta-pleated sheets make up this level of protein structure, which involves the local geometrical structure of amino acid sequences.

ANSWER: **secondary** structure

[10] The two most common types of alpha helices have three residues per turn and this other non-integer number of residues per turn.

ANSWER: **3.6** [or **three point six**, accept numbers between **3.55** and **3.65**]

3. A Tartar prince who is given an enormous sturgeon, and two lovers who perish by murder and fire are the subject of this author's short story collection that eschews character names, *Almost No Memory*. For 10 points each:

[10] Name this contemporary author of *Varieties of Disturbance* and *The End of the Story*, who also made a critically acclaimed translation of *Swann's Way* in 2004.

ANSWER: Lydia **Davis**

[10] A man blames some sounds on other people while a woman blames the weather in Lydia Davis's story about one of these "Besieged." Madeline is buried alive by her brother Roderick under one of these title structures in an Edgar Allan Poe story.

ANSWER: a **house** [accept "**In a House Besieged**" or "**The Fall of the House of Usher**"]

[10] Lydia Davis's *Break it Down* partly fictionalizes her failed marriage to this writer, who wrote *The Locked Room* and *City of Glass* as part of *The New York Trilogy*.

ANSWER: Paul **Auster**

4. Answer the following about Plutarco Elías Calles, for 10 points each.

[10] This political party has its roots in the earlier PNR founded in 1929 by Plutarco Calles. One of its later leaders, Luis Echeverría, initiated the “Friendship Operation,” which led him to be accused of genocide.

ANSWER: **Institutional Revolutionary Party** [or **Partido Revolucionado Institucional**]

[10] This term is applied to the period of Plutarco Calles’ utter dominance as the chief of the PNR and Mexican politics from 1928 to 1935, even though he was no longer in office.

ANSWER: El **Maximato**

[10] Plutarco Calles promulgated a number of policies against this institution in Mexico, leading to the Cristero War. This organization’s leader, Pius XI, opposed those policies in the bull, *Iniquis Afflictisque*.

ANSWER: **Catholic** Church [or the **Holy See** or equivalents]

5. He describes the sensible and the sensate as intertwined in his ontology of the “Flesh,” which along with the Chiasm is developed in his final, unfinished work, *The Visible and the Invisible*. For 10 points each:

[10] Name this author of *The Structure of Behavior* who asserted the primacy of perception and the importance of “being-in-the-world” as a foundation for knowledge in another work, which proposes sensation as a unit of experience.

ANSWER: Maurice **Merleau-Ponty**

[10] In the last part of *The Phenomenology of Perception*, Merleau-Ponty rejects the dualism that results from this philosopher’s dictum “Cogito ergo sum,” which appears in his *Discourse on Method*.

ANSWER: René **Descartes**

[10] Descartes’s *Meditations on First Philosophy* inspired this other phenomenologist’s *Cartesian Meditations*. He used *epoche*, or bracketing, as a means to avoid psychologism and naturalism, and also wrote *Logical Investigations*.

ANSWER: Edmund Gustav Albrecht **Husserl**

6. One of the title characters, Yukiko, resists getting married; another title character, Taeko, has a scandalous fling with Itakura, a man of a much lower class. For 10 points each:

[10] Name this novel about a proud Osaka family whose wealth has recently declined.

ANSWER: *The* **Makioka Sisters** [or **Sasameyuki**]

[10] This author of *The Makioka Sisters* wrote a novel about the love affair between Sonoko Kakiuchi and the art student Mitsuko in *Quicksand*.

ANSWER: Junichiro **Tanizaki**

[10] Tanizaki also wrote this essay on Japanese aesthetics which contrasts “light” and “dark” elements. It contains a passage discussing the beauty of toilets.

ANSWER: **In Praise of Shadows** [or **In’ei Raisan**]

7. Identify the following about geographically unexpected sharks, for 10 points each.

[10] Bull sharks can be found in this freshwater lake, the largest in Central America, which they enter by jumping over the rapids of the San Juan River. Unfortunately, a waterfall prevents the sharks from entering the nearby Lake Managua.

