2004 Truman State
Brainal Leakage
Packet 3

Tossups

1. (kyle_glit) **Craftsmen by trade, these German poets of the Middle Ages replaced and continued the traditions** (*) of the minnesingers. They organized their guilds by preferred style of literature, ranging from those who briefly knew grammatical rules to those coming up with new melodies. The movement did not last long due to rigid and capricious composition requirements among several of the guilds. FTP, identify this movement that gave rise to guilds with a series of ranks, of which the top rank was "master."
Answer: _Meistersingers_

2. (Maddog_AmHist) **This series of agreements was proposed by Robert Bourassa and approved by Prime Minister Brian Mulroney and the premiers of each of the Canadian provinces** (*) in 1987. They included a guarantee of Quebec's special status as a "distinct society" as well as a commitment to Canada's linguistic duality. However, lack of support for them from Newfoundland and Manitoba led Quebec to once again consider independence. FTP, name these failed accords first proposed in 1987 and finally dying in 1990, aimed at coercing Quebec into accepting the Canada Act and named after a body of water in Quebec's Gatineau Park.
Answer: _Meech Lake_ Accords

3. (piguy_bio) **His life's work was the result of his discovery that certain dyes stained microorganisms but not animal cells.** (*) He then spent countless hours searching for the "magic bullet," a chemical that would destroy specific bacteria without damaging surrounding tissues. This scientist, the first serious researcher in the field of chemotherapy, also headed the world's first institute concerned with the development of drugs to treat disease. FTP, name this man who received the Nobel Prize in Medicine in 1908 for his work with immunity.
Answer: Paul _Ehrlich_

4. (piguy_chem) **In the various efforts to remove caffeine from coffee beans, many solvents have been tried, but the best method involves using this chemical in its supercritical state.** (*) This compound has a critical temperature of 30.99°C and a critical pressure of 72.8 atm and is very easy to handle. This chemical is cheap, widely available, essentially nontoxic, nonflammable, and is the least expensive solvent after water. FTP, name this compound that, in its gaseous form, is critical to the survival of autotrophic plants.
Answer: _carbon dioxide_ (accept CO_2)

5. (brian_alit) **James is an American, which is an extremely new concept difficult for most people to understand** (*) in this Hector Crevecoeur work. He is a farmer, like most Americans at the time, and describes thoroughly how his situation compares with contemporary farmers' situations around the world, "contemporary" being 1782. FTP, name this collection of fictional correspondences in which Crevecoeur asks the famous question, "What then is the American, this new man?"
Answer: _*Letters from an American Farmer*_

6. (jlive_math) **If S is a partially ordered set such that every chain in S has an upper bound in S, then S has at least one maximal element.** (*) It was first stated as a 'maximum principle' in a paper published in 1935 with the title "A remark on method in transfinite algebra," but John Tukey renamed it after its discoverer. FTP, identify this proposition equivalent to the axiom of choice.
Answer: _Zorn's_ Lemma

7. (kerrith_blit) **It teaches us that we should always eat muffins calmly,** (*) lest we get butter on our cuffs. It also teaches us the finer points of the art of Bunburying. Moreover, we are not surprised that in this play, the good end happily and the bad unhappily, for "that is what Fiction means." FTP, name this play, which never teaches us the lesson proclaimed in the title.
Answer: *The _Importance of Being Earnest_*

8. (jlive_engin) **It holds for the current and voltage of all linear time-invariant networks. For power, it applies only to orthogonal signals.** (*) In any network for which it holds, the total response of the network is equal to the sum of the

responses of each independent source with all other independent sources set equal to zero. FTP, identify this property of waveforms.
Answer: _superposition_

9. (tallpaul_bhist) **After Henry VIII's death, this man married Henry's 6th wife, Catherine Parr, with Catherine then becoming pregnant and giving birth to daughter Mary.** (*) At least Catherine managed to stay relatively within the family with this choice of a husband, as this man, the Lord High Admiral of England, was the brother of Jane, Henry's 3rd wife. FTP, name this man, whom Catherine suspected of flirting with Princess Elizabeth during Catherine's pregnancy.
Answer: Thomas _Seymour_

