

2014 Brookwood Invitational Scholars Bowl

Round 3

Written and edited by Mostafa Bhuiyan, Alex Liu, Joey Reifenberger, Adam Silverman, and Brady Weiler

1. **Henry Eckford moved from the US to build ships for this foreign nation. The pirate “Redbeard”, or Hayreddin Barbarossa, sailed for this nation and dominated at the Battle of Preveza. Controversially, Francis I allied with this power during the Italian Wars. The Eastern Question asked what to do about this polity. It allied with France and Britain against (\*) Russia in the Crimean War. Pius V organized a Holy League to oppose this empire, beating it back in 1571, at Lepanto. Its advance into mainland Europe was stopped at Vienna, but it dissolved after siding with the Central Powers in WWI. For 10 points, name this empire in modern-day Turkey.**  
ANSWER: Ottoman Empire [or the Ottomans; prompt on Turkey before it is read]

2. **These deities killed Agrios and Thoon with bronze maces during the Gigantomachy, and poisoned Typhon with fruit. One of these deities brought Pelops back to life. Althaea hid a magical brand after hearing a prophecy about her son Meleager given by them. Alcestis gets one of them drunk in order to (\*) resurrect Admetus. The Norns are Norse equivalents of these goddesses, who were served by the goddess of childbirth Eileithyia. They were named Clotho, Atropos, and Lachesis, who respectively spin, measure, and cut a magic thread. For 10 points, name these Greek goddesses who decide when people die.**  
ANSWER: the Fates [or the Moirai]

3. **A character created by this author constantly hears polka music in her head that always ends after a gunshot. Another of this author’s characters uses a crutch after breaking his leg while hurdling. A man who rails against the “mendacity” is ignorant that he has cancer, in that play by this author. Another of his plays ends with a bathing woman being taken away to an (\*) insane asylum after she confesses that she was evicted from Belle Reve. Mitch dumps that character when her brother-in-law, Stanley Kowalski, explains Blanche’s troubles. For 10 points, name this American author of *Cat on a Hot Tin Roof* and *A Streetcar Named Desire*.**  
ANSWER: Tennessee Williams

4. **This city’s Deera or “Chop-Chop” Square still holds public decapitations. A luxurious hotel in this city is set inside a skyscraper which has a catenary arch cut out of it, called the Kingdom Centre. This is the largest city in the Najd region, which is the birthplace of the Wahhabi movement. This city’s historical center is named for King (\*) Abdulaziz, who recaptured it in 1902 from the Rashidis; that man’s son lent his name to this city’s King Abdullah Botanical Gardens. Women in this capital city are not allowed to drive. For 10 points, name this city which is larger than Jeddah and Mecca, the capital of Saudi Arabia.**  
ANSWER: Riyadh, Saudi Arabia

5. **This quantity is dotted with del as part of a substantial derivative. The ratio between electric field and magnetic field has units of this quantity. Galilean transformations allow this quantity to be additive between reference frames. Stokes’ Law sets drag force proportional to viscosity, particle radius, and this quantity. Its linear form equals radius times angular frequency. This quantity (\*) squared over the radius equals centripetal acceleration. Multiply one half the mass by this quantity squared to get kinetic energy. For 10 points, name this time derivative of displacement, measured in meters per second.**  
ANSWER: velocity [or speed]

6. **Seeing this object for the first time prompted the comment, “Yes, wonderful things.” Bob Brier used X-rays of this object to propose the Theory of Ay. DNA studies of this object linked it to another object from KV55. After backing the project that acquired this object, Lord Carnarvon shaved over a mosquito bite and died from blood poisoning. A vulture and stylized wadjet are sculpted in gold and blue glass on a (\*) mask covering this object. The expedition to find this object took place in November 1922 and was led by Howard Carter. For 10 points, name this “cursed” object obtained from Egypt’s Valley of the Kings, a well-preserved mummy.**  
ANSWER: the mummy of King Tutankhamen [or equivalents; accept King Tut for King Tutankhamen; accept equivalents of mummy such as body or corpse or burial mask; accept the tomb of King Tutankhamen or equivalents]

