



HSAPQ

High School Academic Pyramid Questions

Fall 2008
ACF-Format Set #2

Round 14

Tossups

1. These entities were proven to exist in their namesake's "pulse chase" experiment. Their creation depends on specialized flap endonucleases and RNase H (R-N-aze H), which remove a primer and pave the way for DNA polymerase ω . These occur in the five-prime to three-prime direction on the lagging strand, and are linked by DNA ligase. For 10 points, name these short segments of DNA created during DNA replication, named for a Japanese scientist.

ANSWER: **Okazaki fragments** [prompt on partial answer]

2. This woman's son Parthenopeus was killed by Periclymenus in the Seven Against Thebes campaign. She was injured at Colchis and healed by Medea, and she was transformed into a lion after making love in one of Zeus's temples. After one feat, she was insulted by Iphicles and Eurypylos and was the subject of Toxeus and Plexippus' fury, but all four were killed by Meleager. Enthralled by golden apples, she lost a footrace to Hippomenes, who courted her. For 10 points, name this Greek huntress who drew the first blood of the Calydonian Boar.

ANSWER: **Atalanta**

3. One member of this ethnicity heads to Dr. Albert's house to escape punishment for spying for Germany in "The Garden of Forking Paths." Mack bargains with a member of this ethnicity, who owns the grocery store in *Cannery Row*. One work featuring members of this ethnicity discusses the career of Brave Orchid, while another begins as a girl fills a vacancy at the mah-jongg table. The focus of the novels *The Woman Warrior* and *The Joy Luck Club*, for 10 points, name this ethnicity shared by the characters in *The Romance of the Three Kingdoms*.

ANSWER: **Chinese** [or equivalents]

4. He wrote the *Consecration of the House Overture* for the reopening of the Theater in der Josefstadt. He wrote the paired overtures *King Steven* and *The Ruins of Athens*, and the third symphony by this composer innovatively contains a funeral march as its second movement. His last symphony features a fourth movement based on a Friedrich Schiller work. For 10 points, name this composer of nine symphonies, the third of which is nicknamed "Eroica," and the last of which contains the "Ode to Joy."

ANSWER: Ludvig van **Beethoven**

5. The victorious side in this battle evaded the fleet of the Viscount Lovell and landed at Milford Haven en route to Leicester. The only notable loss for the winning side in this battle was the standard bearer William Brandon, and John Howard died in the initial skirmish. Lord Stanley and Henry Percy failed to aid the losing side here, and the victor of this battle was Henry Tudor, who went on to become Henry VII. For 10 points, name this battle of the Wars of the Roses in which Richard III met his end.

ANSWER: **Bosworth Field**

6. Julian Barnes wrote a novel named for this man's parrot. In one of this author's novels, Matho is tortured and executed after sleeping with the daughter of Hamilcar Barca. In another, Charles Deslauriers attempts to seduce Madame Arnaux away from Frédéric Moreau. In addition to *Salammbô* and *A Sentimental Education*, this author wrote a novel about a woman who has an affair with Leon Dupuis in Yonville after marrying a doctor named Charles. For 10 points, name this nineteenth-century French author of *Madame Bovary*.

ANSWER: Gustave **Flaubert**

7. One of this man's works contains a "Lament" that begins "let me die." In addition to *L'Arianna*, this composer wrote an opera in which Penelope sings "De misera regina," *The Return of Ulysses to his Country*. Ottone is a character in another of his works, which features Seneca singing "Solitudine amata," while in another of his operas, the title character sings the "rose of heaven" aria after marrying Eurydice. For 10 points, name this composer of *The Coronation of Poppea* and *Orfeo*.

ANSWER: Claudio Giovanni Antonio **Monteverdi**

8. It was instigated by the government's decision to give preferential treatment to Keokuk, a man who provided warning to a United States agent at Rock Island. Governor John Reynolds's call to the state militia was followed by the dispatch of federal troops, and the man most associated with it wrote the *Life of Ma-ka-tai-me-she-kia-kiak*. That man was ultimately sent to Fortress Monroe as a prisoner. The main battle in this war was the massacre at the Bad Axe River. For 10 points, name this 1832 conflict in which the U.S. fought the namesake Sauk and Fox Indian leader in Illinois.