ANSWER: Lake **Nicaragua** [or Lake **Cocibolca**; or Lake **Granada**; or **Mar Dulce**; accept “Lago” for “Lake” in all instances]

[10] Flooding on the Logan and Albert rivers made Carbrook Golf Course in this state the home of several bull sharks. This state is home to the Cape York Peninsula, which borders the Torres Strait and the Gulf of Carpentaria.

ANSWER: **Queensland**, Australia

[10] *Jaws* was inspired in part by a series of unexpected 1916 shark attacks that took place 15 miles from the ocean in this state’s Matawan Creek, which drains into Raritan Bay.

ANSWER: **New Jersey** [prompt on answers like “the **Jersey Shore**”]

8. For 10 points each, now name some things about famous mythological jewelry.

[10] Freya slept with four dwarves to acquire this necklace, which in one story was stolen by Loki in the form of a seal and then retrieved by Heimdall in the same form.

ANSWER: **Brisingamen**

[10] This Japanese sea god, who could either take the form of a dragon or a human, used a pair of jewels to control the tides. His daughter Otohime married the hunter Hoori.

ANSWER: **Ryujin** [or **Rvojin**; or **Owatatsumi**; do not accept “Raijin”]

[10] This Greek smith god made a cursed necklace as a spiteful wedding gift for Harmonia, who was the daughter of this god’s wife Aphrodite from her affair with Ares.

ANSWER: **Hephaestus**

9. This character sings the aria “E lucevan le stelle” while standing atop the Castel Sant’Angelo, waiting to be executed by Scarpia’s men. For 10 points each:

[10] Name this painter, played by a tenor. He abets the convict Cesare Angelotti after comparing his painting of Mary Magdalene to his lover in the aria “Recondita armonia”.

ANSWER: **Mario Cavaradossi** [accept either]

[10] Mario Cavaradossi appears in *Tosca*, an opera by this Italian verismo composer of *Madama Butterfly*.

ANSWER: Giacomo **Puccini**

[10] The first act of *Tosca* ends with Scarpia profanely joining the chorus as they sing this hymn. A motet setting this prayer is the most famous work of Marc-Antoine Charpentier.

ANSWER: **Te Deum**

10. Answer some questions about an 1864 conflict. For 10 points each:

[10] Colonel John Chivington attacked an Arapaho and Cheyenne camp led by Black Kettle at this event, killing many women and children. It led to condemnation by a congressional committee.

ANSWER: **Sand Creek** Massacre

[10] The Sand Creek Massacre took place in this present-day western state. The Pike’s Peak Gold Rush in this mountainous state resulted in settlers coming into conflict with indigenous peoples.

ANSWER: **Colorado**

[10] Chivington’s massacre showed a flagrant disregard for an 1851 treaty named for this Wyoming trading post, which respected the territorial claims of the Cheyenne and Arapaho. A later 1868 treaty named for this location ended Red Cloud’s War in favor of the Lakota.

ANSWER: **Fort Laramie**



11. Your mission: to determine the strength of the magnetic field B generated by an electromagnet. For 10 points each:

[10] If you have a conducting wire, you can determine B by exploiting the fact that the force exerted on the wire is equal to this quantity times L cross B. For a resistor, this quantity is equal to voltage divided by resistance.

ANSWER: current [accept *i*]

[10] You can also determine B using one of these devices which exploit Faraday's Law to determine the strength of even an inhomogenous B field from the induced EMF. Essentially small solenoids, they are first calibrated, then moved in or out of the B field.

ANSWER: search coils [accept induction loops, induction sensors or induction coils]

[10] To calibrate your search coil, you first have to know that the B field of a solenoid is equal to this quantity times the number of loops times current. This value is equal to 4 pi times 10 to the negative 7 tesla-meters per ampere.