7. This author coined the term “modernity” in his essay “The Painter of Modern Life.” This author wrote about a mother who wishes she’d have given birth to a nest of vipers rather than a poet in “Benediction.” This poet described a “monster” who “dreams of the gallows in the haze of his hookah” in a section which concludes, (\*) “my likeness--my brother!” This author, who first gained acclaim for his translations of Edgar Allan Poe, wrote a symbolist poetry collection with sections like “Parisian Scenes” and “Spleen and Ideal.” For 10 points, name this French poet of *Les Fleurs du Mal*.

ANSWER: Charles Baudelaire

8. A person with this job is tortured inside of a glass box in the painting *Head VI*. Raphael painted a man with this job sitting in front of a green wall, gazing pensively to the right. A bleeding nurse from the Odessa steps sequence of the film *Battleship Potemkin* was used as a model for a series of works titled for these people (\*) “screaming,” painted by Francis Bacon. Velazquez made a portrait of Juan de Pareja in preparation for painting a man with this job in 1650. A sculpture of a horned Moses lies at the tomb of a person with this job. A man with this title commissioned the *Creation of Adam*. For 10 points, name this title held by Michelangelo’s patron Julius II.

ANSWER: pope [or Pope Innocent X; or Pope Julius II; prompt on cardinal or religious leader or similar answers]

9. This compound oxidizes tyrosine in GFP’s fluorophore. This molecule exists in a triplet, not singlet state, since its valence electrons are in different pi star orbitals, making it paramagnetic. This molecule is injected into metallic ores to remove sulfur and carbon during smelting. Disproportionation of hydrogen peroxide produces water and this (\*) compound. This compound is produced at the anode when water is electrolyzed. When balancing combustion reactions, this species is usually done last. It oxidizes iron to rust. For 10 points, name this diatomic gas containing element number 8.

ANSWER: oxygen gas [or O2]

10. This organization was preceded by a similar group called “Vanguard” overseen by the Navy. T. Keith Glennan was its first leader. Roger Chaffee and Gus Grissom died while employed by this organization. James Webb led this organization when its goal was announced in a speech at Rice University by President Kennedy. The (\*) Rogers Commission looked into potential negligence committed by this organization in a 1986 accident which killed Christa McAuliffe. This agency was created after the launch of *Sputnik 1* by the Soviets. For 10 points, name this government agency which helped the US land Neil Armstrong on the Moon.

ANSWER: National Aeronautics and Space Administration [or NASA]

11. Four medallions depicting the miracles of Christ surround an image of St. Peter holding a key in a recently restored retable from this building. Pietro Torrigiano designed a baldacchino for the lady chapel at this building’s far eastern end. William Vertue designed this building’s pendant fan vault ceiling. College Garden lies at its southeast corner. The Stone of (\*) Scone was finally removed from this building in 1950. This building’s south transept contains the Poets’ Corner, where Charles Dickens is buried. A shrine to Edward the Confessor is in its nave. For 10 points, name this church in England where coronations take place.

ANSWER: Westminster Abbey [or the Westminster retable before “building” is read]

12. In a novel by this author, a man raised by the wealthy Hugo Mallinger spurns Gwendolen Harleth and chooses to marry Mirah after discovering he is Jewish. The villainous Bulstrode lends money to Rosamond and Tertius Lydgate in another novel by this author. This author created characters like Edward Casaubon and (\*) Daniel Deronda, and, in a third novel, wrote about Eppie, the adoptive daughter of the title “Weaver of Raveloe.” In her most famous work, Will Ladislaw courts his cousin’s wife, Dorothea Brooke. For 10 points, name this pseudonymous British author of *Silas Marner* and *Middlemarch*.

