

5/2/02

DSHIT 2002 - Round 2. Questions by Rutgers University – New Brunswick A

Tossups:

1. Its operating principle can be illustrated by two conducting shells, one inside of the other, with a wire connecting them providing a conducting path. In practice, a comb sprays charge onto a belt, which carries the charge inside of it, where the charge is removed by another comb. The increase in the potential of the charge on the belt generates potential differences of several million volts. FTP, name this machine most famously used to create lightning.

ANSWER: Van De Graaf accelerator or generator or equiv.

2. Resigning as a Unitarian minister in 1829, he began to create his own philosophy, which he examined in 1836's *Nature*. His poems also revealed his interest in nature, as in "The Humble-Bee" and "The Rhodora," but his most famous poem was about the battle of Concord. Best known are his essays, which include "The Over-Soul," "Prudence," and "Self-Reliance." FTP, name this leader of the Transcendental movement.

ANSWER: Ralph Waldo Emerson

3. Rumors spread during its later stages that Germans had massacred prisoners of war at Malmédy. On Dec. 16 the Germans, commanded by Marshal von Rundstedt (RUND – stat), took advantage of poor weather and surprised four American divisions. Many troops surrendered, an exception being a garrison in Bastogne. Its goal was Antwerp, but it barely proceeded beyond the Ardennes, and it created a large salient in Allied lines. FTP, name this battle that took its name from that salient.

ANSWER: the Battle of the Bulge (prompt on Ardennes offensive before Ardennes is said)

4. This country's Lake District includes Llanquihue (pron: YAN-key-hay), and Todos Los Santos lakes, which are overlooked by the Osorno volcano. Punta Arenas lies west of this country's portion of the Tierra Del Fuego, one of the stormiest places on Earth, but it also includes one of the driest, the Atacama Desert. FTP, name this South American nation 2500 miles long but never more than 300 miles wide.

ANSWER: Chile

5. The pH of one of these solutions can be found with the Henderson-Hasselbach (HASS-el-back) equation, which states that their pH is the negative common log of the weak acid's equilibrium constant minus the common log of the concentration of acid divided by the concentration of base. They comprise a conjugate acid-base pair, such as acetic acid and the acetate ion, and an example is blood, which has a pH of 7.4. For ten points, name this type of solution that resists changes in pH

ANSWER: Buffer or Buffered solution

6. Examples of this figure of speech include "Till I heard Chapman speak out loud and bold," and "The pen is mightier than the sword." Its name combines the Greek words for "after" and "name," and common examples include saying "the crown" for a monarch and "The White House" for the President. FTP, name this literary device that substitutes one name for another with which it is associated.

ANSWER: metonymy

7. In 1886, he lost a close race for mayor of New York City to Abram S. Hewitt, but was able to beat the Republican candidate, Theodore Roosevelt. A proto-muckraker, he wrote of Chinese servitude and railroad speculation, which led him to believe that land was the basis of class separation. He went on to argue that the government should raise all its revenue from a tax on land. FTP, name this author of *Progress and Poverty*.

ANSWER: Henry George

8. His works include "The Invincible Eagle" and "The Liberty Bell," which was later used as the theme music for *Monty Python's Flying Circus*. Listeners often did the two-step to his "The Washington Post," and his best-known operetta is *El Capitan*, but his most famous works are in another genre, and include "Semper Fidelis." FTP, name the "March King," composer of "The Stars and Stripes Forever."

ANSWER: John Philip Sousa

9. Events in his reign include the hanging of Sir John Oldcastle, a former friend, during the suppression of a Lollard plot. He named his brother Humphrey regent for his son, who bore the same name as he and his father. His greatest achievement came with an invasion of Normandy that he began in 1417 and led to the greatest English victory of the Hundred Years War. FTP, name this English king, victor at Agincourt.

ANSWER: Henry V

10. In adiabatic processes, it is related inversely to the internal energy of the process, and in cyclical processes it equals the amount of heat transferred. The first law of thermodynamics relates it in general to internal energy and heat, and the thermal efficiency of an engine equals it divided by the heat absorbed by the engine. In more well-known formulations, power is defined as it over time, and its SI unit is the Joule. FTP, name this physical concept defined as force times distance traveled.

