

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 Penn A (Patrick Liao, Saajid Moyen, Eric Mukherjee)

Tossups

1. The residues of these proteins can be numbered using either the Chothia or Kabat numbering schemes. These proteins are absent in people with mutations in Bruton's tyrosine kinase, and their namesake fold consists of two beta sheets with a greek key motif held together by a single disulfide bond. One subtype of these molecules has subcomponents held together by the 15 kilodalton J-chain. The cells that produce these proteins rearrange one of their genetic loci through VDJ recombination. For 10 points, identify these proteins consisting of a two heavy and two light chains arranged in a Y shape, also called immunoglobulins.

ANSWER: antibodies [or immunoglobulins before mention]

2. A creature that can take this non-human form has skin that turns adhesive when it senses water. The companion of an ox-headed demonic guardian of the underworld in Chinese mythology has the face of one of these creatures. Two of these creatures in Celtic mythology were named Liath Macha and Dub Sainglend. The each-uisge could take this animal form, and was considered more dangerous than the similar Scottish kelpie. In Greek mythology, a talking one of these animals was named Arion, and Perseus gave Achilles a pair of immortal ones named Balius and Xanthus. Another one of these animals was the brother of Chrysaor who helped Bellerophon in his defeat of the Chimera and his attempt to fly up Mount Olympus. For 10 points, name this animal, mythological examples of which include the winged Pegasus.

ANSWER: horses [or winged horses]

3. During this event, the Best Bakery was burned down, after which all alleged perpetrators were acquitted. The murder of Haren Pandya is alleged to be related to a cover-up after this event. The Naroda Patiya massacre occurred during this event, in which Ahmedabad police were accused of inciting violence. This event began in Godhra after the burning of a train full of pilgrims returning from Ayodhya. Due to accusations of complicity in this event, one man was banned from the United States until 2014, when he became Prime Minister of India. For 10 points, name this period of anti-Muslim violence occurring in 2002 in the home state of current Prime Minister Narendra Modi.

ANSWER: 2002 Gujarat riots [accept anything involving Gujarat and violence, prompt on India]

4. In the fifth act of this play, the protagonist uses an umbrella as a rake and vows to treasure each stone he finds in his home as a relic. That protagonist later compares a crowd of people to a sausage machine that mixes together "fatheads and blockheads, all in one mash." Its minor characters include Aslaksen, a publisher who had earlier appeared in the author's play *The League of Youth*. In one scene of this play, the owner of a tannery tries to blackmail the protagonist with the threat of losing his inheritance. *The People's Herald* refuses to publish an article that causes this play's protagonist to make an announcement at Captain's Horster's house. Thomas Stockmann discovers that the town's water is contaminated in, for 10 points, what idealistic Henrik Ibsen play?

ANSWER: *An Enemy of the People*

5. One variety of this technique uses the Xcorr score as a quality metric. This technique is the last step of MudPIT analysis, and the Orbitrap and FTICR are two different configurations of instruments used in it. One way to prepare the sample dissolves it in a liquid of low vapor pressure before bombarding it with high energy xenon or argon atoms, called fast atom bombardment, or FAB. A gamma hydrogen may transfer to a carbonyl or an alkene during this technique via the McLafferty rearrangement. Molecules with a carbon 13 atom show an M+1 peak, while molecules with chlorine or bromine show isotope peaks. For 10 points, name this technique where a sample is zapped into fragments and separated by how heavy they are.

ANSWER: mass spectrometry [or mass spectroscopy, or inductively coupled plasma mass spectrometry, or ICP-MS]

6. While waiting for the arrival of a ship, this character expresses his disdain for women by telling his wife, “You rise to play and go to bed to work.” In another speech, this character notes “who steals my purse steals trash; tis something, nothing, ‘Twas mine, tis his,” but that “he that filches from me my good name ... makes me poor indeed.” In another speech, he describes a feeling that “doth mock the meat it feeds on” that is a “green-ey’d monster” that is named jealousy. In one scheme, this man has his wife Emilia steal a handkerchief. Michael Cassio ends the play by suggesting that this character will be tortured; earlier he schemes to frame Brabantio’s daughter Desdemona for being unfaithful. For 10 points, name this standard-bearer and antagonist to Shakespeare’s Othello.