ANSWER: George Eliot [or Mary Ann Evans]

13. This person signed a contract with Harry Aitken's Mutual Film Company for twenty thousand dollars to allow live footage of the Battle of Ojinaga. This man's "golden" cavalry helped him win victory at Zacatecas. 16 employees of the mining company Asarco were mutilated by this leader's forces, which constituted the Division of the North. (\*) Ambrose Bierce disappeared while following around this person. The Punitive Expedition, under General Black Jack Pershing targeted this man, in retaliation for his attack on Columbus, New Mexico in 1916. For 10 points, name this Mexican Revolutionary general who often forayed into American territory.  
ANSWER: Pancho Villa [or Francisco Villa; or Jose Doroteo Arango Arambula]

14. While serving as state Solicitor General, this man defended his state's sovereignty over the ICJ in a case about the execution of Jose Medellin. In a speech, this politician compared himself to the Rebel Alliance and read the entirety of *Green Eggs and Ham*. He triumphed in a runoff against David Dewhurst to fill the seat vacated by (\*) Kay Bailey Hutchinson. This politician gave the keynote at the 2013 CPAC. This politician gave up his Canadian citizenship in May 2014. For 21 hours, he filibustered a continuing resolution on the Affordable Care Act. For 10 points, name this junior Texas senator of Cuban heritage.  
ANSWER: Rafael Edward "Ted" Cruz

15. The integral of square root quantity "a squared minus x squared" is usually solved by substituting x equals this function of u. This function is in the off-diagonal of the 2D rotation matrix. The period of a pendulum is derived by noting that, for small x, this function of x is approximately equal to x. The ambiguous case in oblique (\*) triangles arises because this function isn't one-to-one. The magnitude of the cross product is proportional to this function for the angle between the vectors. This function is odd, and represents the y-coordinate on the unit circle. Its reciprocal is cosecant. For 10 points, name this trig function equal to opposite over hypotenuse.  
ANSWER: sine [or sine]

16. In this novel's chapter "The Wood-Sawyer", a crowd dances the Carmagnole in the streets. A character in this novel requires four strong men to help him eat chocolate, but then gets mysteriously stabbed in bed. This novel's female antagonist, an obsessive knitter, is shot by her own gun fighting Miss Pross. Mental distress forces an ex-prisoner in this novel to make (\*) shoes. A character in this novel ponders a "far, far better rest" after agreeing to swap places at an execution with his lookalike, aristocrat Charles Darnay. For 10 points, the Defarges, Sydney Carton, and Lucie Manette are characters in which Charles Dickens novel set in London and Paris?  
ANSWER: A Tale of Two Cities

17. Nicolas Chedeveré's "The Faithful Shepherd" was once misattributed as this composer's final work, "Opus 13". This composer rose to prominence with his works *The Extravagance* and *Harmonic Inspiration*. In a movement by this composer titled "Largo e pianissimo sempre," very loud and abrupt notes played by the violas represent a barking dog. That work is found in *The* (\*) *Contest Between Harmony and Invention*. This composer composed a set of violin concerti including "L'inverno" and "La primavera." For 10 points, name this "Red Priest," the Italian composer of *The Four Seasons*.  
ANSWER: Antonio Vivaldi

18. The rate of a device used in this technique is measured in RCF. The buffy coat is only visible after this procedure is done. The two subunits of a ribosome are named for how they respond to this technique. The Meselson-Stahl experiment used a density gradient of cesium chloride for this procedure. This technique produces a supernatant and a (\*) pellet. This process separates nuclei and other organelles from cell debris, and commonly, it's used to fractionate blood. For 10 points, name this procedure in which cellular material is spun down with a namesake outward-directed pseudoforce, really really fast.  
ANSWER: centrifugation [or word forms; or ultracentrifugation]

19. The Dolaucaethi mines supplied gold to Rome from this territory. Aulus Plautius led a conquest of this island. Vespasian's military fame originated from his command of the Augusta legate during the conquest of this landmass. Agricola was a governor of this territory. The Brigantes and the Iceni lived on this island. During (\*) Caligula's invasion of this island, he allegedly ordered the army to gather seashells. Boudica revolted against Rome from this island. Hadrian's Wall was constructed on this landmass. For 10 points, name this territory which includes modern-day Scotland and England.

