



HSAPQ

High School Academic Pyramid Questions

Fall 2008
ACF-Format Set #1

Round 1

Tossups

1. It extended as far as Montmedy, and Wilhelm von Leeb's Army Group C faced it to prevent diversion of forces from it. Its namesake served as minister of war from 1929 to 1931, and it was known for its air conditioned chambers. Also containing an underground rail network, it was rendered useless when it was bypassed by an attack through the Ardennes forest by way of the Netherlands and Belgium. For 10 points, name this heavily fortified French defensive position that failed to prevent German invasion in World War II.

ANSWER: the **Maginot** Line

2. To pay a debt at an inn, this character rolls up a companion in a blanket and gives him away. This character thinks his brains are melting because of curds in his helmet, and he returns to his home after his defeat at the hands of the Knight of the White Moon. After reading many chivalric romances, including *Amadis of Gaul*, this character renames a barmaid Dulcinea, and tilts at windmills that he believes are dragons. He is accompanied on his quest by Sancho Panza. For 10 points, identify this protagonist of a novel by Miguel de Cervantes.

ANSWER: Don **Quixote** (kee-HO-tay) [or El ingenioso hidalgo Don **Quixote** de la Mancha; or **Alonzo**; or **Quixano**; or **Alonzo Quixano**]

3. In the presence of tetrahydrofuran, a compound of this element reduces alkenes in an anti-Markovnikov fashion. This element forms a compound with rhenium that can surpass the hardness of diamond, and its oxide is added to silica to produce a durable form of glass used in labware. It is the lightest element used in p-type doping, and its hydride is a Lewis acid. For 10 points, identify this element with atomic number 5 and symbol B.

ANSWER: **boron**

4. A tree called Laerad spreads over this locale, and its leaves are eaten by a goat and a hart atop its roof. This place with 540 massive doors and a roof of golden shields is home to a cook who uses the same cauldron to cook the cosmic boar Saehrimnir every day. The rooster Gullenkambi awakens the residents of this locale, who spar with each other all day and are known as the Einherjar. For 10 points, name this "Hall of the Slain" where Valkyries escort fallen warriors in Norse myth.

ANSWER: **Valhalla**

5. Two of his former allies suspected him of being the "Holliday" figure. He sought the aid of those allies in tracking "The Roman", whom he later shot in the head. He once tried to seduce a lesbian whom he was attracted to, Renee Montoya, until she fought back and was rescued by Batman. Poison Ivy attempted to kill him for running over a rare flower at the construction site of Stonegate Penitentiary, and Billy Dee Williams played him as DA Harvey Dent in one film. For 10 points, name this dualistic villain played by Aaron Eckhart in "The Dark Knight".

ANSWER: **Two-Face** [prompt on Harvey **Dent** before it is read]

6. In a poem by this man, the speaker regards autumn as a “blind giant” and a “faceless man” while sitting in a café with two friends. In addition to “Clear Night,” he wrote of a traveler who sees a holy man covered in ash in his poem “Vrindaban.” His literary criticism includes *The Traps of Faith* and *The Bow and the Lyre*, and he described the conjunctions of the planet Venus and the sun in an ancient Aztec calendar in his poem “Sun Stone.” Formerly his country's ambassador to India, for 10 points, name this Mexican poet of *The Labyrinth of Solitude*.

ANSWER: Octavio **Paz** Lozano

7. The sixth character dance in it depicts Polcinelle, the clown, and its pas de deux is an Intrada followed by a work whose melody is played by a celesta. It represents substances like chocolate, coffee, and tea with Spanish, Arabian, and Chinese dances. Named for a gift from Herr Drosselmeyer, this ballet includes the Waltz of the Snowflakes and the Dance of the Sugarplum Fairy. For 10 points, name this ballet about Clara, which begins on Christmas eve, a composition by Tchaikovsky about a toy which turns into a prince.

ANSWER: *The **Nutcracker*** [or ***Shchelkunchik***]

8. This man defeated Frank Lowden to win his party's presidential nomination. As president, he signed the Norris-LaGuardia Act and created the Reconstruction Finance Corporation. The Secretary of Commerce for Warren Harding, he headed the American Food Administration in World War I, and this president chose to sign the Hawley-Smoot Tariff in response to the calamity that doomed his presidency. For 10 points, name this president who lost the 1932 election to Franklin Roosevelt during the Great Depression.