ANSWER: **Black Hawk's War**

9. A clerk in this book, Mr. Guest, reveals the similarity between the handwriting of two characters. It begins with Mr. Enfield recounting an incident about a man who ran over a young girl. In this novella, Dr. Lanyon dies of shock after seeing one of the title characters, who kills Sir Danvers Carew. In its final sections, Mr. Utterson reads a letter from the first title character describing how he needed increasingly larger doses of a potion to transform back to his old self. For 10 points, name this novella about a scientist with a split personality, by Robert Louis Stevenson.

ANSWER: *The Strange Case of* **Dr. Jekyll and Mr. Hyde**

10. This man was an executive producer on the two *Goldie and the Boxer* TV movies, in which he also played the title heavyweight champion, and he also portrayed building manager Harry Jernigan in *The Towering Inferno* and Frank Drebin's colleague Nordberg in three *Naked Gun* movies. He may be better known for events that occurred in the Brentwood neighborhood in 1994, followed by a low-speed chase, and for a 2007 incident at the Palace Station in Las Vegas. For 10 points, name this former USC and Buffalo Bills star, convicted of robbery in 2008.

ANSWER: Orenthal James **Simpson**

11. The proportionality between the rate of transport of a component in this type of system and that component's gradient rate of transport is given by the austausch coefficient. During this process, the velocity difference is proportional to the distance to the one-third power, according to Kolmogorov. The statistical explanations for it arise because the solutions to the Navier-Stokes equations are unstable past a certain point, generally above a Reynolds number of four thousand. For 10 points, name this chaotic flow, contrasted with laminar flow.

ANSWER: **turbulent** flow [or **turbulence**]

12. One fleeting character in this work is an old man from Pola whose dentures fall out as he yells “To the darling, the sweet darling!” The protagonist of this work wrote the work *The Wretched Man* and a prose epic about Frederick the Great. That protagonist is sickened by the smell of disinfectant and later becomes sick when he eats some bad strawberries. The title event occurs when the protagonist is observing the Polish boy he loves, Tazio. For 10 points, name this novel about Gustav van Aschenbach’s demise in an Italian city.

ANSWER: *Death in Venice* [or *Der Tod in Venedig*]

13. The argument of pericenter figures in the Kozai mechanism, which explains why this entity is protected from encounters with a certain other body. Deviation in its temperature are explained by the anti-greenhouse effect. Albedos of 0.04 to 0.35 are assumed for two of its satellites, Nix and Hydra. A short-term reduction in gravity was jokingly attributed to Jupiter and this entity, which is the largest distinct object in the scattered disc subregion of the Kuiper belt. Discovered by Clyde Tombaugh, for 10 points, name this dwarf planet that was reclassified in 2006.

ANSWER: Pluto

14. He negotiated the Convention of Gastein after a brief war with Denmark that was partially used to gain support for an army bill. He negotiated the “Three Emperor’s League” with Austria and Russia, and called a conference to rework the treaty of San Stefano, reducing Russia’s influence in Bulgaria. He contested with the Church in the “Kulturkampf,” and tailored a message that resulted in a war concluding with the battle of Sedan, the Ems dispatch. For 10 points, name this man who called Congresses and Conferences in Berlin as imperial chancellor of Germany.

ANSWER: Otto von Bismarck [or Otto Eduard Leopold, Fürst von Bismarck, Graf von Bismarck-Schonhausen, Herzog von Lauenburg]

15. In one work by this artist, a cat looks up from the floor and several enormous bats and owls flit around a man with his head on a desk. In addition to *The Sleep of Reason Produces Monsters*, he showed men dueling with cudgels and Saturn devouring his children in his series of “black paintings.” He created two companion pieces of a woman with her arms behind her head, the *Clothed Maja* and the *Naked Maja*, as well as a painting of faceless Napoleonic soldiers killing Spanish patriots. For 10 points, name this creator of *The Third of May, 1808*.