ANSWER: Roman Britain [or Great Britain; or Britannia; don't accept or prompt on "England" or "Scotland" or other similar answers which are not islands]

20. In the surah An-Naml, a female ant orders the rest of the ants to burrow underground for fear of being stepped on by this man. This person wrote the line, "Let him kiss me with the kisses of his mouth." In Islam, jinn became servants to this man, since he owned a magical ring with a pentagram on it. He settled a maternal dispute by ordering a (\*) baby be torn in half. Menelik I was legendarily the descendant of this man and the Queen of Sheba. He had 700 wives and 300 concubines. For 10 points, name this author of the books of *Proverbs* and *Song of Songs*, a son of King David renowned for his wisdom.

ANSWER: King Solomon [or Suleyman; or Schlomo]

TB: The speaker of a poem by this author envies the "blameless vestal's lot! / The world forgetting, by the world forgot" and uses the phrase "Eternal sunshine of the spotless mind". In another of his poems, a character travels to the Cave of Spleen in order to obtain a bag and a vial from a Goddess. That work ends with the Muse noticing that the title (\*) object has become a star. He wrote the lines, "Hope springs eternal" and, "Fools rush in where Angels fear to tread," in his *Essays on Criticism* and on *Man*. For 10 points, name this poet of *The Dunciad* who wrote about the Baron's theft of Belinda's hair in *The Rape of the Lock*.

ANSWER: Alexander Pope

1. The court jester hypothesis supposes that these factors influence evolution. For 10 points each:

[10] Give this term for ecological factors like light, water, and soil quality.

ANSWER: abiotic factors [prompt on nonliving]

[10] The court jester hypothesis contrasts with this other hypothesis, which theorizes that evolution occurs in an “arms race” so that, if one organism acquires a beneficial adaptation, its competitors must adapt to survive.

ANSWER: Red Queen hypothesis

[10] Ecosystems consist of all the abiotic factors combined with this concept, which consists of all the living organisms in an area. It consists of multiple populations.

ANSWER: community

2. Answer the following about avian cruelty in European literature, for 10 points each:

[10] This British Romantic Lake Poet wrote about the consequences of killing an albatross in his poem “The Rime of the Ancient Mariner.” He also wrote “Kubla Khan.”

ANSWER: Samuel Taylor Coleridge

[10] Jean, a particularly educated but snarky valet, cuts off the head of a canary with a razor in this playwright’s drama *Miss Julie*.

ANSWER: August Strindberg

[10] This character dreams that his lover’s songbird has died, so he throws it onto the street; in reality, his lover eventually just releases the bird. This character eventually learns that time is an illusion while living by the river.

ANSWER: Siddhartha [do not accept or prompt on “Gautama” or the “Buddha”]

3. The most famous of these sculptures has four lions standing back-to-back and is found at Sarnath. For 10 points each:

[10] Name this set of sculptures which are inscribed with edicts discussing dhamma.

ANSWER: pillars of Ashoka

[10] Ashoka ordered the construction of the pillars after he converted to this religion. Like Christianity and Islam, proselytizing merchants spread this religion along the Silk Road.

ANSWER: Buddhism [or word forms; or Mahayana Buddhism or Theravada Buddhism]

[10] Ashoka was the emperor of this Indian empire which preceded the Gupta. It was founded by the Chandragupta who doesn’t have a space in his name.

ANSWER: Mauryan Empire

4. Abel Tasman was the first European to spot this island country. For 10 points each:

[10] Name this country where the native Maori resisted British rule.

ANSWER: New Zealand

[10] This New Zealand scientist discovered the nucleus during an experiment in which he fired alpha particles into a gold foil, and the particles rebounded at oblique angles into a ring of zinc sulfide.

ANSWER: Ernest Rutherford

[10] This Kiwi author wrote a story about Laura Sheridan, who is overwhelmed with guilt about her dead impoverished neighbor while she’s celebrating at a garish garden party.