10. (greg_ceurhist) **There were 120 in total from Paolo Lucio Anafesto in 697 to Ludovico Manin in 1797.** (*) Their title was derived from the Latin word "dux," or leader, and notable ones included Enrico Dandolo, who despite being in his late seventies and totally blind convinced knights of the Fourth Crusade to sack Constantinople in 1205. FTP, give the title of these leaders of Venice whose office was abolished by Napoleon.
Answer: _doge_

11. (Maddog_Art) **At first glance, this art nouveau work appears beautifully tranquil. Yet further examination reveals tension in both the cramped position of the woman's head** (*) and the couple's tenuous position at the edge of a precipice. The painting was completed during the peak of the artist's golden style, with vibrant colors offering an escape from the ordinary world. FTP, identify this 1908 image of two lovers embracing, the work of Gustav Klimt.
Answer: *The _Kiss_*

12. (Maddog_asianlit) **This novel traces the story of two brothers who return to their home village in western Japan, each having to deal with their own demons. One brother must cope with the suicide of a close friend** (*) and the birth of a retarded son. The other sets out on a mission to start an uprising of local youth. He feels it is the only way to save the local economy from a scheming Korean. FTP, identify this work by Kenzaburo Oe in which the second brother tries to bring down the "Emperor of Supermarkets."
Answer: *The _Silent Cry_*

13. (piguy_phys) **The speed of a motor changes such that the energy supplied by the source, minus energy lost to heat and energy needed to overcome back emf is equal to the amount of energy transferred to the mechanism under power.** (*) This phenomenon is a consequence of the physical law which states that the emf induced in an electric circuit always acts in such a direction that the current it drives around the circuit opposes the change in magnetic flux which produces the emf. FTP, identify this fundamental law of electromagnetism, named after the Russian physicist who formulated it in 1833.
Answer: _Lenz's_ Law

14. (jgaunt_mischist) **The oldest private university in Chile, founded in 1982 and having campuses in Santiago and Talca, is named for this man.** (*) This posthumous honor was well-deserved, however, as this man did much for the country of Chile, founding the conservative regime and serving as general minister and minister of war and marine. He refused the presidency, instead ruling in fact, reorganizing the army, the treasury, the internal administration, commerce, and industry. FTP, name this Chilean statesman who was the man largely behind the brilliantly conceived centralistic constitution of 1833.
Answer: Diego _Portales_

15. (kyle_misclit) **Appointed by the duke of Parma to manage his printing house, this Italian typesetter designed the first modern Roman-style typeface.** (*) This typeface, named for him, is known for having thick primary strokes along with contrasting thin serifs. FTP, name this Italian who printed an edition of *Lord's Prayer* in 155 languages as well as several classics, including the *Iliad*.
Answer: Giambattista _Bodoni_

16. (kerrith_music) **Features of this piece's eight short movements include imitation of birdsong** (*) and the use of prime numbers in determining rhythms; also, the composer's synthesia inspired the "rainbow" seventh movement. The piece was written while the composer was in a German World War II prison camp and was premiered there in front of an

audience of 5,000 prisoners. The title is taken from accounts of the Apocalypse, after the sounding of the seventh trumpet. FTP, name this piece for clarinet, violin, cello, and piano by Olivier Messiaen.
Answer: _*Quartet for the End of Time*_

17. (Maddog_geog) **This geologic site was inaugurated as a national park in 1941 and designated as a world heritage site in 1981.** (*) It is composed of limestone chambers and passageways on five separate levels. Through its lowest level flows a 4,000-foot long subterranean stream, the Echo River, which is home to several rare animal species. FTP, name this cave system with 350 miles of charted passageways that is located in southwestern Kentucky.
Answer: _Mammoth_ Cave

18. (kyle_flit) **In 1831, this author released *La Peau de Chagrin*, which led to other works such as *Madame Firmiani* and *The Purse*.** (*) Although showing signs of Romanticism, this author's first work, 1829's *Les Chouans*, brought fame to this Frenchman for historical accuracy in his fiction. For 14 years he worked on his greatest work, a 17-volume collection, and in this work's introduction gave nods to the theories of Jean-Baptiste Lamarck, linking those theories to human behavior. FTP, who is this author of a collection of works called *The Human Comedy*?
Answer: Honoré de _Balzac_