ANSWER: Iago

7. In one of this psychologist’s experiments, two groups assessed an individual differently when given identical lists of that person’s qualities, except one list had the word “warm” while the other had “cold.” This psychologist’s criticism of an experiment, which attached a quote to two different people, coined the term “prestige suggestion.” After one of this man’s experiments, one subject said such things as “I called them as I saw them, sir,” while another said “if I’d been the first I probably would have responded differently.” That experiment placed the participant in a group of confederates that periodically selected an incorrect answer in a test comparing line lengths. For 10 points, name this psychologist who tested conformity.

ANSWER: Solomon Asch

8. Prior to this event, its organizer hired the author of *Manual for the Patriotic Volunteer*, Hugh Forbes, to train participants, but Forbes informed on this event to future Vice-President Henry Wilson after not being paid. Thomas Wentworth Higginson was one of the “Secret Six,” who sponsored it. After failing in this event, a man wrote that the “crimes of this guilty land will never be purged away but with blood” before he was executed. Both Harriet Tubman and Frederick Douglass declined to participate in this event, whose leader was captured by a group of Marines led by Robert E. Lee. For 10 points, name this failed 1859 raid on an arsenal in modern-day West Virginia, carried out by a fanatical abolitionist.

ANSWER: John Brown’s raid [or the raid at Harpers Ferry]

9. This artist added a parrot behind a stronger-looking Adam in a painting that was otherwise copied from Titian’s *The Fall of Man*. This artist’s *The Fur* is a portrait of his second wife, Helena Fourment. In 1794, Napoleon took this man’s altarpieces *The Elevation of the Cross* and *The Descent from the Cross* from the Cathedral of Our Lady. Rays of light illuminate a shield-bearing Archangel Michael casting a massive cascade of nudes into Hell in this man’s *The Fall of the Damned*. A winged old personification of Time lifts a nude figure towards two people holding a wreath in *The Triumph of Truth*, which concludes a series by this artist that also includes *The Disembarkation at Marseilles*. For 10 points, name this Flemish Baroque painter of a cycle about the life of Marie de Medici, as well as many voluptuous nudes.

ANSWER: Peter Paul Rubens

10. This ruler's foreign policy was paralyzed by the creation of a diplomatic system called "the secret of the king" that went against his declared foreign policy goals. This ruler was only hurt a "pin-prick" by attempted assassin Robert-François Damiens. This ruler was married to Maria, the daughter of the deposed king Stanislaw Leszczyński, after whose death his country gained control of Lorraine. The Mississippi bubble was dealt with by this ruler's regent, Philip of Orleans. This ruler lost almost all of French India and New France during the Seven Years' War. For 10 points, name this lover of Madame Pompadour whose grandson was guillotined in a revolution.

ANSWER: **Louis XV** [or **Louis the Beloved**; or **Louis le bien aimé**; prompt on "Louis"]

11. A device used to measure this quantity is calibrated using mercury cobalt thiocyanate, whose value for this parameter is 16.44 times 10 to the minus 6; that device is an Evans balance. Objects which are anisotropic in this quantity are described using the Nye ellipsoid. For certain materials it is equal to the Curie constant over the difference between temperature and the Curie temperature. This parameter is equal to one minus the permeability, and its sign tells whether an object is paramagnetic or diamagnetic. This value times the H-field gives the magnetic dipole moment per unit volume. For 10 points, name this value symbolized chi, which gives the amount of magnetization that an object obtains when placed in a magnetic field.

ANSWER: magnetic **susceptibility** [or **chi** before mention]

12. Robert Schumann called the fourth of these works by this composer "a slender Greek maiden between two Norse giants". The seventh of these opens with an oboe playing A - E - C-sharp - F-sharp in half notes. The first of these works by this composer opens with a C dominant seventh chord resolving to an F major chord, which is surprising because F major is the subdominant. The finale of the third of these works spins variations on a theme previously used in the composer's ballet *The Creatures of Prometheus*. That third of these works has a funeral march second movement, and was originally named for Napoleon. For 10 points, name these orchestral works by a certain composer, the ninth of which is nicknamed "Choral" and the third of which is nicknamed "Eroica".

ANSWER: **symphonies** by Ludwig van **Beethoven** [prompt on partial answer]

13. This poem's title figure is seen at "the plashy brink of weedy lake, or marge of river wide" and "where the rocking billows rise and sink on the chafed ocean side." "The abyss of heaven" swallowed up the form of this work's addressee, who is guided by God "from zone to zone" through the "boundless sky." Its speaker notes "soon that toil shall end, soon shalt thou find a summer home, and rest" while discussing the title figure, who, is weary since "all day thy wings have fann'd at that far height." The question "Far, through their rosy depths, dost thou pursue Thy solitary way?" appears in, for 10 points, what poem by William Cullen Bryant that is addressed to a bird?