ANSWER: Francisco José de Goya y Lucientes

16. In one story by this man, Bob Doran is forced to marry Polly by the manipulative Mrs. Mooney, and in another Jimmy Doyle loses money gambling with his foreign friends. In another story by him, the young unnamed title character mourns the death of Father Flynn, and another story by this author sees the narrator go to the title fair to buy a gift. His most famous story concerns Gabriel Conroy’s epiphany that he knows little of his wife. For 10 points, name this author of “The Boarding House,” “After the Race,” “Araby,” and “The Dead,” who wrote these stories in his collection *Dubliners*.

ANSWER: James Augustine Aloysius Joyce

17. This ruler's reign saw terrorist actions led by Evno Azef, including the murders of Interior Ministers Sipyagin and Plehve. His other ministers included Sergi Witte and Peter Stolypin, and he passed the Fundamental Laws and offered human rights in the October Manifesto. He exchanged a series of telegrams with his cousin Wilhelm II, attempting to avoid World War I, and he lost Manchuria in the Russo-Japanese War. For 10 points, name this tsar deposed in the October Revolution, the last Russian monarch.

ANSWER: **Nicholas II** [or **Nikolay II**; or **Nikolay Aleksandrovich** Romanov; prompt on **Nicholas**; prompt on **Nikolay**]

18. The Espinaco Mountains lie in this country's east, and the Mantiqueira Mountains lie to its southeast. The Fernando de Noronha archipelago lies off its coast, and the Iguazu River also originates in this country, whose Guapore River forms its border with Bolivia. It is also home to Manaus, which is located at the confluence of Rio Negro with a larger river, as well as a capital designed by Oscar Niemeyer. For 10 points, identify this Portuguese-speaking country, home to Sao Paulo and Rio di Janeiro.

ANSWER: Federative Republic of **Brazil** [or Republica Federativa do **Brasil**]

19. In early medieval times, a namesake "consonant shift" affected the "high" form of this language, and an "eastern" subgroup of its namesake branch included only the extinct tongue Gothic. It is an official language, and the most widely spoken tongue, in a country whose other official languages are Italian, French, and Romansch, namely Switzerland. For 10 points, name this language which predominates in Liechtenstein and Austria, as well as a namesake country which was reunified in 1990 following the fall of the Berlin Wall.

ANSWER: **German** [or **Germanic**]

20. One-act operas by this man include *Sister Angelica* and the one that contains the aria "O mio babbino caro," entitled *Gianni Schicchi*. At the end of one of his operas, an ex-bandit named Dick Johnson starts a new life with the titular *Girl of the Golden West*. He wrote an opera that features "Vissi d'arte," and ends with Baron Scarpia executing Mario Cavaradossi. In another opera by this man, the Japanese woman Cio-Cio-San falls in love with a man in the U.S. Navy named Pinkerton. For 10 points, name this Italian composer of *Tosca* and *Madame Butterfly*.

ANSWER: Giacomo **Puccini**

21. Bardet-Biedl syndrome has been linked to a mutation in these, which are also defective in renal tube cells in PKD and in Senior-Loken syndrome. These structures contain well-spaced nexin links and inwardly-facing radial spokes, and are somehow found in cycads of all plants. A mechanism known as IFT is essential in moving its constituent proteins, which includes MAPs and dyneins. Assisting the ovum in reaching the uterus for implantation, it is built from tubulin. For 10 points, name these tail-like projections containing a basal body, which are not flagella.

ANSWER: **cilia**

22. This quantity is invariant for a gas travelling across a shock wave. For an isobaric process, the change in this quantity is directly proportional to the specific heat, and it can also be defined as internal energy plus pressure times volume. The quantity of this type associated with lattices is the amount of energy required to convert solid atoms into gaseous ions. For a given reaction it must be constant, regardless of the pathway, according to Hess's law. Gibbs free energy is a function of temperature, entropy, and this quantity. For 10 points, identify this state function.