19. (chalsey_myth) **In different theologies of Sumerian mythology, he was either the son of An or of Enlil, the nominal and real head of the pantheon, respectively.** (*) When written in cuneiform, his name was represented by the number thirty, this moon God's sacred number because of the number of days in a lunar month. FTP, most commonly called Nanna by his Mesopotamian worshippers, name this lunar deity whose name seems to have no connection to the Judeo-Christian idea of acting against God's law.
Answer: _Sin_ (accept Nanna for early answers)

20. (greg_ceurhist) **Its principal cities included Bremen, Lubeck, Danzig, and Hamburg, and it arose in the 13th century as merchants began to capitalize on German expansion in the Baltic.** (*) At its height in the late 14th century, its trade networks extended from Russia to the Low Countries and it had become the major naval power in the Baltic before being eclipsed by Dutch and English sea power. FTP, name this association of Northern European merchant towns which derived its name from a German word for a group of merchants involved in foreign trade.
Answer: _Hanseatic League_

21. (jlive_astr) **The Big Bang theory rejects the perfect one but accepts the usual one; the Steady State theory accepts both.** (*) The usual one says that the universe looks essentially the same from every vantage point in space, while the perfect one says that the universe looks essentially the same from every vantage point in space *and* time. FTP, give the name that these disputed ideas in astronomy share.
Answer: _cosmological principle_

22. (jlive_philo) **According to its author, the form of this work is well-suited to its subject matter, since no "certain determination" has been reached about the attributes, decrees, and plans of a divine being.** (*) The author briefly describes his characters as philosophical, skeptical, and orthodox—those characters being Cleanthes, Philo, and Demea, respectively. FTP, identify this controversial work published only after the death of its author, David Hume.
Answer: _*Dialogues Concerning Natural Religion*_

23. (Maddog_econ) **In his 1974 book coauthored with Stanley Engerman, *Time on the Cross: The Economics of American Negro Slavery*, he argued that slavery would not have eventually withered away, but was an efficient, perpetual system.** (*) Using cliometrics, a system combining economic theory, statistical studies, and hypothesis testing, he and Douglass C. North received the 1993 Nobel Prize in Economics for their reexamination of historical economies. FTP, name this American economist, one of the first two economic historians to win the prize.
Answer: Robert W. _Fogel_

Bonii 3

1. (Maddog_gender) For the stated number of points, answer these questions about firsts in the struggle for female suffrage.

10—This oceanic member of the British Commonwealth became the first state in the world to allow women to vote in national elections.
Answer: _New Zealand_

5,5—These sparsely populated western states were the first two to grant women the right to vote. Name them for five points each.
Answer: _Wyoming_ AND _Utah_

10—This nation was the first in Latin America to enfranchise women, but voting by women was optional, while male voting was obligatory.
Answer: _Ecuador_

2. (tallpaul_bhist) FTPE, name the British royal consorts given their wife.

10—Queen Mary I of England.
Answer: _Philip II of Spain_

10—Queen Victoria.
Answer: _Prince Albert of Saxe-Coburg-Gotha_ (accept Prince Albert, Duke of Saxony)

10—Queen Elizabeth II.
Answer: Prince _Philip_ (prompt on Duke of Edinburgh)

3. (piguy_sports) In 1970, Bobby Orr became the only player in NHL history to win four individual season trophies. For 5 for one, 10 for two, 20 for three, or 30 for all four, name the trophies given their descriptions.

A—Most valuable player.
Answer: _Hart_ Trophy

B—League scoring leader.
Answer: _Art Ross_ trophy

C—Outstanding defenseman.
Answer: _Norris_ Trophy

D—Playoff MVP.
Answer: _Conn Smythe_ Trophy

4. (Maddog_flit) 30-20-10—Name the author.

30—In 1940, he began working for the newspaper *Paris-Soir*. Later, while writing for the underground newspaper *Combat*, he became involved in the French resistance to Nazi occupation.
20—In his work *The Rebel*, he attacked Stalinist Communism, which ended his friendship with the pro-Stalin Sartre.
10- Author of *The Stranger*, he died in a car crash in 1960.
Answer: Albert _Camus_

5. (greg_ceurhist) Identify the historic Henry for fifteen points each.

15—He was the last of the Valois kings of France and named another Henry his successor upon his death in 1589.
Answer: _Henry III_ of France

15—He was a notorious anti-Semite and published *The International Jew* in 1921, although he was better known as an industrialist.
Answer: Henry _Ford_ Sr.