ANSWER: Katherine Mansfield Beauchamp Murry

5. This artist allegorically represented the inevitable fall of the Third Reich in his painting *Basket of Bread--Rather Death Than Shame*. For 10 points each:

[10] Name this artist who painted a “premonition of Civil War” containing two monsters apparently wrestling each other, both covered with boiled beans. After WWII, he entered a “nuclear mysticism” phase.

ANSWER: Salvador Dali

[10] Dali’s obsession with quantum physics is exemplified by a 1954 “Disintegration” he made of this earlier 1931 painting. This surrealist masterpiece contains lots of melting clocks.

ANSWER: *The Persistence of Memory* [or *La persistencia de la memoria*]

[10] After WWII, Dali also painted a version of this person at Port Lligat. Dali painted an ear and hundreds of gray dots on top of Raphael’s painting of this person, which was made for a church in San Sisto.

ANSWER: Madonna [or Mary; or the Virgin Mary; or obvious equivalents]

6. In *(500) Days of Summer*, hearing a song performed by this man on a bus causes Joseph Gordon-Levitt's character to scream "I HATE THIS SONG," leading to him being kicked off the bus. For 10 points each:  
[10] Name this singer of the power ballad "She's Like the Wind," which he performed for the soundtrack of the 1987 movie he starred in, *Dirty Dancing*. This actor melted hearts with his portrayal of Sam in the 1990 film *Ghost*.

ANSWER: Patrick Swayze

[10] In *Dirty Dancing*, Swayze's character Johnny delivers this iconic line, referring to where Frances Houseman is being forced to sit at a talent show, before taking her on stage to dance to "(I've Had) The Time of My Life."

ANSWER: "Nobody puts Baby in a corner" [accept no other answers, it must be the exact quote]

[10] Swayze played Jed Eckert in this movie in which Colorado high schoolers repel a Soviet invasion. In this movie, remade in 2012 with Chris Hemsworth, C. Thomas Howell yells "Wolverines!" after the kids' victory.

ANSWER: Red Dawn

7. By de Morgan's rules, the negation of this operator applied to two conditions called A and B is equivalent to not A OR not B. For 10 points each:

[10] Name this bitwise operation which only returns true if both inputs are true. It's often contrasted with OR.

ANSWER: AND [or logical conjunction]

[10] In Java and MATLAB, using a double ampersand to represent AND will result in this process, where, if the first condition is false, the statement returns false without even evaluating the other condition.

ANSWER: short-circuit evaluation [or short-circuiting]

[10] Conditionals are always implemented to determine how many times this type of loop runs. Unlike for loops, these loops don't have explicit loop variables.

ANSWER: while loops

8. A stuttering character in this novel converts to Jainism and lives in a shack after she sets a bomb at a post office to protest the Vietnam War. For 10 points each:

[10] Name this novel whose protagonist, known as "the Swede", inherits a glove factory fortune, marries a former Miss New Jersey, and as such has a completely terrible life.

ANSWER: American Pastoral

[10] *American Pastoral* was written by this contemporary American author who is continuously shortlisted for a Nobel Prize on the strength of his other novels like *Portnoy's Complaint*.

ANSWER: Philip Roth

[10] Roth borrowed the title for his novel *Operation Shylock* from a Jewish character in this Shakespeare play. Shylock demands a pound of flesh from Antonio, the title character of this play.

ANSWER: *The* Merchant of Venice

9. The Queen of England technically still holds this title in the Channel Islands. For 10 points each:

[10] Name this title held by Robert Curthose, and his father, William I, when he invaded England. Holders of this title were leaders of a land in northern France.

ANSWER: duke of Normandy [prompt on partial answer]

[10] William gained control of England with his victory at this 1066 battle over Harold Godwinson.

ANSWER: Battle of Hastings

[10] A question over Norman succession led to this chaotic 20-year period in the twelfth century, after Henry I and his only living son died and his daughter Matilda contested the throne with Stephen of Blois.

ANSWER: the Anarchy

10. This school believed in a *tabula rasa*, the idea that human minds are empty of ideas at birth. For 10 points each:

[10] Name this school of philosophy which believed that all knowledge derives from experience and scientific experimentation.

