

BHSAT XX (2011): This One Doesn't Bilow, We Promise!
Written by Y. Student Academic Competitions

Round 2 Tossups

1. One of his orchestral pieces has a percussion section including claves, guiro, maracas, and bongos. That piece, originally entitled *Rumba*, is his *Cuban Overture*. A solo trumpet in another piece represents a "spasm of homesickness," and that piece also uses taxi horns to depict the bustle of the titular city. His best-known orchestral piece opens with a trill and upward glissando for the clarinet, and he composed an opera in which Clara sings a lullaby about a time when "fish are jumpin' and the cotton is high," "Summertime." For 10 points, identify this American composer of *An American in Paris*, *Porgy and Bess*, and *Rhapsody in Blue*.

ANSWER: George Gershwin

2. This constant can be computed at a given temperature and double-dagger Gibbs free energy by means of the Eyring equation. It is a multiplier of concentration terms raised to exponents in an equation determining the order of a reaction. This constant times the natural log of 2 gives the half-life of radioactive decay reactions, and it's found from the pre-exponential factor, activation energy, and temperature in the Arrhenius equation. The quotient of its values for forward and reverse reactions gives the equilibrium constant. For 10 points, give this term for a constant often symbolized *k* which quantifies, and shares its name with, the speed at which a chemical reaction occurs.

ANSWER: rate constant [accept rate coefficient; prompt "k" or "lambda"; do not accept "rate of reaction" or "r"]

3. This author wrote a story describing a German spy's thoughts on his ancestor's novel and his encounter with Dr. Albert, who has studied that novel. Another of this author's stories analyzes a man who has rewritten a Cervantes novel word-for-word. This author of "The Garden of Forking Paths" and "Pierre Menard, Author of the Quixote" also wrote about a library containing every possible 410-page book and a titular point which allows those who look into it to see the entire universe because it contains every point in space. For 10 points, name this Argentine author who included "The Library of Babel" and "The Aleph" in *Ficciones*.

ANSWER: Jorge Luis Borges

4. In one role, this actor watches a police officer use the metaphor of a hot dog to explain that his wife has died, and in another role, he works as the stockbroker, Bud Fox, for a man who claims that "Greed...is good." Outside of the *Scary Movie* series and his role in *Wall Street*, in a recent interview, he described his lifestyle of the past year as "epic behavior," though it led to the cancellation of his most commercially successful role, that of Charles Harper. For 10 points, name this man who supposedly has "tiger-blood" and is "bi-winning," the former co-star of *Two and a Half Men*.

ANSWER: Charlie Sheen (prompt on just Sheen, accept Carlos Estevez)

5. This body of water is home to the Farasan Islands and Dahlak Archipelago. International observers ensure freedom of navigation through its Straits of Tiran. The Bridge of the Horns is a proposed construction project that would cross the Bab-el-Mandeb, which is the southern entrance to this body of water, and it connects to the Gulf of Aden. Its largest port is Jeddah; it contains the Gulf of Aqaba; and it is part of the Great Rift Valley. For 10 points, identify this body of water, one end of the Suez Canal, which Moses allegedly parted during his escape from Egypt.

ANSWER: Red Sea

6. This man claimed that Say's Law, the classical economic concept that excess supply creates its own demand, was invalid; the intersection of aggregate demand as a function of output and the line representing the equality of aggregate demand and output is called this man's namesake "cross." This economist called for governments to counter cyclical unemployment, and claimed that the reparations imposed on Germany would lead to hyperinflation and economic stagnation in *Economic Consequences of the Peace*. For 10 points, name this British economist whose *General Theory of Employment, Interest, and Money* advocates stimulus spending.