ANSWER: **enthalpy** [prompt on **H**; prompt on **heat content**]



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Bonuses

1. It argues that since God is perfect, and existence is surely more perfect than non-existence, God must exist. For 10 points each:

[10] Name this argument for the existence of God, which has been argued for by such philosophers as Avicenna and Gottfried Wilhelm von Leibniz.

ANSWER: ontological argument

[10] The formulation of the ontological argument is usually attributed to the *Proslogion* of this man, Archbishop of Canterbury from 1093 to 1109.

ANSWER: Saint Anselm of Canterbury

[10] The ontological argument was used by this French philosopher in his *Meditations on First Philosophy*. His *Discourse on Method* contains the “cogito, ergo sum” argument.

ANSWER: René Descartes

2. This meeting was hosted by James DeLancey, and it failed to cement the loyalty of the Iroquois Confederacy. For 10 points each:

[10] Name this congress where Benjamin Franklin proposed a plan that would have made a unified American government that was rejected by George II.

ANSWER: Albany Congress

[10] This city was later host to the Second Continental Congress during the creation of the Declaration of Independence, before the Congress moved to Baltimore and Lancaster.

ANSWER: Philadelphia

[10] This battle was a result of William Howe’s plan for a Tory uprising in Philadelphia. The Americans lost the skirmish at Chadds Ford, but it failed to destroy Washington’s forces.

ANSWER: Battle of Brandywine

3. His plays include *Feast in Time of Plague*. For 10 points each:

[10] Name this Russian author who used sonnets consisting of feminine and masculine end rhymes in his verse novel *Yevgeny Onegin*.

ANSWER: Alexander Pushkin

[10] This German poet wrote a sequence of *Sonnets to Orpheus*, as well as a group of poems rife with images of angels, *The Duino Elegies*.

ANSWER: Rainer Maria Rilke

[10] This author wrote an epic poem about the Battle of Zama, *Africa*. His collection *Rime* includes his numerous sonnets to Laura.

ANSWER: Francesco Petrarch

4. Paul Dirac predicted this as a "hole" of negative energy. For 10 points each:

[10] Name this material that is the opposite of the observable material in the universe.

ANSWER: **antimatter**

[10] Antimatter is theorized to undergo this process with regular matter, whereby both the matter and antimatter cease to exist.

ANSWER: **annihilation**

[10] The first research facility to produce antimatter was this one, which produced antihydrogen in 1995. It is located in the suburbs of Geneva, Switzerland.

ANSWER: **CERN** [or **European Organization for Nuclear Research**]

5. It can be stated as "the wavefunction for a system of electrons must be antisymmetric" with respect to the position of the particles. For 10 points each:

[10] Identify this statement, which states that no two fermions can have the same set of quantum numbers.

ANSWER: **Pauli exclusion** principle

[10] This statement, German for "building up" states that electrons will occupy the lowest energy orbital before occupying the higher energy orbitals.

ANSWER: **aufbau** principle

[10] One exception to the aufbau principle is this element, which has a 4s1 3d10 instead of the predicted 4s2 3d9 arrangement.

ANSWER: **copper** [or **cuprum**; or **Cu**]

6. Identify these works by the author of the fairy tale *The Happy Prince*, Oscar Wilde, for 10 points each.

[10] Wilde wrote this novel about the title object, which was painted by Basil Hallward. It ages instead of the title character of this novel, who remains young until he stabs it.

ANSWER: *The **Picture of Dorian Gray***

[10] Wilde also wrote a play about this biblical character, the daughter of Herod who asked for the head of John the Baptist.

ANSWER: **Salome**

[10] Oscar Wilde wrote this play about the title character, who wishes to leave her husband for Lord Darlington. Her husband loves Mrs. Earlynne, who is the title character's mother.

ANSWER: **Lady Windemere's Fan**

7. They contain a microvillus as well as a gustatory cell. For 10 points each:

[10] Identify these structures found in the fungiform and vallate papillae.

ANSWER: **taste buds**

[10] Taste buds are located on the surface of this organ, which is connected to the mouth with the membrane called frenulum.