6. (Maddog_Art) Yes folks, it's that time again. Time to see what you know about those wacky "wild beasts." FTPE, identify these fauvist artists.

10—Born in Chatou, France, this artist is known for works such as *Mountains at Collioure* and *London Bridge*.
Answer: Andre _Derain_

10—Perhaps the best-known fauve, this Frenchman is known for works like *The Woman with the Hat*.
Answer: Henri _Matisse_

10-Along with Derain and Matisse, this man was one of the fathers of fauvism. He was a professional bicyclist and violinist before becoming a painter. One of his greatest fauvist works is *Red Trees*.
Answer: Maurice de _Vlamnick_

7. (maddog_misclit) FTPE, answer these questions about Russian dramatist Anton Chekhov.

10—This play is the first in Chekhov's second period of writing for the theatre, a play that Chekhov claimed contained "five tons of love." Characters include Madame Arkadina and her son Konstantine.
Answer: *The _Seagull_* (accept *Chayka*)

10—Originally titled *The Wood Demon*, this play begins in the garden of Professor Serebryakov along with his beautiful young wife, Yelena.
Answer: *_Uncle Vanya_*

10—Chekhov received a Russian national poetry prize named after this man.
Answer: Alexander _ Pushkin_

8. (kyle_blit) Identify the following concerning works with tigers, FTPE.

10—In 1794, this poet wrote "The Tyger."
Answer: William _Blake_

10—Along with tigers, this man's favorite archetypal objects include the labyrinth, swords, and the sea. His works include *The Gold of the Tigers* and "Blue Tigers."
Answer: Jorge Luis _Borges_

10—In what book did A.A. Milne introduce his readers to Tigger?
Answer: *The _House at Pooh Corner_*

9. (Maddog_asianhist) FTPE, identify the key battle in the history of the Ottoman Empire from clues.

10—In 1389, the Ottoman Turks defeated the Serbians at this decisive battle that opened the door to Ottoman expansion in Europe. However, the Ottoman Sultan Murad I was killed.
Answer: _Kosovo_

10—This 1571 naval engagement between the Ottomans and the Holy League under Don Juan of Austria was the first major Christian victory over the Turks.
Answer: _Lepanto_

10—After Murad II abdicated the throne in favor of his son Muhammad II, the armies of Europe launched a new crusade to prey on the perceived Ottoman weakness. However, Murad came out of retirement and soundly defeated the Europeans at this Bulgarian town in 1444.
Answer: _Varna_

10. (piguy_bio) How well do your know your bacterial diseases? For 15 points each, given the organism, name the disease it causes. If you need the description of the disease, only 5 points will be awarded.

15—*Yersinia pestis*.
5—It causes fever and a painful swelling of the lymph glands. It also causes spots on the skin that are red at first and later turn black. It killed 25 million people between 1347 and 1352.
Answer: _black death_ (also accept black plague, bubonic plague, or pneumonic plague; prompt on plague)

15—*Treponema pallidum*.
5—This complex sexually transmitted disease is passed from person to person by direct contact with a sore. If a person has this disease for less than a year, it can be cured with a dose of penicillin. The disease is often called "the great imitator."
Answer: _syphilis_

11. (jlive_math) FTPE, answer the following math questions that might interest M.C. Escher.

10—Given a lattice in the plane and a point of that lattice, this consists of the entire region of the plane that is nearer to the point than to any other point of the lattice.
Answer: _Dirichlet_ domain

10—How many distinct Dirichlet domains exist for two-dimensional lattices?
Answer: _five_

10—Given the five distinct Dirichlet domains for two-dimensional lattices, how many distinct symmetry groups exist? Another way of asking this question is, how many mathematically distinct kinds of wallpaper exist?
Answer: _17_

12. (tallpaul_bhist) For the stated number of points, identify the foreign group who occupied England in the described situations.

5—This group arrived in 54 BC under Julius Caesar and permanently withdrew by 410 AD.
Answer: _Romans_

5—Name one of the Germanic tribes that controlled the island of Britain by the beginning of the 7th century AD.
Answer: _Angles, Saxons, Jutes_ (only need one of these 3)

10—Waves of these people began attacking around 865 AD, conquered Northumbria and Mercia, and were paid off by an Anglo-Saxon tax.
Answer: _Vikings_ (accept Danes or Norsemen)

10—This group inhabited Caledonia north of the River Forth. Modern scholars believe that seven ancient kingdoms of these people existed, including Fidach and Fotla.
Answer: _Picts_

13. (jgaunt_alit) If there's one thing we know about comedy, it's that comedians like to write books making fun of the government and the media. FTPE, given the title of a book, name the comedic author.