ANSWER: John Maynard Keynes

7. Meromictic ones near volcanic regions can undergo limnic eruptions, their namesake “overtuns.” The metalimnion, or thermocline, of these bodies is their region of greatest thermal gradient. Kraken and Ligeia are examples found on Titan, and one of these named Agassiz covered much of North America during the previous ice age. Salt pans often form at the bottom of endorheic ones, which have no outflows. On Earth, due to a deranged drainage system, 60 percent of these are found in Canada. The “oxbow” variety is formed when a meander is cut off from a river. For 10 points, name these bodies of water enclosed by land, famous examples of which include the subglacial Vostok and the largest freshwater one, Superior.

ANSWER: lakes [prompt on “mares” or “maria”; accept no other bodies of water]

8. One instrument that features prominently in this work was earlier used by its composer in the symphonic poem *The Vovayoda*. Its *pas de deux* features a tarantella for the male dancer in addition to a section that contains one of the earliest uses of the celesta in classical music. One excerpt is known as either the Dance of the Mirlitons or the Dance of the Reed Flutes, and a scene in the Land of Sweets features dances from Spain, China, Arabia, and Russia, the last being the famous Trepak. Featuring the children Fritz and Clara and the “Dance of the Sugar Plum Fairy,” for 10 points, name this ballet by Tchaikovsky about a kitchen toy.

ANSWER: *The* Nutcracker

9. This man’s early positions included ambassador to Nicomedes IV of Bithynia, sparking rumors of an affair between the men. This man was kidnapped en route to Rhodes by a Cilician pirate ship on which he joked about crucifying the entire crew; according to Suetonius, upon his release he got a boat, hunted them down, and *actually crucified the entire crew*. He once shared consulship with Bibulus, and won the battle of Alesia against Vercingetorix, as told in his *Commentaries on the Gallic Wars*, before returning from Gaul to defeat Pompey. For 10 points, name this Roman who adopted Octavian and crossed the Rubicon before being stabbed on the Ides of March by Brutus.

ANSWER: Gaius Julius Caesar

10. The title character of one of this man’s novels is a would-be writer who is in love with Ruth Morse. The title character of another novel by him is the brutal Captain Larsen, who captures the protagonist, Humphrey Van Weyden, and makes him labor aboard his ship. Those novels are *Martin Eden* and *The Sea Wolf*. The title character of another of his novels is born of Kiche and One Eye. His most famous character is at various times owned by Hal, Judge Miller, and Thornton, and is a Saint Bernard named Buck. For 10 points, name this American author of *White Fang* and *The Call of the Wild*.

ANSWER: Jack London

11. One work by this philosopher claims that being overcome by pleasure is equal to ignorance, and describes how a god whose name means “afterthought” forgot to give man a special talent; in another he criticized one of his own theories with the Third Man argument, while a third features the seer Diotima. A latter work includes a myth in which people have metals in their blood called the “noble lie,” advocates rule by the philosopher-king, and provides support for his theory of Forms with the Allegory of the Cave. For 10 points, name this author of *Protagoras*, *Parmenides*, *Symposium*, and *The Republic*, whose dialogues feature his teacher Socrates.

ANSWER: Plato

12. Claude Shannon defined this concept for source coding in information theory, and an intensive definition of this property for gases inspired Gibbs’s paradox. Defined macroscopically as Boltzmann’s constant times the natural log of the microstate number, omega, its change often equals change in heat over temperature, and it represents thermal energy unavailable to perform work. This state function tends only to increase by the Second Law of Thermodynamics. Symbolized S, for 10 points, name this thermodynamic quantity, a system’s measurable disorder.

ANSWER: entropy [prompt “S” until read]

13. A conjoined yellow portrait of Adam and Eve is at the center of this painter's *Homage to Apollinaire*. The title woman looms over a forest-like landscape in his *Bella with White Collar* and he designed stained glass windows for the Metz Cathedral. A man wearing a swastika burns a synagogue and a menorah sits beneath Jesus's cross in one painting by him. A man with a scythe and an upside-down violinist feature in another painting, which is dominated by a sheep's face and a green human face. For 10 points, name this Belarusian-born French painter of the *White Crucifixion* and *I and the Village*.