ANSWER: permeability of free space [accept vacuum permeability, magnetic constant, or mu naught; prompt on partial]

12. A piano competition named for this composer has been held in Warsaw every 5 years since 1955. For 10 points each:

[10] Name this Polish composer of the "Heroic" and "Military" Polonaises and many mazurkas.

ANSWER: Frederic (Francois) Chopin [Fryderyk (Franciszek) Szopen]

[10] In 1965, this Argentine pianist won the Chopin Competition at the age of 24. She is known for her collaborations with Gidon Kremer and Mischa Maisky, and her live 1982 recording of Rachmaninoff's Third Piano Concerto.

ANSWER: Martha Argerich

[10] Mischa Maisky plays this instrument, which was also played by Gregor Piatigorsky. This instrument and the piano appear in all of Chopin's chamber works.

ANSWER: violoncello

13. The title character of this novel is described as "handsome, clever, and rich ... [and having] lived nearly twenty-one years in the world with little to distress or vex her." For 10 points each:

[10] Name this novel, whose title character tries to set up Philip Elton with her friend Harriet Smith, chasing off Harriet's more appropriate suitor Robert Martin in the process.

ANSWER: Emma

[10] This author of *Emma* wrote about the Dashwood sisters in *Sense and Sensibility*. Her manner of death is disputed, but some scholars think she died by drinking unpasteurized milk that gave her consumption.

ANSWER: Jane Austen

[10] Scholars believe that this unfinished novel by Jane Austen is an early version of *Emma*. It focuses on the title sisters and features the following potential suitors: the "fine, but cold" Lord Osborne, the "gentlemanly clergyman" Mr. Howard, and the "cruel and hardened flirt" Tom Musgrave.

ANSWER: *The* Watsons

14. So what makes government corruption so bad anyway? Let's take a look at its economic effects, for 10 points each:

[10] Bribes can prevent politicians from dealing with these problems. Remedying these problems efficiently involves bringing marginal social costs in line with marginal private costs.

ANSWER: **negative externalities** [prompt on "externalities"]

[10] Embezzlement of public funds is usually inefficient because politicians, typically being well-off, have a lower value of the "marginal" variety of this quantity than your typical citizen.

ANSWER: **utility**

[10] This economist noted that research on South Asian corruption seemed taboo in his *Asian Drama*. This author of *Rich Lands and Poor* worked with Ralph Bunche on one of his major studies.

ANSWER: Gunnar **Myrdal**

15. The second-largest surviving ruin of a Roman circus is one constructed by this emperor along the Appian Way, and which can be found near the catacombs of Saint Sebastian. For 10 points each:

[10] Name this son-in-law of emperor Galerius, whose corpse was fished up from a river as part of the *damnatio memoriae* issued against him.

ANSWER: Marcus Aurelius Valerius **Maxentius** Augustus

[10] This man defeated Maxentius at the Battle of Milvian Bridge and went on to convert to Christianity and promulgate the Edict of Milan, which led to religious toleration for both paganism and Christianity.

ANSWER: **Constantine** the Great [or **Constantine** I; or Flavius Valerius Aurelius **Constantinus** Augustus]

[10] By defeating Maxentius and Licinius, Constantine effectively ended this system of rule. Diocletian started it by appointing Maximian as his co-emperor and Constantius Chlorus and Galerius as the Caesars.

ANSWER: the **Tetrarchy**

16. Protesters have derisively nicknamed him "689" because he ascended to his highest post with only 689 votes to represent a city of 7 million. For 10 points each:

[10] Name this man, who has faced pro-democracy protesters asking for his resignation. This man responded by stressing the importance of operating within the legal framework of Basic Law.

ANSWER: **Leung** Chun-ying [or C. Y. **Leung**]

[10] Leung is the Chief Executive of this Special Administrative Region. This polity's Central business district is the namesake of the nonviolent "Occupy" group led by Benny Tai that kicked off the 2014 protests here.