ANSWER: **tongue**

[10] This enzyme found in saliva helps in the digestion of starch into simpler sugars.

ANSWER: **amylase**

8. Name these twentieth-century psychologists, for 10 points each.

[10] This man put self-actualization at the top of his hierarchy of needs.

ANSWER: Abraham Harold **Maslow**

[10] This psychologist coined the phrase “identity crisis” and posited an eight stage theory of development.

ANSWER: Erik Homburger **Erikson**

[10] This author of *Neurosis and Human Growth* countered Freud with her concept of womb envy.

ANSWER: Karen **Horney**

9. The protagonist visits the flying island of Laputa, where brilliant scientists discovered the two moons of Mars. For 10 points each:

[10] Name this work whose protagonist also visits Brobdingnag.

ANSWER: **Gulliver’s Travels**

[10] This Irish author who satirically suggesting eating babies wrote *Gulliver’s Travels*.

ANSWER: Jonathan **Swift**

[10] During his fourth voyage, Gulliver discovers these unsavory human-like creatures, who are ruled over by the horse-like Houyhnhnms (wih-nims).

ANSWER: **Yahoos**

10. He had to flee Italy after originally fighting for Charles Albert of Piedmont, and his followers were known as the Redshirts. For 10 points each:

[10] Name this Italian freedom fighter, a leader of the Risorgimento who conquered Sicily with his “thousand.”

ANSWER: Giuseppe **Garibaldi**

[10] Garibaldi proclaimed himself dictator of Sicily in the name of this Piedmontese monarch, the son of Charles Albert, who would become the first king of a unified Italy.

ANSWER: **Victor Emmanuel II** [or **Vittorio Emanuele II**; prompt on **Victor Emmanuel**]

[10] While in exile from Italy, Garibaldi was active in this South American country’s civil war, fought between the Colorado and Blanco factions.

ANSWER: **Uruguay**

11. For 10 points each, name these Egyptian gods.

[10] This ancient god of the midday sun was sometimes conflated with Amun.

ANSWER: **Ra**

[10] This god of the afterlife was chopped up by his brother Seth and reassembled by Isis.

ANSWER: **Osiris**

[10] Formerly a destructive force known as Sekhmet, this god was pacified by beer and took her present cow-like form.

ANSWER: **Hathor**

12. Identify the following about current events from South America, for 10 points each:

[10] In June 2008, the United Nations said that the cultivation of this plant increased by sixteen percent, with notable gains in Colombia. It produces a precursor to a potent drug.

ANSWER: coca [or *Erythroxylum coca*]

[10] This man has denounced efforts to eradicate coca production. More recently, he has had to deal with the Tarija province seeking autonomy in his current role as President of Bolivia.

ANSWER: Juan Evo Morales

[10] Citizens of this country led by Rafael Correa have largely supported a new Constitution which places restrictions on oil and mining. It uses the U. S. dollar as its currency.

ANSWER: Republic of Ecuador

13. One symphony of this number is Mendelssohn's "Reformation" symphony. For 10 points each:

[10] Give this number that also describes Tchaikovsky's second-to-last symphony.

ANSWER: 5 [or Fifth symphony]

[10] This man's fifth symphony begins with the famous short-short-short-LONG phrase, and was written at roughly the same time as his sixth, "Pastoral" symphony.

ANSWER: Ludwig von Beethoven

[10] This man's fifth symphony has been called "an artistic reply to just criticism" by Stalin of his fourth symphony and his opera *Lady Macbeth of Mtsensk District*.

ANSWER: Dmitri Dmitriyevich Shostakovich

14. Its victims were the imperial regents William Slavata and Jaroslav Martinic, and their secretary Fabricius. For 10 points each:

[10] Name this 1618 event in Bohemia that occurred at Hradcany Castle and helped spark the Thirty Years' War.

ANSWER: Defenestration of Prague

[10] Following the Defenestration of Prague, the diet of Bohemia deposed this King of Bohemia and replaced him with Frederick V of the Palatinate, which led to the beginning of the war.