ANSWER: "**To a Waterfowl**"

14. This figure was imprisoned by a king after arguing with his court seers and priests for three days, but was freed after he cured the king's favorite horse. Seven sections called *burino* are included in a chapter that provides an account of this figure's birth, the Spend Nask. This figure authored a hymn whose fifth section praises the Apas, or waters of the world, and he received his first vision while bathing in a river and encountering a being named Vohu Manah. This son of Poroshasp and author of the Gathas preached a religion in which the evil Angra Mainyu eternally opposed the good Ahura Mazda. For 10 points, name this prophet and namesake of a dualistic Persian religion.

ANSWER: **Zarathustra** [or **Zoroaster**]

15. These phenomena show side-by-side inbound and outbound radial velocities on Doppler radar. The infrasound generated by these phenomena is caused by core bursting and radial core vibrations. Rear-flank downdrafts are necessary to produce these phenomena. A key sign of this phenomenon is caused by hail wrapping around one side, called a hook echo. The Fujita scale measures the damage caused by them, and a variant occurring over the water is called a waterspout. For 10 points, name these weather phenomena frequently found in the Midwest that consist of a destructive, rotating column of air.

ANSWER: **tornado**

16. This book calls the psychological fact that people prefer exercising their complex, developed faculties to simpler ones the “Aristotelian principle.” This book defines civil disobedience through such qualities as conscientiousness, publicity, and non-violence in its section “Duty and Obligation.” One chapter distinguishes the “thin” and “full” theories of goodness, which it equates with rationality. This work argues that inequalities should be arranged to help the least well-off in society. That difference principle and the liberty principle are the two principles of its title concept, which it equates to “fairness”. It also introduces a thought experiment in which a person is not aware of their position in society when making a judgement. For 10 points, name this work by John Rawls that introduced the “veil of ignorance.”

ANSWER: A **Theory of Justice**

17. To deter this leader’s armies, the United States deployed Task Force 74. The nationalization of fourteen banks began the fourth Five-Year Plan in a country run by this leader, who first won reelection by using the slogan “eradicate poverty.” Operation Woodrose suppressed protests in the wake of a military action ordered by this leader, whose country became a net food exporter thanks to the Green Revolution during her tenure. She used “president’s rule” to rule by decree for two years after declaring a state of national emergency and was killed after ordering Operation Blue Star. For 10 points, name this Prime Minister of India who was assassinated by Sikh bodyguards.

ANSWER: **Indira Gandhi** [prompt on partial answer] <edited, Will>

18. Old open-pit coal mines in this non-Dubai city are being filled in to build its third international airport, projected to be the largest in the world. Cyrus Hamlin and a namesake philanthropist founded Robert College in this city. It contains an area known for two columns with Medusa-head bases, neither of which are right side up; that area, the Basilica Cistern, contains water that flows from its Belgrad Forest. Burgazada and Buyukada are two of the nine Prince Islands in this city. The sarcophagus of Alexander the Great is found in this city’s Archaeology Museums, which are located near Gulhane Park. This city’s Seraglio Point is a promontory by its main natural harbor, the Golden Horn, and is the site of the Topkapi Palace. For 10 points, name this city on the Bosphorus that straddles two continents and is the most populous city in Turkey.

ANSWER: **Istanbul** [prompt on “Byzantium” or “Constantinople”]

19. While this city was negotiating at Myndus with Brutus and Cassius, it launched a failed attempt to destroy the Roman fleet, which prompted Cassius to lead an expedition to seize this city’s ships. This city was built by the three cities of Lindos, Ialyssos, and Kameiros as a new capital city for the region it was in. Antigonos Monophthalmus’ son Demetrius used the Helepolis siege machine to besiege this city in 305 BCE, but was defeated by a relief force sent by Ptolemy I. This city then sold the captured engines to pay Chares of Lindos to build a statue of Helios later toppled in a 226 BCE earthquake. For 10 points, name this Greek island city best known for its wonderful colossus.