ANSWER: Herbert **Hoover**

9. Structures found within it include ones discovered by Cajal, which are thought to be involved in the modification of snRNPs. Alpha-solenoid and beta-propeller folds can be found in the pores located on the double membrane envelope of this structure, which is continuous with the rough endoplasmic reticulum. Red blood cells lack this structure, which contains protein-DNA complexes called euchromatin and heterochromatin. For 10 points, identify this organelle, which houses the cell's genetic information.

ANSWER: **nucleus**

10. The ones who resorted to public assassinations were known as Sicarii, or dagger men, and, unlike the Herodians, they refused to pay taxes. One group of them fought the Tenth Fretensis legion led by Flavius Silva, and their revolt began when Agrippa II was expelled from Jerusalem. The historian Josephus fought for them, and scores of them committed suicide at the Masada rather than surrender. For 10 points, identify this Jewish sect that was known for its firm opposition to Roman polytheism, whose name is now synonymous with fanatic.

ANSWER: **Zealots**

11. One character in this novel infuriates the narrator when he calls during a funeral to request his tennis shoes. In addition to Ewing Klipspringer, this novel's character's include the coffee shop owner Michaelis, who reports that he saw his neighbor run out into the Valley of Ashes. The title character, the former protégé of Dan Cody, is murdered in his pool after Myrtle Wilson is run over by the drunken Daisy Buchanan. For 10 points, name this novel in which Nick Carraway describes the downfall of Jay Gatz, written by F. Scott Fitzgerald.

ANSWER: *The **Great Gatsby***

12. The lowest point in this body of water is the Fram Basin, which is interrupted by the Nansen Cordeilla. It includes the Lomonosov Ridge, which may contain oil and gas reserves and is the subject of competing land claims due to dubious continental shelf extensions. Touching Cape Morris Jesup, this body of water has the highest percentage of continental shelf of any other ocean and includes ports at Barrow, Prudhoe Bay and Murmansk. For 10 points, identify this ocean which in 2007 lost nearly 10 million kilometers of sea-ice during the summer thaw.

ANSWER: Arctic Ocean

13. Before the Mincha prayer associated with this holiday, observers give Machatzit Hashekel or 3 halves of a shekel as charity. This holiday has a "Shushan" version, which is celebrated on its following day in walled cities, and it always occurs one month before Passover. Celebrated on the Fouteenth of Adar, some of its practitioners get so drunk as to be unable to differentiate between "Cursed be Haman!" and "Blessed be Mordechai!" For 10 points, identify this Jewish holiday, which celebrates Esther's victory over Haman's evil plans.

ANSWER: Purim

14. In an experiment by Bruce Alexander, these subjects chose to drink untainted water despite being addicted to morphine. Edward Tolman's experiments with these subjects led him to develop the theory of cognitive maps. In the "kerplunk" experiment, these subjects were conditioned to run into a barrier. John Watson used loud noises to condition Little Albert to fear white ones. Often placed in mazes by researchers, For 10 points, name these rodents frequently used in psychological experiments.

ANSWER: rats [do not accept "mice"]

15. This king's success at the Battle of Spurs during the War of the League of Cambrai led his brother in law James IV of Scotland to invade, only to be defeated at Flodden Field. This man met with Francis I at the Field of the Cloth of Gold, which accomplished nothing as his minister Cardinal Wolsey declared war on France soon after. He removed Wolsey from power after failing to receive an annulment with his wife, Catherine of Aragon. For 10 points, name this Tudor Monarch from 1509 to 1547 who had six wives.

ANSWER: Henry VIII [prompt on Henry]

16. The effect in which a suddenly magnetized iron bar rotates in the opposite direction of an applied current is named after de Haas and this man. This man introduced the idea of stimulated emission while proving Planck's radiation equation. He also developed the equivalence principle and postulated that the speed of light is the same in all reference frames, and his paper "On the Electrodynamics of Moving Bodies" introduced special relativity. For 10 points, name this man who won the 1921 Nobel Prize in Physics for his explanation of the photoelectric effect.