ANSWER: Marc Chagall

14. Captain George Streeter's land scam occurred in this city, and under Know-Nothing mayor Levi Boone, it was the site of the Lager Beer Riots. This city, whose first black mayor was Harold Washington, contains the former outpost of Fort Dearborn. One venture here, co-founded by Ellen Gates Starr, was Jane Addams' Hull House, and its namesake "Seven" violently protested the 1968 Democratic Convention. Home to the Daley political family, infamous meat-packing stockyards, and Al Capone, for 10 points, name this city where Mrs. O'Leary's cow allegedly started an 1871 fire, the largest in Illinois.

ANSWER: Chicago

15. The title character of one play by this author drove his wife Beata to suicide by falling in love with Rebecca West. An avalanche buries sculptor Arnold Rubek and his model, Irene, at the end of another play by this man. Besides *Rosmersholm* and *When We Dead Awaken*, in another of his plays, the title character burns a manuscript by her former lover Lovborg, and is unhappily married to Professor Tesman. The protagonist of another of his plays leaves the title location after confessing her crime of forgery to her husband, Torvald. That character is Nora Helmer. For 10 points, identify this author of *Hedda Gabler* and *A Doll's House*, a Norwegian playwright?

ANSWER: Henrik Ibsen

16. This system of belief holds that the universe will be remade as part of Frashokereti, whereupon the protector of *asha* will defeat his antithesis. To prevent the spread of *nasu*, or corruption, its believers place corpses atop *dakma* towers. Though it didn't originate in India, many adherents of it live there; those people are known as Parsis. The primary holy text of this religion contains the Yashts and Gathas; that text, the Avesta, chronicles the conflict between the evil Ahriman and the good Ahura Mazda. For 10 points, identify this Persian religion, founded in the second millennium BCE by the prophet for whom it is named.

ANSWER: Zoroastrianism [or Zarathustrism; or Mazdaism before "Mazda" is read]

17. This structure's bare area is the only part of it not covered by visceral peritoneum. This organ's tissue contains lots of catalase due to the abundance of peroxisomes, and the ligamentum venosum separates its left and caudate lobes. Part of the Cori cycle occurs here when it takes in lactate for gluconeogenesis. Its Kupffer cells act on blood received through the portal vein. It produces albumin, stores glycogen, detoxifies blood, and connects, via the bile duct, to the gallbladder. For 10 points, name this large internal organ which can suffer hepatitis or fail to regenerate when it develops cirrhosis in alcoholics.

ANSWER: liver

18. This government's first leader broke out of the Council of Five Elders and maintained exclusive trading rights with the Netherlands. Catholics under this government launched the Shimabara Rebellion out of Nagasaki, and its last 14 years, the *bakumatsu*, included its defeat at Hakodate during the Boshin War. Its policy of *sakoku* left its country isolated from outsiders, and its founder, the winner of the Battle of Sekigahara, was Ieyasu. For 10 points, name this government ended by the Meiji Restoration, in which daimyo submitted to a leader in what's now Tokyo from 1603 to 1867.

ANSWER: Tokugawa shogunate [accept Tokugawa bakufu, accept Edo period; do not prompt on "Japan"]

19. One rumor about a character in this work is that he accidentally had alcohol mixed with his blood-surrogate, explaining his strangeness. In its opening where a group of students are shown the Bokanovsky process for creating Deltas and Epsilons at the London Hatchery and Conditioning Center. In addition to the aforementioned Bernard Marx, other characters include Lenina Crowne, Helmholtz Watson, and John the Savage. Describing the World State, whose inhabitants regularly take the hallucinogen soma, this is, for 10 points, what dystopian novel that takes its name from a line in *The Tempest*, written by Aldous Huxley?

ANSWER: Brave New World

20. Clymenus, Polydegmon, and Eubulus were epithets or euphemisms spoken rather than the name of this deity, who owned Cape Taenarum. He turned a daughter of Oceanus, his nymph lover Leuce, into a white poplar tree, and laid claim to the minerals within the earth. Pirithous got stuck in a chair belonging to this deity, who abducted his eventual wife by tricking her into eating pomegranate seeds. His Helm of Darkness grants its wearer invisibility. For 10 points, name this god who for six months of the year is the husband of Persephone, a brother of Zeus and Poseidon who rules the Greek underworld.