ANSWER: **Rhodes** [or **Rodos**]

20. A novel set in this country, which takes its title from Coleridge's "Work Without Hope," is about a woman who gets a job as a letter reader, but since it doesn't pay enough, she goes to a quarry where she breaks stones with her husband, Nathan. This country is where Uma's cousin is burned alive by her husband's family in *Fasting, Feasting*. An author from here created Moraes Zagoiby in a book whose title refers to where Boabdil surrendered Granada. The Kolynos Kid inspires the protagonist of another novel set here to be a more grateful son after getting a ride from Mary Pereira. *Nectar in a Sieve* and *The Moor's Last Sigh* are written by authors from this place that is the also setting of a novel featuring Parvati the Witch and Saleem Sinai. For 10 points, what is this home country of Salman Rushdie?
ANSWER: Republic of **India**

21. This director produced a film that opens with a close-up shot of a turntable playing a song and zooms out to show an officer who sings along. That film ends with the protagonists trudging through the snow humming "There Once Was a Little Ship", a song that had earlier been played to distract guards by de Boeldieu. Hundreds of rabbits were killed during production of a hunting sequence in a film by this director in which a character asserts that "The awful thing about life is" that "everyone has their reasons." This man directed a film in which Maréchal and Rosenthal escape from Wintersborn and a film that opens with Octave revealing that Christine has not come to Le Bourget Airfield to greet Andre Jurieux. For 10 points, name this director of *Grand Illusion* and *The Rules of the Game*, the son of the painter of *Luncheon of the Boating Party*.
ANSWER: Jean **Renoir** [do not accept Pierre-Auguste Renoir]

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Bonuses

1. One strain of this virus is named after the Rotterdam laboratory that discovered it, the Erasmus Medical Center. For 10 points each:

[10] Name this disease which is caused by a virus found in tomb bats. An outbreak of this disease in 2012 killed over eighty people in Saudi Arabia.

ANSWER: **MERS** [or **Middle East respiratory syndrome**]

[10] MERS, like SARS, belongs in this family of really large viruses with positive-sense ssRNA genomes. They are characterized by club-shaped peplomers, or spikes, on their surfaces.

ANSWER: **coronavirus**

[10] The SARS coronavirus uses ACE2 as a receptor. ACE inhibitors are used to treat people with hypertension, defined as having high levels of this quantity measured with a sphygmomanometer.

ANSWER: arterial **blood pressure** [or **BP**]

2. Arnold Toynbee argued that periods in which these things were destroyed were caused by the belief that Muslims were successful because they rejected idolatrous images. For 10 points each:

[10] Name these Eastern Orthodox religious devotional images, which most frequently depict Mary in the role of *theotokos* taking care of her son Jesus.

ANSWER: **icons** [or **eika**]

[10] The third Byzantine emperor of this name began the most famous period of iconoclasm; he also founded the Isaurian dynasty and repulsed the Umayyad siege of Constantinople.

ANSWER: **Leo** [or **Leon**; accept **Leo III** or **Leo the Isaurian**]

[10] This Byzantine dynasty was founded by the stammering Michael II, who overthrew Leo V, the other emperor who initiated a major iconoclasm. Its two other rulers were Theophilos and Michael the Drunkard.

ANSWER: **Amorian** dynasty [or **Phrygian** dynasty]

3. Jewel is an illegitimate member of the central family of this novel; his birth resulted from an affair with Reverend Whitfield. For 10 points each:

[10] Identify this William Faulkner novel in which the Bundrens make a journey to bury Addie in Jefferson.

ANSWER: **As I Lay Dying**

[10] This youngest member of the Bundren family catches a fish and cuts it up, which causes him to proclaim, "My mother is a fish" as the entirety of a chapter of the book.

ANSWER: **Vardaman** Bundren

[10] This other Bundren is a carpenter who helps build the coffin for Addie. His injured leg causes him to become crippled, yet he somehow never complains.

ANSWER: **Cash** Bundren

4. This theologian and Martin Luther met at the Marburg Colloquy, where this man argued against the Real Presence. For 10 points each:

[10] Name this Protestant reformer, a pastor at the Grossmünster in Zurich who was succeeded by Heinrich Bullinger. He first provoked controversy by attacking Lenten fasting and later fought with Catholic cantons in the Kappel Wars.

ANSWER: Huldrych **Zwingli** [or Ulrich **Zwingli**]

[10] Zwingli, Bullinger, and this theologian hashed out their differences on the Lord's Supper at the Consensus Tigurinus. This author of the *Institutes of the Christian Religion* names a doctrine in which God predestined some people to be saved.