ANSWER: Ferdinand II [prompt on Ferdinand]

[10] Ferdinand II employed this Catholic general to suppress his German opponents. This victor at Nordlingen who was murdered by Walter Devereux.

ANSWER: Albrecht von Wallenstein [or Albert of Wallenstein]

15. This mountain gives its name to a river that enters the Pacific north of Vina del Mar. For 10 points each:

[10] Name this volcano of the southern Andes, found partially in Chile, the tallest mountain in the Americas.

ANSWER: Mount Aconcagua

[10] Mount Aconcagua is mostly found in this country that is also home to the Pampas and the scrub plateau of Patagonia.

ANSWER: Argentina

[10] Its cone is interrupted by the Cabeza del Inca, and it is found in the Cordillera Central range of the Andes. Name this tallest continuously active volcano, found in Ecuador.

ANSWER: Mount Cotopaxi

16. . Identify these different data types used in programming languages, for 10 points each.

[10] This datatype which includes doubleword and byte sees ranges such as -127 to 128, but never the full length of its mathematical counterpart.

ANSWER: **integer**

[10] Numbers with decimal places are represented by this data type, which includes double. Loss of significance occurs when arithmetic functions are performed on them without type casting.

ANSWER: **floating-point numbers**

[10] This datatype corresponding to a sequence of symbols can be concatenated to form sentences. Quoted versions of them are referred to as their namesake "literals."

ANSWER: **strings**

17. Name some German philosophers that wrote some pretty crazy things, for 10 points each.

[10] This syphilitic German wrote about "Why I Am So Clever" in *Ecce Homo*, though more notably he wrote *Beyond Good and Evil* and *Thus Spoke Zarathustra*.

ANSWER: Friedrich **Nietzsche**

[10] This author of *The World as Will and Idea* wrote about how women are compulsive liars and mentally inferior to men in his "On Women."

ANSWER: Arthur **Schopenhauer**

[10] This man wrote the influential *Being and Time*, but he also supported the Nazis and claimed to Karl Jaspers that "there is a dangerous international alliance of Jews."

ANSWER: Martin **Heidegger**

18. This playwright wrote about two brothers with different-colored skin in *The Blood Knot*. For 10 points each:

[10] Name this playwright who also wrote *Master Harold...and the Boys* about racism in his home country.

ANSWER: Harold Athol Lannigan **Fugard**

[10] Athol Fugard hails from this country. He has often written about this country's former official policy of apartheid.

ANSWER: Republic of **South Africa**

[10] This other South African writer has written a reimagination of Robinson Crusoe, *Foe*, as well as the novels *Disgrace*, *Life and Times of Michael K*, and *Waiting for the Barbarians*.

ANSWER: John Maxwell **Coetzee**

19. This author wrote "For I have but the power to kill, / Without--the power to die--" in "My Life had stood - a Loaded Gun." For 10 points each:

[10] Name this American poet whose lines include "I heard a fly buzz - when I died" and "I'm nobody? Who are you?"

ANSWER: Emily **Dickinson**

[10] In this Dickinson poem, the speaker travels in a carriage with the Grim Reaper. After pausing in front of a grave, its speaker "surmised the horses' heads / Were toward eternity."

ANSWER: "**Because I could not stop for death**" [or "The **Chariot**;" or Number **712**]

[10] A poem by Dickinson compares life to a "still" one of these objects, which Emerson used as a metaphor for the power of the mind in "The American Scholar."

ANSWER: **volcano**

20. The background contains orange trees and rolling hills, while in the foreground three women kneel in the grass beneath the title figure. For 10 points each:

[10] Name this crucifixion scene dominated by a certain color.

ANSWER: *The **Yellow Christ***

[10] *The Yellow Christ* was painted by this primitivist who moved to Tahiti and painted works like *The Spirit of the Dead Keep Watch*.

ANSWER: Eugene Henri Paul **Gauguin**

[10] This other primitivist painted *The Snake Charmer* and *The Dream*, but he is better known for *The Sleeping Gypsy*.

ANSWER: Henri Julien Felix **Rousseau**