ANSWER: **Hong Kong**

[10] The Hong Kong protests are sometimes named for these defensive objects, which protesters on the vanguard use to shield themselves from not only tear gas and pepper spray, but typhoon rains as well.

ANSWER: **umbrellas**

17. He attempts to duel with Athos, Porthos, and Aramis, but Cardinal Richelieu stops him. For 10 points each:

[10] Name this character, puts forth the motto “all for one, one for all” in a novel in which he falls in love with Constance Bonacieux.

ANSWER: d’Artagnan

[10] This author fictionalized the adventures of d’Artagnan in a trilogy that includes *The Three Musketeers*.

ANSWER: Alexandre Dumas, père [or Dumas Davy de la Pailleterie; do not accept “Alexandre Dumas, fils”]

[10] This third novel of the d’Artagnan Romances features a fictional twin brother of Louis XIV, who is imprisoned in the Bastille while wearing an iron mask. After being informed that he will become the next Marshal of France, d’Artagnan dies at this novel's end.

ANSWER: *The* Vicomte de Bragelonne: *Ten Years Later* [or *Le* Vicomte de Bragelonne *ou Dix ans plus tard*]

18. In the Huisgen cycloaddition, this functional group reacts with a terminal alkyne to produce a 1, 2, 3-triazole. For 10 points each:

[10] Name this functional group that consists of three nitrogen atoms, which can be denoted as two double bonds or a triple bond and a single bond between the three nitrogen atoms.

ANSWER: azide

[10] This phenomenon describes how the electrons in the azide bonds can move, changing the bonds from single to double, or double to triple, resulting in multiple possible structures. It is represented with a double sided arrow.

ANSWER: resonance [or resonance structures]

[10] Azides react with acyl chlorides to form acyl azides, which decompose with heat to form this functional group. Its structure is made up of three atoms connected by double bonds, in order, a nitrogen, then carbon, then oxygen.

ANSWER: isocyanate

19. For 10 points each, answer some questions about some struggles for independence in Britain.

[10] This country narrowly voted “no” to a 2014 referendum on its independence. A less peaceful attempt to accomplish similar goals was led by William Wallace against Edward I.

ANSWER: Scotland [or Alba]

[10] This man helped found the Society of the United Irishmen and helped lead the Irish Rebellion of 1798, for which he was executed. He proposed establishing a military colony in Hawaii to Pitt the Younger, but was rejected.

ANSWER: Wolfe Tone

[10] This Welshman’s argument with Baron de Grey grew into an uprising against Henry IV in support of the Epiphany Rising. His countrymen call his struggle “The Last War of Independence”.

ANSWER: Owen Glendower [accept Owain Glyndwyr]

20. The Zohar, attributed to Shimon bar Yochai, is a foundational text of this esoteric tradition, which was revived by Isaac Luria. For 10 points each:

[10] Name this mystical Jewish tradition, which is very commonly associated with a depiction of the tree of life.

ANSWER: **Kabbalah**

[10] In that depiction of the tree of life, these ten attributes of God are visible. These represent the ten different ways in which the Ein Sof, or the infinite, interacts with the everyday world.

ANSWER: **Sefirot**

[10] The Zohar includes a mystical commentary on the Torah that is an example of this type of exegesis, which tries to uncover aspects of the Biblical narrative only hinted at in the Torah. Another example is the Mekhilta on the book of Exodus, and it usually focuses on halakha or Aggadah.

ANSWER: **Midrashic** commentary

21. Adjacency lists are more efficient for representing sparse examples of these objects, and Hamiltonian examples have a cycle that visits each node exactly once. For ten points each:

[10] Name these mathematical objects which consist of a bunch of nodes and a bunch of edges connecting them.

ANSWER: **graphs**

[10] This is the distance between two points on a graph. For two strings, it's the number of places which are different.

ANSWER: **Hamming** distance

[10] Dijkstra's algorithm finds the shortest path on graphs but fails if any of the edges have this property. In that case, the slower Bellman-Ford algorithm may be used.

ANSWER: **negative** weight