ANSWER: **work**

11. Originally written backwards, requiring the use of a mirror to read it, this poem uses words meaning "to go round and round like a gyroscope" and "flimsy and miserable" – portmanteau invented specifically for it. These are stated in Humpty Dumpty's explanation of the work to its reciter, though he does not give the definition of such words as "frumious" or "tulgey." FTP, name this Lewis Carroll poem Alice recites in *Through the Looking Glass*.

ANSWER: **Jabberwocky**

12. He played college ball at the University of New Mexico, and as a senior, led his team in scoring, rebounding and blocked shots. The Minnesota Timberwolves selected him with the seventh overall pick in the 1991 draft. In 1994 he was traded to the Chicago Bulls, and was the big man for three championship teams. FTP, name this first Australian to play in the NBA.

ANSWER: Lucien James "Luc" **Longley**

13. After a stint as chairman of the House Ways and Means Committee, in 1844, he narrowly lost the election for governor of New York on the Whig ticket. During his presidency, California became a state and New Mexico a separate territory. In 1856, he lost a presidential bid to Buchanan as the candidate of the American party, which was known for its secrecy. FTP, name this man who failed to return to the presidency with the Know-Nothing Party.

ANSWER: Millard **Fillmore**

14. Toward the end, this novel tells of the birth of a child with a pig's tail. Other incidents include an entire town struck with insomnia and a suicide that defies the laws of physics. We see the town founded by José Arcadio Buendía develop through a century of history; finally that town, Macondo, is destroyed in a biblical hurricane. FTP, name this most famous novel of Gabriel García Márquez.

ANSWER: **One Hundred Years of Solitude** (or **Cien Años de Soledad**)

15. The Shimura-Taniyama-Weil Conjecture, which said that every elliptic curve is a modular form, played a major part in proving it. Similar to the Pythagorean Theorem, the latter is not technically a part of this theorem, which was proven by Andrew Wiles. It states that for natural numbers, $x^n + y^n = z^n$ has no solutions when n is greater than 2. For ten points, name this theorem, whose original proof was too big for the margin of its creator's book.

ANSWER: **Fermat's Last Theorem**

16. It begins with a description of God appearing as four creatures in the midst of a stormy wind, and its Chapter 37 holds the vision of the Valley of Dry Bones. Its author was the first prophet to receive the call outside of the Holy Land; accordingly, it foresees the fall of Jerusalem and the eventual restoration of Israel. FTP, name this book, which, with Isaiah and Jeremiah, is one of the books of the major prophets.

ANSWER: **Ezekiel**

17. Its founder said that it "claims that 'consciousness' is neither a definable nor a usable concept," reacting to the introspective theories of his time. That founder, John Watson, sought to bring scientific objectivity into psychology, basing his work on that of Ivan Pavlov and determining that the organism's mind is shaped by responses to stimuli. FTP, name this school of psychology most commonly associated with B.F. Skinner.

ANSWER: **Behaviorism**

18. Probably its first usage in Russian literature was by Nadezhdin, who applied it to Pushkin. Dostoyevsky satirized it in *The Possessed*, while its best-known literary expression is Bazarov in Turgenev's *Fathers and Sons*, the novel that popularized this movement's name. Originally equated with skepticism, it later came to be associated with anarchism and destruction. FTP, name this philosophy that takes its name from the Latin word for "nothing."

ANSWER: **nihilism**

19. Jerry Nelson performed this character, as did Steve Hunt, who also performed Foo-foo and Rizzo the Rat. In "The Muppet Movie," Kermit found her riding in the plumber truck. She did not appear in "Muppets From Space," where Rizzo took her role as the Great Gonzo's helper, the "Fair Maiden." FTP, name this Muppet, a chicken.

ANSWER: **Camilla** the Chicken

20. Its first conquest was Amyclae, which started a sequence of conquests that brought under its control Messenia and the plain of the Eurotas River, including much of its region, Laconia. Lycurgus is supposed to have given this city its laws, which stressed military readiness and discipline in order to keep control of its slaves, or helots. FTP, name this city-state that led the Peloponnesian League against Athens.