ANSWER: Albert Einstein

17. This artist depicted a woman in a black dress and a red belt pointing one finger downward in his portrait of the Duchess of Alba. He depicted a desperate looking long haired, bug-eyed god getting ready to eat a child's arm from its socket in *Saturn Devouring His Son*, one of this artist's *Black Paintings*. Following controversy in his native country, he painted a clothed version of *La Maja Desnuda*. Another of his paintings depicts a line of French soldiers on the right shooting prisoners on a certain date. For 10 points, identify this Spanish painter of *Third of May, 1808*.

ANSWER: Francisco José de Goya y Lucientes

18. One poem by this man includes the phrase “Knowledge overwhelming makes a God of me!” and refers to the title sun titan’s ascent to godhood. In addition to “Hyperion”, this poet wrote a poem which describes the courtship of Porphyro for Madeleine on the title night. Besides “The Eve of St. Agnes,” this poet asked “Ah, what can woe thee, wretched wight” in a poem about a woman who “takes [the speaker] to her elvin grot.” For 10 points, name this poet of “La Belle Dame Sans Merci” who wrote “beauty is truth; truth beauty” in “Ode on a Grecian Urn.”

ANSWER: John Keats

19. The Kleene-Rosser paradox in lambda calculus is resolved by invoking it, and operations utilizing its mu form may be computed by Turing machines. The Hofstadter Q-sequence uses this process, whose tail form can easily use less stack space by being transformed into iteration. A process for computing the greatest common divisor may be implemented using this, essential to the Ackermann function. For 10 points, identify this programming technique which reduces problems to base cases, commonly used for computing the terms of the Fibonacci sequence.

ANSWER: recursion [accept word forms]

20. His *Missa sunt bona mixta malis* only has the Kyrie and part of the Gloria extant, while a later mass of his became named for Lord Nelson. One of his cantatas includes parts for Adam and Eve, while one of his string quartets includes the theme of *Deutschland Uber Alles* and is nicknamed “The Emperor.” One of his symphonies was written so the performers gradually leave the stage and snuff their candles, while another includes a timpani beat in the andante. For 10 points, name this composer of *The Creation* and the “Farewell” and “Surprise” symphonies.

ANSWER: Franz Joseph Haydn

21. August Wilson's play *The Piano Lesson* mentions ghosts of a dog of this type. An old pair of this type considers dinner “a casual affair” in Gwendolyn Brooks’ “The Bean Eaters.” This color describes a house owned by Henry Wimbush in an Aldous Huxley novel, while it also describes a town which Jack Potter brings his “bride” to in a Stephen Crane story. For 10 points, name this color, which also appears on wallpaper that drives a woman insane in a short story by Charlotte Perkins Gilman.

ANSWER: yellow

22. One feature of this type is carved from existing bedrock by a glacier, has a smooth upper portion and a craggy bottom portion, and is known as a sheepback. Another feature of this type is often found in conjunction with kettle lakes and occurs when a melting glacier retreats; those are termed kames. Tear-shaped ones are formed when a glacier deposits a large rock and sediment builds up behind it, and are called drumlins. For 10 points, name these geologic features, raised areas of land that are smaller than mountains.

ANSWER: hills [or sheepback; or roche moutonne before "sheepback"]



HSAPQ

High School Academic Pyramid Questions

Fall 2008
ACF-Format Set #1

Round 1

Bonuses

1. Answer the following about mirrors in art, for 10 points each.

[10] A mirror reflects a woman, some bottles of wine, and a bowl of oranges in this artist's painting *Bar at the Folies-Bergere*. This impressionist also painted *Olympia*.

ANSWER: Eduard Manet

[10] This Mannerist portrayed himself wearing a ruffled sleeve in *Self-Portrait in a Convex Mirror*. He painted a disturbingly disproportional Virgin Mary in *Madonna of the Long Neck*.

ANSWER: Parmigianino [or Francesco Mazzola]

[10] A mirror reflects the King and Queen of Spain in this artist's painting *Las Meninas*.

ANSWER: Diego Velazquez

2. Their existence was hypothesized by Fritz Zwicky and Walter Baade. For 10 points each:

[10] Identify these dense objects, which can be formed from a supernova event when a star exceeds the Chandrashekhar limit.