ANSWER: Hades [accept Pluto until “Greek” is read]

TB. This man offered the secret Reinsurance Treaty to a neighboring country after the Three Emperors’ League broke down. In one meeting called by this man, he worked with Prince Gorchakov to revise the treaty of San Stefano, enlarging Bulgaria. Succeeded by Leo Caprivi, he threatened Schleswig-Holstein, attempted to remove Catholic influences in his country’s *Kulturkampf*, and edited the Ems telegram to provoke the Franco-Prussian War. For 10 points, name this advisor to Kaiser Wilhelm I, an “Iron Chancellor” who helped unify Germany.

ANSWER: Otto von Bismarck

Round 2 Bonuses

1. Smoke can be seen in the distance off-left, while a Turk sits atop a rearing horse at the right. For 10 points each:

[10] This is what depiction of the slaughter of the inhabitants of the title Greek isle by the Ottomans?

ANSWER: Massacre at Chios

[10] *Massacre at Chios* is by this French romantic painter of *Liberty Leading the People*.

ANSWER: Eugene Delacroix

[10] The title females sit round a hookah in a harem in this Delacroix painting.

ANSWER: Women of Algiers (*in their Apartment*)

2. Immanuel Kant's transcendental aesthetic defines this as the a priori ability to perceive oneself, and Bergson contrasted this concept with "free will." For 10 points each:

[10] Name this concept central to a Martin Heidegger work that developed the concept of Dasein, in which it is contrasted with "Being".

ANSWER: time

[10] Martin Heidegger later joined the Nazis, whose central philosophy came from this anti-Semitic autobiography presaging Germany's invasion of Russia, written by an imprisoned Adolf Hitler.

ANSWER: Mein Kampf [accept My Struggle]

[10] Martin Heidegger was involved with this female Jewish philosopher, but things got awkward after he went Nazi. She described the "banality of evil" in the title Nazi in *Eichmann in Jerusalem*, and analyzed fascist governments in the pre-war world in *The Origins of Totalitarianism*.

ANSWER: Hannah Arendt

3. William Hobson signed the poorly-translated, oft-violated Treaty of Waitangi with its natives. For 10 points each:

[10] Name this Commonwealth nation whose troops fight with Australia in the ANZAC corps. The aforementioned Hobson moved its capital from Auckland to Wellington in 1865.

ANSWER: New Zealand [accept Aotearoa]

[10] Often divided into settlements called *iwi*, these are the indigenous people of New Zealand.

ANSWER: Maori [accept tangata whenua]

[10] A century and a half before James Cook, this Dutch explorer got beat up by Maori while discovering New Zealand on his first voyage. He had previously sighted Van Diemen's Land.

ANSWER: Abel Tasman

4. In females, it produces three polar bodies and one oocyte, while in males it produces four spermatocytes. For 10 points each:

[10] Name this process central to gamete creation, in which a cell with chromosome pairs divides into four haploid cells with only one of each chromosome.

ANSWER: meiosis

[10] Homologous chromosomes "cross over," recombining some genes, during this first phase of meiosis.

ANSWER: prophase I [prompt on "prophase"]

[10] When meiosis produces a diploid gamete, and that gamete joins another gamete to form a zygote, this trait results. Plants with this property, such as wheat, are often hardier, while most animals with this trait die or are infertile.

ANSWER: polyploidy [accept "triploidy"]

5. Consisting of over 7,000 islands, this country featured a large settlement on a mountainous landfill in Payatas.. For 10 points each:

[10] Name this country, separated from Taiwan by the Luzon Strait and from Indonesia by the Sulu Sea. Its capital city is Manila.

ANSWER: Philippines

[10] This city adjacent to the capital Manila is the largest city in the Philippines.