ANSWER: John **Calvin**

[10] In contrast to Calvinist churches, Arminian churches believe in this doctrine, which states that God saves those that he foresees will have faith in Christ. This doctrine rejects limited atonement.

ANSWER: **conditional election**

5. These symbols were often used in neumatic and mensural pieces and are called box or oblique based on their shape. For 10 points each:

[10] Name these symbols used in musical notation of the Middle Ages and Renaissance that represent at least two notes performed on the same syllable. Ones with two notes are called binaria.

ANSWER: **ligatures**

[10] These extensions of the musical staff are used to notate pitches that are higher or lower than those on the staff.

ANSWER: **ledger lines**

[10] This clef uses two dots, one above and one below the line, to denote F below middle C on the staff. It is the standard clef for the bassoon, tuba, and the left hand of piano parts.

ANSWER: **bass** clef

6. In the poem *On Nature*, one member of this school contrasted "The Way of Opinion" with "The Way of Truth," which asserts that reality is one and unchanging. For 10 points each:

[10] Name this monistic Greek school whose members, such as Parmenides and Melissus of Samos, rejected sense experience and sought to build knowledge on firm premises.

ANSWER: **Eleatic** school

[10] In his eponymous Platonic dialogue, Parmenides poses this argument against the existence of forms. It claims that the one-over-many argument makes the Form of Largeness itself large, resulting in infinite regress. Its name was given by Aristotle.

ANSWER: **third man** argument

[10] This Cynic is said to have refuted Zeno of Elea's paradoxes against the existence of motion by getting up and walking. His wacky stunts included carrying a lamp in daytime to look for an honest man and living in a clay barrel.

ANSWER: **Diogenes** of Sinope

7. Part of the proof of this theorem can be used to show that any compact subset of a Hausdorff space is closed. For 10 points each:

[10] Name this theorem that states that subsets of Euclidean space are compact if and only if they are closed and bounded.

ANSWER: **Heine-Borel** theorem

[10] The actual definition of compact is that every cover of the space has one of these.

ANSWER: **finite subcover** [prompt on "subcover"]

[10] The Arzela-Ascoli theorem says that a bounded equicontinuous sequence will have this kind of subsequence. This property for a sequence roughly means that it gets arbitrarily close to some point.

ANSWER: **convergent** [accept word forms]

8. William Labov found that the use of the final or pre-consonantal “r” was a prestige or class marker among speakers of this language who worked in department stores. For 10 points each:

[10] Name this language whose dialects include Yat and Cockney.

ANSWER: English

[10] Labov was a champion of the idea that this American sociolect is not substandard, but rather constitutes its own variety with its own grammatical rules. This sociolect, common in many inner cities, has features like the habitual “be” and the use of “finna” to mark the irrealis mood.

ANSWER: African-American Vernacular English [or Black English Vernacular, or other clear equivalents; grudgingly accept Ebonics]

[10] Alan C. S. Ross made, and Nancy Mitford popularized, a distinction between two forms of British English. One was spoken by the upper class, while the other was spoken by the aspiring upper middle class, who often used fancier words. Name both forms.

ANSWER: U and Non-U

9. Fernanda comes to the setting of this novel in order to compete to be the Queen of the Carnival. For 10 points each:

[10] Name this Gabriel Garcia Marquez novel in which Remedios is a stunningly beautiful member of the Buendia family in Macondo.

ANSWER: One Hundred Years of Solitude [or Cien anos de soledad]

[10] Garcia Marquez also wrote this novella in which the protagonist awaits a pension check from the army. Its title character is torn over whether to enter his son’s prizefighting cock into a contest or sell it.

ANSWER: No One Writes to the Colonel [or El coronel no tiene quien le escriba]

[10] This other Garcia Marquez character has a “soulless grandmother” who forces her to become a prostitute after she accidentally burns down their home.

ANSWER: (The Incredible and Sad Tale of) Innocent Erendira (and Her Heartless Grandmother)

10. The *tangena* ordeal was a cruel trial method employed in this kingdom, whose prime ministers included Rainilaiarivony. For 10 points each:

[10] Name this kingdom ruled by the Merina dynasty. France gained influence in this kingdom after signing the Lambert Charter and later annexed it after winning two wars against the noble *hova* caste.

ANSWER: Kingdom of Madagascar [or Malagasy kingdom or equivalents]

[10] This name was held by a Malagasy queen who reigned for 30 years and persecuted Christians, though her successor of the same name christianized Madagascar. The final queen of this name died in exile in Réunion.