ANSWER: neutron star

[10] Neutron stars whose rotation axis is off the magnetic axis, are known by this name as they emit intense bursts of radiation on a periodic basis.

ANSWER: pulsars

[10] The upper limit to the mass of a neutron star is named after Tolman, Volkoff, and this man, who, lends his name to an approximation along with Max Born.

ANSWER: J. Robert Oppenheimer

3. The title character lives with her aunt, Mrs. Reed, after being orphaned. For 10 points each:

[10] Name this 1847 novel, which ends with the protagonist's marriage to Edward Rochester following the mad Bertha Mason's death in a fire.

ANSWER: Jane Eyre

[10] This author of *Villette*, who created the character of Lucy Snowe in *Shirley*, wrote *Jane Eyre*.

ANSWER: Charlotte Brontë [prompt on Brontë; or Currier Bell; prompt on Bell]

[10] This author of the poem "The Narrow Way" was a sister of Charlotte Bronte. Her two novels are *Agnes Grey* and *The Tenant of Wildfell Hall*.

ANSWER: Anne Brontë [prompt on Brontë; or Acton Bell; prompt on Bell]

4. He broke out of the gladiator school of Capua in 73 BC and fled to Mt. Vesuvius. For 10 points each:
[10] Name this man who led a massive slave revolt before being crucified.

ANSWER: **Spartacus**

[10] 6,000 of Spartacus' followers were crucified along what Roman road that connected Rome with Capua?

ANSWER: **Appian** Way

[10] After returning to Italy following his defeat of Sertorius, this Roman general and member of the First Triumvirate put down the Spartacus revolt. He later lost the Battle of Pharsalus to Caesar.

ANSWER: **Pompey** the Great [or Gnaeus **Pompeius** Magnus]

5. Name these things in the nation of Belize, for 10 points each.

[10] Belize City used to be Belize's capital before its destruction by Hurricane Hattie, after which the capital was transferred fifty miles inland to this location.

ANSWER: **Belmopan**

[10] Belize contains several Mayan ruins at Caracol; however the greatest concentration of such ruins is on this peninsula, which separates the Caribbean Sea from the Gulf of Mexico.

ANSWER: **Yucatán** Peninsula

[10] When threatened by Guatemala, this country, which had formerly colonized Belize, sent troops to reinforce the border. It also colonized Zanzibar, Guyana and Jamaica.

ANSWER: Great **Britain** [or The **United Kingdom**; prompt on **England**]

6. He wrote about his friend Jack Chase in *White-Jacket*. For 10 points each:

[10] Name this author of *Billy Budd* and *Moby-Dick*.

ANSWER: Hermann **Melville**

[10] In this short story, the title co-worker of Ginger Nut, Turkey, and Nippers repeats "I would prefer not to" when the narrator asks him to work.

ANSWER: "**Bartleby** the Scrivener"

[10] The title character of this Melville novel pretends to be the president of the Black Rapids Coal Company while deceiving people aboard the *Fidele* steamboat on April Fools' Day.

ANSWER: *The **Confidence-Man**: His Masquerade*

7. The Quran is said to have been passed on to Mohammed on the Night of Power during this month. For 10 points each:

[10] Identify this ninth month of the Islamic calendar.

ANSWER: **Ramadan**

[10] In *this* pillar of Islam, Muslims fast from sunrise to sunset during the month of Ramadan. The meal before the fast is called suhoor and the evening meal is called iftar.

ANSWER: **Sawm**

[10] Ramadan ends with this three day festival, which begins when a new moon is sighted. It marks the beginning of the tenth month, Shawwal.

ANSWER: **Eid ul Fitr** [prompt on partial answer]

8. Answer the following about torque, for 10 points each.

[10] Torque is equivalent to the product of moment of inertia and this other quantity, symbolized with the Greek letter alpha.

Answer: **angular acceleration**

[10] The torque vector can also be found by performing this vector operation on the radius and force vectors.

Answer: **cross product** [prompt on **vector product**]

[10] When performing the cross product of the radius and force vectors, the direction of the resulting torque vector can be found by using this rule of thumb.