ANSWER: Sparta

21. De facto head of a railroad company that bears her name, her brother James is the president, and her friends include Hank Rearden and Francisco D'Anconia. She tries to save its trains from total collapse in the wake of a despotic government restricting its actions in the name of total fairness. FTP, name this character, whose railroad is the centerpiece of Ayn Rand's *Atlas Shrugged*.

ANSWER: Dagny Taggart

22. Followed by the Thermidorian reaction and partly a response to the Vendée uprising, during it, the Law of 22 Prairial allowed juries to convict without hearing evidence. Considered to have begun with the creation of the Committee for Public Safety, it ended on July 28, 1794, with the death of Maximilien Robespierre. Thousands were guillotined in, FTP, what bloodiest period of the French Revolution?

ANSWER: the Reign of Terror

23. Traveling about the universe, he meets a king, a lamplighter, a drunk, and a geographer. He learns from a fox the meaning of life: "It is only with the heart that one can see rightly; what is essential is invisible to the eye." Later he asks, "If you please – draw me a sheep," to a pilot, who resembles the author, Antoine de Saint-Exupéry. FTP, name this character who returns to his home on asteroid B-612 because he misses his rose.

ANSWER: The Little Prince or Le Petit Prince

24. The most common form of this biological phenomenon requires geographical isolation. For example, the distance between two islands must be great enough to limit interbreeding between populations of finches. Genetic drift and the founder effect can cause the allopatric form while disruptive selection and assortative mating can cause the sympatric form of, FTP, what evolutionary process, resulting in the formation of a new species?

ANSWER: Speciation

25. It has been long thought that this painting is of the artist's daughter, but the artist's eldest daughter was only 11 when it was painted in 1665. The inspiration for a 1999 Tracey Chevalier novel with which it shares its name, it has a dark, featureless background. All the color is in the subject, who wears a yellow cloak, a blue-and-cream turban, and the title piece of jewelry. FTP, name this painting by Jan Vermeer.

ANSWER: Girl with a Pearl Earring

Bonuses

1. For ten points each, answer these questions about a novel.

[10] Published in 1951, it describes an uprising among the crew of a minesweeper that sails into a typhoon.

ANSWER: The Caine Mutiny

[10] He is the main character, a Princeton graduate whose main loves were a woman named May and a job teaching literature.

ANSWER: Willie Keith

[10] The captain of the Caine, his neurosis leads to the mutiny.

ANSWER: Phillip Queeg

2. Name the painter from works, for 10 points each.

[10] "Laocoon," "View of Toledo"

ANSWER: El Greco or Domenikos Theotocopoulos

[10] "The Conversation," "The Dance"

ANSWER: Henri Matisse

[10] "Composition With Red, Yellow and Blue," "Broadway Boogie Woogie"

ANSWER: Piet Mondrian

3. Given the following ions, give their charges for ten points each.

[10] Ammonium

ANS: +1

[10] Oxalate

ANS: -2

[10] Thiocyanate

ANS: -1

4. Given the war in which the United States participated, give the name of the treaty that ended it for ten points each.

[10] The War of 1812

ANSWER: Treaty of **Ghent**

[10] The Mexican-American War

ANSWER: Treaty of **Guadalupe Hidalgo** (Gwad-uh-LOOP-ay Hi-DOLL-go)

[10] The Spanish-American War

ANSWER: Treaty of **Paris**, 1898

5. 30-20-10, name the poem from lines.

[30] "More happy love! more happy, happy love!"

[20] "Fair youth, beneath the trees, thou canst not / Leave thy song, nor ever can those trees be bare;"

[10] "Beauty is truth, truth beauty" – that is all / Ye know on earth, and all ye need to know.

ANSWER: **Ode on a Grecian Urn**

6. Name these Italian regions, given capitals, for 10 points each.

[10] Palermo

ANS: **Sicily** or **Sicilia**

[10] Milan

ANS: **Lombardy**

[10] Naples

ANS: **Campania**

7. Name these books by American female authors from characters for 15 points each, or for 5 points if you need the author.