ANSWER: Ranavalona

[10] Britain abandoned all claims to Madagascar in favor of French ones in a conference organized by Bismarck in this city that took place from 1884 to 1885 and accelerated the Scramble for Africa.

ANSWER: Berlin <edited, Will>

11. Satisfy Patrick Liao’s royalist obsessions by answering the following about the Order of the Garter, for 10 points each.

[10] This New Zealander was made a member of the order in 1995, 42 years after he and Sherpa Tenzing Norgay became the first climbers to reach the summit of Mount Everest.

ANSWER: Edmund Percival Hillary

[10] The Order’s motto is this six-word Anglo-Norman French phrase, which translates as “Shame be to him who thinks evil of it.”

ANSWER: “honi soit qui mal y pense”

[10] The Order’s investiture ceremony takes place at Windsor Castle on the Monday of the week dedicated to the “Royal” series of thoroughbred races at this racecourse, which is located in a namesake village in Berkshire.

ANSWER: Ascot Racecourse [accept the Royal Ascot]

12. This style of jazz is exemplified by Horace Silver's album *Song for My Father* and Art Blakey's *Moanin'*. For 10 points each:

[10] Name this style of jazz that incorporated R&B and gospel influences into the fast jazz style that it extended.

ANSWER: **hard bop** [prompt on "bop"; do NOT prompt or accept "bebop"]

[10] *Walkin'* is a hard bop album by this jazz musician who included Manuel de Falla's "Song of the Will-o-the-Wisp" as the second track on his *Sketches of Spain* and also released the album *Kind of Blue*.

ANSWER: Miles (Dewey) **Davis** III

[10] Miles Davis collaborated on albums like *Quiet Nights* with Gil Evans, a player of this instrument, whose other hard bop practitioners include Horace Silver and Tadd Dameron.

ANSWER: **piano**

13. Fans of a team from this country were blamed for the 1985 Heysel Stadium disaster in Brussels, which resulted in this country's teams being banned from continental UEFA games. For 10 points each:

[10] Name this country whose football hooliganism was explored in Bill Buford's *Among the Thugs*. Its hooligans form firms to support clubs in its namesake Premier League.

ANSWER: **England** [or **English** Premier League; or **EPL**: prompt on "United Kingdom" or "Wales", do not accept "Scotland"]

[10] This team's fans were responsible for the Heysel disaster, which came after they had won the European Cup four times in the previous 8 years. More recently, they have attempted to reduce violence by selling noted cannibal Luis Suarez to Barcelona.

ANSWER: **Liverpool** F.C.

[10] This East London club's notorious hooligan firm is the Bushwhackers and it used to play in The Den. This longtime rival of West Ham United's chant is "No one likes us, we don't care."

ANSWER: **Millwall** F.C.

14. This action was publicly revealed by the columnist Drew Pearson. For 10 points each:

[10] Name the common action inflicted on Charles Kuhl and Paul Bennett, two servicemen fighting in the Sicily Campaign during World War II. It resulted in Omar Bradley and not another man being named the commander of the First United States Army.

ANSWER: George Smith **Patton** Jr. **slapping** soldiers [accept obvious descriptions]

[10] Patton instead participated in Operation Fortitude, a disinformation campaign that attempted to fool the Germans from learning the truth about Operation Overlord, in which the Allied troops invaded Normandy on June 6, 1944, otherwise known by this name.

ANSWER: **D-Day**

[10] The Allied invasion of Sicily was given this canine-related codename. It culminated in Benito Mussolini being driven out of power.

ANSWER: Operation **Husky**

15. Two fat women with slitted eyes play cards in a painting in this series called *Rose and Amelie*, while another of its paintings depicts a redhead clutching a man and was originally called *Love and Pain*. For 10 points each:

[10] Name this series of paintings including *Vampire* and a depiction of his own family mourning his sister Sophie called *Death in the Sickroom*.

ANSWER: The **Frieze of Life** - A Poem About Life, Love, and Death [or **Livsfrisen**]

[10] *The Frieze of Life* was painted by this Norwegian artist of some topless *Madonnas* and *The Scream*.

ANSWER: Edvard **Munch**

[10] This other painting in the *Frieze of Life* depicts the aftermath of a tryst between a woman whose white top is still not fully buttoned and a man in black who is hunched over in the bottom left.