ANSWER: Quezon City

[10] This southeastern Philippine island, the second-largest in the country after the northern island of Luzon, has a substantial Muslim population.

ANSWER: Mindanao

6. This German author of *The Religion of China*, *The Religion of India*, and *Economy and Society* delineated rational-legal, traditional, and charismatic types of authority. For 10 points each:

[10] Name this sociologist who suggested that Calvinism was responsible for the appearance of a novel economic system in Northern Europe.

ANSWER: Max Weber

[10] Weber proposed that the Protestant ethic was closely related to “the spirit of” this economic system based on free markets, which communists oppose.

ANSWER: capitalism

[10] In *Politics as a Vocation*, Weber defined this political entity as a holder of monopoly on the legitimate use of force in a given area.

ANSWER: the state [accept Staat; do not accept or prompt any synonyms]

7. Name some Biblical Judges, for 10 points each.

[10] This Judge joined forces with the Israelite general Barak to take down the Canaanite general Sisera in battle. The writer of a namesake “song,” she gave judgments under a palm tree and was female.

ANSWER: Deborah

[10] This Nazirite Judge told Delilah, a Philistine spy, that his hair was the source of his prodigious strength; she then subsequently betrayed him by shaving his head.

ANSWER: Samson

[10] After the Israelites turned to idol worship following Deborah’s victory, God picked this tribesman of Manasseh and son of Joash, to destroy the idols, free the Israelites from pagan worship, and conscript an army to fight the Midianites. After that victory, Israel experienced a 40-year peace.

ANSWER: Gideon

8. Answer some questions about the first Yalie to become President, for 10 points each:

[10] This obese Ohioan President’s cabinet included anti-conservationist Richard Ballinger and “dollar diplomacy” advocate Philander Knox. He succeeded Theodore Roosevelt.

ANSWER: William Howard Taft

[10] Taft ousted Jose Zelaya as the first of many Presidents to send Marines to this Western hemisphere country, later ruled by Daniel Ortega’s Sandinistas.

ANSWER: Nicaragua

[10] Taft’s attempt to finance a railway through China echoed this man’s Open Door policy. A former personal aide to Lincoln, he co-named treaties regarding the Panama Canal as Roosevelt’s Secretary of State.

ANSWER: John Hay

9. The title character’s sister is romantically attached to Charles Lomax and she herself is loved by Greek scholar, Adolphus Cusins. For 10 points each:

[10] Name this play about the moral struggle between the title Salvation Army officer and her arms-manufacturing father, Andrew Undershaft.

ANSWER: Major Barbara

[10] *Major Barbara* is by this Irish playwright, who wrote of Vivie’s shocking discovery of the source of her mother’s income in *Mrs. Warren’s Profession*.

ANSWER: George Bernard Shaw

[10] Jack Tanner tries to resist entrapment in marriage by Ann Whitefield in this Shaw play, which includes the play-within-a-play “Don Juan in Hell”.

ANSWER: Man and Superman

10. The chain rule allows for performing this operation on composite functions. For 10 points each:

[10] Name this operation related to the integral by the Fundamental Theorem of Calculus, which determines the slope of a function at a single point.

ANSWER: **derivative** [accept **differentiation** or word forms thereof]

[10] These series approximate non-polynomial functions by generating an infinite polynomial whose coefficient for the x-to-the-n term is usually the nth derivative over n factorial. A subtype is the Maclaurin series.

ANSWER: **Taylor** series

[10] Unduloids are functions with this type of mean curvature. Functions with this property have derivatives of 0, since their slope is always 0.

ANSWER: **constant** [prompt “their value doesn’t change” or things like that]

11. Answer some questions about the architecture of Washington D.C., for 10 points each.

[10] This building located at 1600 Pennsylvania Avenue, originally designed by James Hoban, was expanded by Thomas Jefferson when he moved in as President of the United States.

ANSWER: The **White House**

[10] George Washington hired this French architect to design Washington D.C. He also designed the seal for the Society of Cincinnati.