Answer: **right hand** rule

9. This event took place during a pivotal battle of the Crimean War. For 10 points each:

[10] Name this disastrous cavalry action that inspired a Tennyson poem about the six hundred who rode into the "valley of death."

ANSWER: The **Charge of the Light Brigade**

[10] This Lieutenant General led the Charge of the Light Brigade and has a type of sweater named after him.

ANSWER: Lord **Cardigan** [or James **Brudenell**, Seventh Earl of Cardigan]

[10] This was the battle during which the Charge took place. It was the first Russian attempt to squash the Siege of Sevastapol.

ANSWER: Battle of **Balaclava**

10. During a siege of this city, Tancred mistakenly kills his love Clorinda. For 10 points each:

[10] Name this city in the Holy Land, which Gabriel tells Godfrey of Bouillon to try wrest from the Muslims in a poem where it is "Delivered."

ANSWER: **Jerusalem** [or **Gerusalemme**]

[10] This Italian poet went insane late in life, but not before writing *Jerusalem Delivered*.

ANSWER: Torquato **Tasso**

[10] *Jerusalem Delivered* is set in the first of these wars over the Holy Land. In *Ivanhoe*, Richard the Lionheart returns from battling Saladin in the third of these.

ANSWER: **crusades**

11. This kingdom is divided into phyla such as ascomycetes and basidiomycetes. For 10 points each:

[10] Identify this kingdom, whose best known examples include mushrooms.

ANSWER: **fungi**

[10] This is the name given to a symbiotic interaction where fungi associate with the roots of complex plants, which enables plants to acquire more nutrients.

ANSWER: **mycorrhizae**

[10] These are the tubular, filamentous structures, which are collectively called the mycelium. Individual cells in them are divided by septae.

ANSWER: **hyphae**

12. Examples of this art form include *Ordinary* in the Plaza of the Seagram Building. For 10 points each:
[10] Name this type of kinetic sculpture.

ANSWER: **mobiles**

[10] This American sculptor created the aforementioned *Ordinary* and invented the mobile.

ANSWER: Alexander "Sandy" **Calder**

[10] One of Calder's mobiles combines a "Fish tail" with a trap for this type of animal. Salvador Dali created a telephone whose handset was the body of one of these crustaceans.

ANSWER: **lobsters** [or **Lobster Trap and Fish Tail**]

13. Hippolytus was punished for worshipping only this goddess, and she is credited with saving Iphigenia from sacrifice. For 10 points each:

[10] Name this perpetually virgin Greek goddess of hunting and wild areas, one of the twin children of Zeus and Leto.

ANSWER: **Artemis**

[10] When this hunter accidentally saw Artemis bathing in a stream, Artemis turned him into a deer, causing his own dogs to maul him.

ANSWER: **Actaeon**

[10] Artemis's twin brother is this god, the patron of the Delphic Oracle and luster after Daphne. Sometimes known as Phoebus, he is also a symbol of reason, opposing the emotional Dionysus.

ANSWER: **Apollo**

14. Identify these Republican might-have-beens, for ten points each.

[10] This man, whose father was Governor of Michigan, is a former governor of Massachusetts and was the second-to-last candidate before Mike Huckabee to leave the race.

ANSWER: Mitt **Romney**

[10] This Texan, who wrote *The Revolution: A Manifesto*, was a perennial favorite on internet polling and finally suspended his campaign run on July 12.

ANSWER: Ron **Paul**

[10] This Colorado representative has advocated retaliatory bombing of mosques in the event of further terrorist attacks, in addition to the immediate deportation of all illegal immigrants.

ANSWER: Tom **Tancredo**

15. He wrote about his childhood in *Up From Slavery*. For 10 points each:

[10] Name this leader who believed that blacks should pursue technical educations, a position opposed by W.E.B. DuBois.

ANSWER: Booker Taliaferro **Washington**

[10] In 1881, Washington became the first president of this Alabama college which taught practical skills. Its professors included George Washington Carver.

ANSWER: **Tuskegee** Normal and Industrial Institute [or **Tuskegee** University]

[10] In 1905, Washington gave a speech asserting that blacks should focus on finding jobs instead of working towards social equality, which is known as the compromise of this city.

ANSWER: **Atlanta**

16. Identify some German chemists, for 10 points each.

[10] This man is the namesake of several organic reactions, and also for a type of diagram used to represent sugars.