ANSWER: **Ashes** [or **Asken**]

16. The speaker of this poem states, “Dawn points, and another day / Prepares for heat and silence” before declaring, “I am here. Or there, or elsewhere.” For 10 points each:

[10] Name this second poem of the *Four Quartets* whose speaker repeatedly claims, “In my beginning is my end.”

ANSWER: “East Coker”

[10] This English poet wrote the *Four Quartets* and the modernist epic “The Waste Land.”

ANSWER: Thomas Stearns Eliot

[10] This final section of T. S. Eliot’s “The Waste Land” ends with the Sanskrit word for peace, *shantih*, being repeated three times. It follows “Death by Water.”

ANSWER: “What the Thunder Said”

17. Answer some questions about Young’s double-slit experiment, for 10 points each:

[10] Young’s double-slit experiment showed that these particles have wave properties, since they form an interference pattern of alternating fringes on the film.

ANSWER: photons

[10] In the far field, the angular spacing of the fringes is approximately equal to the wavelength of the light divided by this other quantity.

ANSWER: the distance between the slits [accept reasonable equivalents]

[10] In this modification of the double-slit experiment, the slit through which each photon passes is recorded, which destroys the interference pattern. Then, when the path information is destroyed, the interference pattern returns.

ANSWER: quantum eraser

18. This EU organization is the largest contributor of funds to the ITER project. For 10 points each:

[10] Name this EU organization that sells surplus energy to EU member states. Its first president was Louis Armand, who like the other two presidents before the role was abolished, was French.

ANSWER: European Atomic Energy Community [or EAEC; or Euratom]

[10] These two resources name a European “community” that created a common market for them, and whose executive powers were combined with that of the EEC and Euratom in the 1967 Merger treaty. Name either of them.

ANSWER: coal or steel

[10] Euratom was the only European Community to survive this 2009 treaty, which abolished the EEC and established the current political structure of the EU.

ANSWER: Treaty of Lisbon (amending the Treaty on European Union and the Treaty establishing the European Community) [prompt on “Reform treaty”]

19. This character works with Kamaswami to earn money while wooing Kamala, a woman who later dies from a snake bite. For 10 points each:

[10] Name this character who seeks spiritual enlightenment along with his friend Govinda.

ANSWER: Siddhartha

[10] This German author of *Siddhartha* wrote about Harry Haller in *Steppenwolf*.

ANSWER: Herman Hesse

[10] Herman Hesse also wrote this novel about a student at a monastery who becomes an artist after a Gypsy makes love to him. That student is contrasted with his teacher who becomes the head of the monastery.

ANSWER: Narcissus and Goldmund [or Death and the Lover]

20. Polystyrene sulfonates are common resins used in this procedure, which can be used to purify arginine-tagged proteins with DEAE-sepharose. For 10 points each:

[10] Name this technique which separates analytes based on Coloumbic interactions.

ANSWER: **ion-exchange** chromatography [prompt on **column** chromatography]

[10] The distance traveled by the analyte on a thin layer chromatography plate is divided by the distance travelled by the solvent to give this value, which can be described as the “speed” of an analyte through the chromatography.

ANSWER: **retention factor** [or **retardation factor**, prompt on RF]

[10] Size exclusion chromatography can be used to separate DNA by size. Another method of doing that is this technique, in which the DNA is pipetted into an agarose matrix and an electric field is applied.

ANSWER: gel **electrophoresis**

21. This character can only be killed by finding his soul, which is kept in a needle, in an egg, in a duck, in a hare, in a buried chest, on the island of Buyan. For 10 points each:

[10] Identify this jerk who captures the Zhar-ptitsa in one story and abducts Ivan Tsarevich’s wife Marya Morevna in another.

ANSWER: **Koschei** the Immortal [or **Koschei** the Deathless; or **Kashchey** the Ageless; or Tsar **Koshchiv**]

[10] To defeat Koschei, Ivan gets help from this recurring character, who flies around in a mortar carrying a pestle when she’s not in her unusual hut. Vasilisa the Beautiful is tasked with getting light from this woman.

ANSWER: **Baba Yaga** [or **Jezibaba**]

[10] Koschei the Immortal, the Firebird, and Baba Yaga are figures from the folklore of this large Slavic country. Many of its stories were collected by Alexander Afanasyev.

ANSWER: **Russian** Federation [or **Rossiia**; or **Rossiyskaya** Federatsiya]