ANSWER: Pierre **L'Enfant**

[10] This designer of New Haven's own Ives Memorial Library and New York City's Woolworth Building designed the Supreme Court Building.

ANSWER: Cass **Gilbert**

12. In one parody of this figure, Grover of Sesame Street teaches children how to use the word “on,” and a seashell in his hand opens up to “tickets to that thing you love,” which melt into diamonds. For 10 points each:

[10] Name this African-American figure first seen in a shower saying “Look at your man, now back to me” and later seen on a horse.

ANSWER: The **Man Your Man Could Smell Like** [prompt “Isaiah Mustafa;” prompt answers such as “Old Spice guy,” though don’t let teams know you can prompt them unless you do prompt this]

[10] The Man Your Man Could Smell Like is in ads for this deodorant brand which produces Red Zone body spray. Its other campaigns include “Experience is Everything.”

ANSWER: **Old Spice** [prompt “Procter and Gamble”]

[10] Sesame Street was parodied by the Broadway musical *Avenue Q*, which itself parodied this newly-dead actor, who in the show sings “You Can Be As Loud As The Hell You Want” and the duet “Schadenfreude” with Nicky.

ANSWER: Gary **Coleman**

13. It began with a document called the Action Programme released shortly after Antonin Novotny’s replacement by Alexander Dubcek, who called it “socialism with a human face.” For 10 points each:

[10] Name this brief flowering of small markets and freedoms in 1968 communist Czechoslovakia.

ANSWER: **Prague Spring**

[10] This General-Secretary of the Soviet Union issued his namesake “doctrine” after sending Warsaw Pact troops to crush Prague Spring. His tenure also saw the Soviet invasion of Afghanistan.

ANSWER: Leonid **Brezhnev**

[10] Soviet tanks had rolled into this country 12 years earlier to depose Imre Nagy [NAJ], who had been installed by popular demand after a revolt against the Communist government. Janos Kadar then took power here.

ANSWER: **Hungary** [accept **Magyarország**]

14. This deity, son of Coatlicue, led the Nahua people out of Aztlan and commanded them never to return. For 10 points each:

[10] Identify this deity of war and the sun, whose name translates as “blue hummingbird of the left.”

ANSWER: **Huitzilopochtli**

[10] Huitzilopochtli was the patron deity of this place, the capital city of the Nahua people, perhaps better known as the Aztecs.

ANSWER: **Tenochtitlan**

[10] This brother of Huitzilopochtli is the god of the morning star and created mankind for the fifth time. He is often depicted as a feathered serpent.

ANSWER: **Quetzalcoatl** [or **Quetzalcohuatl**]

15. Linear combination of these atomic objects can determine the shape of molecular ones. For 10 points each:
[10] Name these regions surrounding the nucleus in which electrons are found. They build up via the Aufbau principle and can be labeled s, p, d, or f.

ANSWER: atomic **orbitals** [do not accept “shell” or “subshell”]

[10] This principle states that no two electrons in an atom will have the same set of quantum numbers determining their orbital configuration. It implies that electrons paired in a filled orbital will always have opposite spins.

ANSWER: **Pauli** exclusion principle

[10] This rule implies that all orbitals of a given energy level and shape will fill with one electron each, all with parallel spin, before any of them gets a second electron of opposite spin.

ANSWER: **Hund’s** [first] rule of maximum multiplicity [accept “rule of **maximum multiplicity**”; be nice and accept **Hund’s rules**]

16. “My hope and Treasure lies above” is the closing verse of this poem, showing the religious overtones of Puritan society. For 10 points each:

[10] Name this American poem based on the titular event which occurred on July 10th, 1666.

ANSWER: “Verses upon the **Burning of our House**, July 10th, 1666”

[10] “Verse Upon the Burning of Our House” is by this female early American poet of The Tenth Muse Lately Sprung Up in America, who praised her marriage in “To My Dear and Loving Husband”.