ANSWER: Hermann Emil **Fischer**

[10] This man is the namesake of a process used to produce nitric acid from the oxidation of ammonia and the dissolving of the gas in water.

ANSWER: Wilhelm **Ostwald**

[10] The process used to produce ammonia from atmospheric nitrogen and hydrogen is named after this man and Bosch.

ANSWER: Fritz **Haber**

17. Answer the following questions about poetry, for 10 points each.

[10] This Walt Whitman elegy for Abraham Lincoln includes lots of references to Venus, and imagines laying one of the title flowers on Lincoln's coffin.

ANSWER: "**When Lilacs Last in the Dooryard Bloom'd**"

[10] This poetry collection by Charles Baudelaire includes sections like "Wine," "Revolt," and "Spleen and Ideal," and accuses the "hypocrite reader" of being the author's double.

ANSWER: *Les **Fleurs du mal*** [or *The **Flowers of Evil***]

[10] This poet of "Tam O'Shanter," "To a Louse," and "Auld Lang Syne," is a pretty important Scottish poet.

ANSWER: Robert **Burns**

18. He decried the effects of the Treaty of Versailles in his book *The Economic Consequences of the Peace*. For 10 points each:

[10] Name this British economist, who explained the theory of government intervention to create full employment in *The General Theory of Employment, Interest and Money*.

ANSWER: John Maynard **Keynes**

[10] In Keynesian economics, this curve is upward-sloping in the short run. It plots the total amount of goods and services produced by an economy at various price levels.

ANSWER: **aggregate supply**

[10] This macroeconomic value has components such as investment, consumption, and government spending. Unlike a similar value, it is based on geographic regions, not ownership.

ANSWER: **GDP** [or **Gross Domestic Product**]

19. This work opens with a clarinet trill followed by an ascending glissando before playing the main theme. For 10 points each:

[10] Name this work for jazz band and piano orchestrated by Ferde Grofe, which was commissioned by Paul Whiteman.

ANSWER: **Rhapsody in Blue**

[10] This composer didn't quite finish *Rhapsody in Blue*, so he improvised many of the piano solos at the premiere. He also wrote "I Got Rhythm."

ANSWER: George **Gershwin** [or Jacob **Gershwin**]

[10] This Gershwin work, scored for a regular orchestra plus celesta, saxophone, and some car horns to spice things up, represents the composer traveling through a European capital.

ANSWER: **An American in Paris**

20. Identify the following conferences of World War II, for 10 points each.

[10] President Truman and Clement Atlee attended this July-August 1945 conference in the Berlin suburbs, which created occupation zones for postwar Germany.

ANSWER: **Potsdam**

[10] Also known as the United Nations Monetary and Financial Conference, this 1944 meeting in New Hampshire created the International Monetary Fund.

ANSWER: **Bretton Woods**

[10] At this conference of February 1945, the Soviet Union secretly agreed to go to war with Japan within three months of Germany's surrender.

ANSWER: **Yalta**

21. Identify the following about matrices and linear equations, for 10 points each.

[10] For a 2 by 2 matrix, this quantity is given as $ad - bc$. The Wronskian is a generalized method of computing it.

ANSWER: **determinant**

[10] This rule, formulated by a Swiss mathematician, makes use of determinants to solve systems of linear equations.

ANSWER: **Cramer's** rule

[10] This German mathematician lends his name to another procedure useful for solving systems of equations. He is better known for a law concerning electric flux from a closed surface that encloses a charge.

ANSWER: Carl Friedrich **Gauss**

22. The protagonist is sentenced to death for his murder of an Arab, even though the central issue in the trial seems to be his inability to feel remorse. For 10 points each:

[10] Name this novel about Meursault, who alienates himself from pretty much everyone by never showing false emotions.

ANSWER: *The* **Stranger**

[10] This author of *The Myth of Sisyphus*, *The Plague*, and *The Fall* wrote *The Stranger*.

ANSWER: Albert **Camus**

[10] This neighbor of Meursault is injured in a fight with the two Arabs. He caused that fight by beating his Arab ex-mistress.

ANSWER: Raymond Sintès [accept either or both names]