[15] Zenobia Pierce, Mattie Silver

[5] Edith Wharton

ANSWER: **Ethan Frome**

[15] Alphonso, Annie Julia, Shug Avery

[5] Alice Walker

ANSWER: The **Color Purple**

8. Name things relating to chloroplasts, for ten points each.

[10] Chloroplasts are found mostly in this green tissue, which is located between the upper and lower epidermis.

ANSWER: **Mesophyll**

[10] Grana consist of a stack of these flattened sacs.

ANSWER: **Thylakoids**

[10] The Calvin cycle occurs in this fluid that surrounds the grana.

ANSWER: **Stroma**

9. For ten points each name the following about the Reformation.

[10] John Calvin established a conservative theocracy under his principles in this city.

ANSWER: **Geneva**

[10] This pastor in Zurich led the Swiss Reformation that led to a civil war in which he was killed in 1531.

ANSWER: Ulrich (or Huldreich) **Zwingli**

[10] This council decreed some important reforms against simony and for standardization, but it mostly upheld Catholic doctrine.

ANSWER: Council of **Trent**

10. Answer the following questions about characters from Game Cube's *Super Smash Brothers Melee*, on a 5-5-10-10 basis.

[5] This cute character, who also appeared in *Super Smash Brothers* for Nintendo 64, has the power to turn into an impenetrable rock to crush its enemies.

ANSWER: **Kirby**

[5] His attacks include throwing vitamins at enemies, the same vitamins that he used to defeat viruses in his namesake video game for the original Nintendo.

ANSWER: **Dr. Mario**

[10] This hero of the Japanese game Fire Emblem has attacks including the powerful Flare Blade.

ANSWER: **Roy**

[10] This character dates from 1980 and was Nintendo's first video game character. He is actually only 2-dimensional.

ANSWER: Mr. **Game and Watch**

11. For ten points each, name these poets who lived in both the U.S. and Great Britain.

[10] Born in Britain, just before the war he moved to the States, where he wrote "In Memory of W. B. Yeats" and "September 1, 1939."

ANSWER: W(ystan) H(ugh) **Auden**

[10] He immersed himself in British culture, taking a British child's rhyme for the end of "The Hollow Men" and examining English history in *Murder in the Cathedral*.

ANSWER: T(homas) S(tearns) **Eliot**

[10] His first two books of poetry, *A Boy's Will* and *North of Boston*, were published in England. He then returned to the U.S. and won four Pulitzers.

ANSWER: Robert **Frost**

12. Name these types of document encoding for ten points each.

[10] An application of SGML, it uses tags to indicate how Web browsers should display them. Most Web pages are encoded in it.

ANSWER: **HyperText Markup Language**

[10] Adobe Acrobat recognizes files in this format.

ANSWER: **Portable Document Format**

[10] Also an application of SGML, it is similar to HTML but does not prescribe a set of tags, and can be used to encode any data.

ANSWER: **eXtensible Markup Language**

13. Name these figures from Norse myth for ten points each.

[10] These maidens decided which warriors would not survive battle, and served mead in Valhalla.

ANSWER: **Valkyries**

[10] These tenders of Yggdrasil and deciders of fate are comparable to the Greek furies.

ANSWER: **Norns**

[10] She was the daughter of Loki and goddess of the underworld.

ANSWER: **Hel**

14. Name these short stories for ten points each.

[10] The title character comes to regret his marriage to Praskovya Mihel and suffers so much pain that he welcomes his end in this Tolstoy story.

ANSWER: The **Death of Ivan Ilyich** or **Smert Ivana Ilyicha**

[10] In this Maupassant story, Mathilde borrows the title object from Mrs. Forrestier and loses it.

ANSWER: The **Necklace** or La **Parure**

[10] This Gogol work centers on Collegiate Assessor Kovalev's quest to recapture a runaway body part.

ANSWER: The **Nose** or **Nos**

15. For ten points each, name the following relating to the Gilded Age.

[10] His namesake ring included the city comptroller and mayor of New York, and bilked the city and state out of millions in the 1860s.