ANSWER: empiricism [or word forms]

[10] Perhaps the best-known adherent of empiricism was this Englishman who wrote *An Essay Concerning Human Understanding* and also spurred the Founding Fathers' belief in natural rights with his *Two Treatises of Government*.

ANSWER: John Locke

[10] Empiricism in the 18th century was opposed to this other school of thought, which believed that deductive logic was innate and could be used to prove universal truths. Its best-known adherent was Rene Descartes.

ANSWER: **rationalism**

11. This poem's speaker says that, "I thought that love would last forever: I was wrong." For 10 points each:

[10] Name this poem which ends, "Pour away the ocean and sweep up the wood, For nothing now can come to any good." Among the commands in this poem is to, "Prevent the dog from barking with a juicy bone."

ANSWER: "**Funeral Blues**" [or "**Stop all the clocks**"]

[10] This English poet wrote "Funeral Blues" and "September 1, 1939." He collaborated on *The Dog Beneath the Skin* with his possible lover Christopher Isherwood.

ANSWER: Wystan Hugh (WH) **Auden**

[10] Auden wrote "September 1, 1939" in October 1939, a month after this war had broken out. The end of this war is the subject of John Hersey's book *Hiroshima*.

ANSWER: **World War II** [or **WWII**]

12. Electric field is measured in this unit divided by a Coulomb. For 10 points each:

[10] Name this unit equal to one kilogram times a meter per second squared. It measures force.

ANSWER: **newton**

[10] A newton-meter is equal to a joule, but it's also used to measure this non-energy quantity. In static equilibrium, both the net force and the net amount of this quantity on a rigid body must be zero.

ANSWER: **torque** [or **moment of force**; prompt on **moment**]

[10] A dipole in an electric field has a torque equal to the cross product of this quantity with the electric field. This quantity has units of Coulomb-meters, and it's a vector pointing from the negative charge to the positive charge.

ANSWER: electric **dipole moment** [prompt on partial answer]

13. This composer was not fond of his most famous piece, believing it to be "very loud and noisy." For 10 points each:

[10] Name this Russian composer of *Serenade for Strings*. He showcased his national pride in a piece celebrating the Russian victory at the Battle of Borodino, the *1812 Overture*.

ANSWER: Pyotr Ilyich **Tchaikovsky** [or Peter **Tchaikovsky**]

[10] Also drawing from the hymn "God Save the Tsar," this piece is often performed with the *1812 Overture*.

Tchaikovsky wrote this piece for a benefit concert in support of Serbia's efforts in the Serbo-Turkish War.

ANSWER: **Marche Slave** (pronounced like "Slav" and not like "slave") [or **Slavonic March**; or **Serbo-Russian March**]

[10] Tchaikovsky's first work in this form is set in B minor and opens with a flourish by the French horn before the solo instrument enters. Other works in this form include 4 written by composer and virtuoso Sergei Rachmaninoff.

ANSWER: **piano concerto** [prompt on "concerto"]

14. Ulysses Grant's decision to demonetize this substance was referred to as the "Crime of '73." For 10 points each:

[10] Name this material which was commonly coined by the US Treasury in the late 1800s before being passed up for the "gold standard." William Jennings Bryan ran in the 1896 election on a "Free [this]" campaign.

ANSWER: **silver**

[10] In the 1850s, it was discovered that Mount Davidson in Nevada held this first major source of silver ore in the United States. The "silver rush" which ensued mirrored the "gold rush" in California ten years prior.

ANSWER: **Comstock** Lode

[10] The laws behind the "Crime of '73" was overturned by this 1878 bipartisan act named for a Missouri Congressman and a Iowa Senator. It was itself repealed and replaced with the 1890 Sherman Silver Purchase Act.

ANSWER: **Bland-Allison** Act

15. Alibaba announced that it would purchase a large stake in this company for 500 million dollars in 2013. For 10 points each:

[10] Name this Chinese internet site launched by the Sina corporation which is often considered China's version of Twitter.