ANSWER: Anne **Bradstreet**

[10] Anne Bradstreet was the ancestor of Richard Henry Dana III, the son-in-law of this American poet of Evangeline and The Song of Hiawatha

ANSWER: Henry Wadsworth **Longfellow**

17. He published several collections of keyboard music entitled *Clavier-Übung*, the second of which consists of an Overture in the French Style and an Italian Concerto. For 10 points each:

[10] Name this German Baroque composer whose other keyboard works include the *Goldberg Variations* and a Toccata and Fugue in D minor.

ANSWER: Johann Sebastian **Bach**

[10] This collection of keyboard music by Bach consists of two books of twenty-four preludes and fugues, one in every major and minor key.

ANSWER: *The* **Well-Tempered Clavier** [or *Das* **wohltemperierte Klavier**]

[10] Six of these suites for keyboard make up Bach’s collection *Clavier-Übung I*. A famous chaconne in D minor appears in the second of his three for solo violin, which appear in a collection with three sonatas.

ANSWER: **partitas**

18. Answer these questions about Britain’s struggle against France during the Napoleonic Wars, for 10 points each.

[10] Gebhard von Blücher led Prussians on the winning side of this June 1815 battle in Belgium, at which the Duke of Wellington finally defeated Napoleon.

ANSWER: Battle of **Waterloo**

[10] Horatio Nelson died leading British ships to victory over the French and Spanish navies at this October 1805 sea battle off the coast of Spain.

ANSWER: Battle of **Trafalgar**

[10] After Trafalgar, Napoleon issued the Berlin Decrees to begin instituting this policy, which forbade so-called “allies” of the French Empire from trading with England. After Russia withdrew from it, Napoleon chose to invade.

ANSWER: the **Continental System** [accept **Continental Blockade** or **Blocus continental**]

19. Tom fights with his siblings Antoine and Christian over inheritance from their father Jean, while his son, Hanno, dies of typhoid. For 10 points each:

[10] These are all members of what title family from Lubeck, which appear in its author’s first novel?

ANSWER: **Buddenbrooks**

[10] *Buddenbrooks* is by this German author who wrote of Aschenbach’s expiring in the grip of illicit passion for Tadzio in *Death in Venice*.

ANSWER: Thomas **Mann**

[10] Hans Castorp spends seven years in a Swiss sanatorium run by Hofrat Behrens in this novel by Thomas Mann.

ANSWER: *The* **Magic Mountain** [or *Der* **Zauberberg**]

20. On diagrams, this entity's namesake colored "lines" determine the specific wavelengths of light emitted from a source within its visible portion. For 10 points each:

[10] Name this arrangement of radiative waves by frequency, which runs from low-energy radio waves to high-energy gamma rays.

ANSWER: electromagnetic **spectrum**

[10] This element's Balmer series is its set of four visible spectral lines, one of which is deep red. It is the most abundant element in the universe.

ANSWER: atomic **hydrogen** [prompt "H"]

[10] This formula, containing a namesake constant R_{∞} , relates the wavelength of a light emission to the difference in principal quantum number between the higher and lower energy level of an electron emitting that light.

ANSWER: **Rydberg** formula

TB. Answer some questions about Booker Prize winners, for 10 points each:

[10] This Canadian author won in 2000 for *The Blind Assassin*, but may be better known for dystopian futuristic novels like *Oryx and Crake* and *The Handmaid's Tale*.

ANSWER: Margaret **Atwood**

[10] This Kazuo Ishiguro novel, told from the point of view of Mr. Stevens, a butler, recounts his service with Lord Darlington and his relationship with Miss Kenton. In 1993, it was adapted into a movie starring Anthony Hopkins and was nominated for 8 Academy Awards.

ANSWER: *The **Remains of the Day***

[10] This more recent winner by Yann Martel tells of the titular young Indian boy who, after his ship sinks crossing the Pacific, survives on a life raft for months with a large Bengali tiger.

Answer: **Life of Pi**