ANSWER: William Marcy "Boss" **Tweed**

[10] This scandal is named for a Union Pacific Railroad construction company that received more than double the actual cost of building railroad tracks.

ANSWER: **Crédit Mobilier**

[10] Grant's first-term VP, he wasn't renominated and was later implicated in the Crédit Mobilier scandal.

ANSWER: Schuyler **Colfax**

16. Name the following relating to an economic term, 5-10-15.

[5] This represents the total market value of a nation's annual output by factors of production located within the nation's borders.

ANSWER: **Gross Domestic Product**

[10] Many European nations tax this, the increase in the price of a product at each step in its production; it is not included in GDP due to double counting.

ANSWER: **value added**

[15] This is the production of goods and services valued at current prices.

ANSWER: **nominal GDP**

17. Given the nickname of a symphony, give its composer, for ten points each:

[10] Unfinished Symphony

ANSWER: Franz Peter **Schubert**

[10] London Symphony

ANSWER: Franz Joseph **Haydn**

[10] Titan Symphony

ANSWER: Gustav **Mahler**

18. Name these sociological terms on a 5-10-15 basis.

[5] The conformity of members of ethnic groups to the culture of the dominant group.

ANSWER: **assimilation**

[10] An attitude that one's own culture, society, or group is inherently superior to all others.

ANSWER: **ethnocentrism**

[15] The destruction of hierarchical pattern and arrangement in society.

ANSWER: **destratification**

19. Given a Shakespearean character, name his or her significant other on a 5-10-15 basis.

[5] Othello

ANS: **Desdemona**

[10] Theseus

ANS: **Hippolyta**

[15] Anne Page

ANS: **Fenton**

20. Name the following relating to the European Union for the stated number of points.

[10] For ten points, name the 1993 treaty that established the EU.

ANSWER: **Maastricht** Treaty

[5,5] The EU grew out of the EC, which comprised three commercial organizations. Name any two for five points each.

ANSWER: **European Economic Community** (or **Common Market**)

European Coal and Steel Community

European Atomic Energy Community (or **Euratom**)

[10] For ten points, name the only country whose people voted down entry into the EU, in 1994.

ANSWER: **Norway**

21. Name the following mathematical inequalities for ten points each.

[10] Given vectors **u** and **v**, the length of **u** plus **v** is less than or equal to the length of **u** plus the length of **v**.

ANSWER: **Triangle** Inequality

[10] Given vectors **u** and **v**, the absolute value of the dot product of **u** and **v** is less than or equal to the length of **u** times the length of **v**.

ANSWER: The **Cauchy-Schwarz** Inequality or **CBS** Inequality or **Cauchy's** Inequality or **Schwarz's** Inequality Or - **Bunyakovsky's** Inequality

[10] The error of the position of a particle dotted with its momentum must be greater than Planck's constant divided by two pi.

ANSWER: **Heisenberg Uncertainty Principle**

22. For ten points each, name the following about Hinduism.

[10] These three gods, the creator, destroyer and preserver, compose the Trimurti.

ANSWER: **Brahma, Vishnu, Shiva**

[10] Each of these comprises Brahmanas, mantras, and Aranyakas, which include the Upanishads.

ANSWER: **Vedas**

[10] This term refers to the cycle of life, death, and rebirth.

ANSWER: **Samsara**

23. Name these recent rock albums from songs for ten points each.

[10] "Don't Let Go," "Hash Pipe"

ANS: **Weezer** or the **Green Album**

[10] "My Sacrifice," "One Last Breath"

ANS: **Weathered**

[10] "Alive," "Youth of the Nation"

ANS: **Satellite**

24. Name these Chinese dynasties for 10 points each.

[10] Its only ruler, Huangdi, ordered the building of the Great Wall of China.

ANSWER: **Q'in** Dynasty (or **Ch'in** Dynasty)

[10] Two dynasties were established by Mongols. Name either.

ANSWER: **Yuan** Dynasty or **Manchu** Dynasty (or **Qing** or **Ch'ing**)

[10] The height of its power was around 140-87 BC, under emperor Wu-Ti.

ANSWER: **Han** Dynasty