ANSWER: Sina **Weibo**

[10] Literally, “weibo” translates to English as this kind of blogging. Many people in China resort to this practice to avoid censorship.

ANSWER: **microblogging**

[10] Censorship in China is mostly directed by this party, the only one which is allowed any sort of political power. This party convenes a National Congress every five years.

ANSWER: **Communist** Party of China [or the **CPC**]

16. Answer the following about good advice in American literature, for 10 points each:

[10] In a famous line, this character tells his daughter Scout that, “You never really understand a person until you consider things from his point of view...Until you climb inside of his skin and walk around in it.”

ANSWER: **Atticus** Finch [prompt on **Finch**]

[10] In the opening paragraph of the novel, this character remembers his father telling him, “Whenever you feel like criticizing anyone, just remember that all the people in this world haven’t had the advantages that you’ve had.”

ANSWER: **Nick** Carraway [or Nick **Carraway**]

[10] Seeing Curly’s death, Buck learns the Law of Club and Fang and decides to never, ever lose his footing in a fight, in this author’s novel *The Call of the Wild*.

ANSWER: Jack **London**

17. The *proa* used the crab-claw type of these objects. For 10 points each:

[10] Name these objects. In late medieval Arabia, feluccas and dhows used the lateen type of these objects.

ANSWER: **sails**

[10] This language of Eastern Africa developed as a result of the Indian Ocean trade in hubs like Zanzibar and Mombasa.

ANSWER: **Swahili**

[10] This southern Indian city gained a reputation as the center of the spice trade during European colonization; it also was a major cotton producer. da Gama landed near this Indian city in 1498.

ANSWER: **Calicut** [or **Kozhikode**; do not accept or prompt on “Calcutta or “Kolkata”]

18. This quantity equals the molarity of protons times the molarity of conjugate base over the molarity of the weak acid. For 10 points each:

[10] Name this equilibrium constant which increases as the strength of an acid increases.

ANSWER: **acid dissociation** constant [or **K-a** or **K-sub-a**; prompt on **acidity** constant or **acid** constant]

[10] This type of acid has a dissociation constant that approaches infinity, because all of the acid dissociates in aqueous solution. Nitric and hydrochloric acid are examples of common ones.

ANSWER: **strong** acids

[10] Nitric acid’s dissociation constant would actually theoretically be less than this acid’s, since it has a higher pKa. This is the strongest acid which can exist in water, according to the leveling effect.

ANSWER: **hydronium** ion [or **H3O+**]

19. *The Four Sea Interludes* are a compositional suite derived from this opera’s music. For 10 points each:

[10] Name this 1945 opera about an old fisherman who gets blamed for the death of his second apprentice John, after being cleared of charges of killing his first apprentice.

ANSWER: **Peter Grimes**

[10] *Peter Grimes* was composed by this Englishman who also wrote operas based on boring novels like *The Turn of the Screw* and *Billy Budd*. He wrote *The Young Person’s Guide to the Orchestra*.

ANSWER: Benjamin **Britten**

[10] Britten included “The Lumberjacks’ Chorus” in an operetta about this American folk hero. This tall tale legend is an offstage voice only, and there is regrettably no singing part for Babe the Blue Ox.

ANSWER: Paul **Bunyan**

20. This deity held up the town of Vrindavhana to protect it from a storm and killed Putana by suckling at her breasts and sapping all the life out of her. For 10 points each:

[10] Name this god often depicted as a young boy with black skin. In a famous passage from the *Mahabhrata*, he advocates the Nishkam Karma to Arjuna.

ANSWER: **Krishna** [prompt on, but do not mention the name of, **Vishnu**]



[10] Krishna is the eighth avatar of this Hindu preserver god.

ANSWER: Vishnu

[10] In one myth, Krishna and his brother Balarama were conceived when Vishnu implanted one of these objects in Devaki's womb. In Greek myth, Nisus owned one of these objects which was purple and protected him from harm.

ANSWER: a lock of hair [or a strand of hair; or equivalents]