10—*Lies and the Lying Liars Who Tell Them: a Fair and Balanced Look at the Right.*
Answer: Al _Franken_

10—*Dude, Where's My Country?*
Answer: Michael _Moore_

10—*When You Ride Alone, You Ride with Bin Laden: What the Government Should be Telling Us to Help Fight the War on Terrorism.*
Answer: Bill _Maher_

14. (jgaunt_mischist) Answer the following related questions FTPE.

10—In 1878, this Australian, along with his brother Dan, was falsely accused of attacking a wounded policeman. For 16 months, they eluded police, committing robberies to survive. Along with his brother, he killed three policemen, robbed a bank in Euroa, and held the town of Jerilderie hostage.
Answer: Edward "Ned" _Kelly_

10—What actor portrayed this Australian outlaw in the 1970 movie *Ned Kelly*?
Answer: Mick _Jagger_

10—In an upcoming biopic, Orlando Bloom will play Joe Byrne, the right hand man of Kelly. Name the actor who will portray Ned Kelly.
Answer: Heath _Ledger_

15. (jlive_phys) Let 4 pi epsilon-naught equal 1 for the purposes of this question. Answer the following questions FTPE.

10—Suppose a spherical conductor centered at the origin has an arbitrarily shaped cavity carved out of its interior. If the cavity has a positive q Coulombs charge inside it, what is the magnitude of the electric field *outside* the sphere?
Answer: _q divided by r-squared_

10—If there is no charge within the cavity, what is the magnitude of the electric field *within* the cavity?
Answer: _zero_

10—Because the field inside such a cavity is zero, sensitive physical apparatuses are generally placed inside one of these pieces of equipment to shield out stray electric fields.
Answer: _Faraday cage_

16. (Maddog_alit) FTPE, identify these works of Sinclair Lewis from clues.

10—This title real state agent from Zenith has an affair with a widow and joins her radical set of friends, but once his wife falls ill, he realizes that it is too late in his life to rebel.
Answer: _*Babbit*_

10—In this novel, a greedy and shallow Baptist minister turns to Evangelism and becomes the leader of a large Methodist congregation. The title character is often exposed as a fraud but is never entirely discredited.
Answer: _*Elmer Gantry*_

10—In this novel, a senator takes control of the United States government and makes himself dictator. The story follows the struggle of newspaper editor Doremus Jessup against the censors of the fascist regime.
Answer: _*It Can't Happen Here*_

17. (tim_cs) Answer the questions as they related to nanotechnology for the stated number of points.

5—The multiplier denoted by the addition of the prefix "nano," as in nanosecond.
Answer: _10^{-9}_ [read: ten to the negative nine]

10—This type of computer is interesting to people concerned with NP-complete problems (i.e. traveling salesman or directed Hamiltonian circuits) because it abandons the von Neumann model for a parallel structure. The Adleman experiment is probably the most recognizable work in the field.
Answer: _DNA_ computer

10—This type of computer utilizes effects like single-particle interference and superposition in order to do calculations in rather large Hilbert spaces. People who have worked on the idea include Feynman, Bell, and Shor.
Answer: _Quantum_ computer

5—This is the smallest unit of information in quantum computing.
Answer: _Qubit_ <Q-bit>

18. (Maddog_geology) FTPE, identify these geologic phenomena.

10—This theory of lithospheric evolution holds that ocean floors are moving outward from vast underwater ridges. It was first proposed in the early 1960s by Harry H. Hess, and its major tenets gave great support to the theory of continental drift.
Answer: _seafloor spreading_

10—This type of topography, named for a region of Croatia where it is common, results from the erosion of passageways and caverns by the underground flowing of water. This erosion creates sinkholes.
Answer: _Karst_ Topography

10—This most common form of mass movement of the Earth's material is the very slow, gradual movement of material down the slope of a hill. A worm's burrowing or a rodent's digging can cause this phenomenon, which usually occurs in the top 1 to 3 meters of soil.
Answer: _soil creep_ (prompt on erosion)

19. (Maddog_AmHist) Monopolies: if you're making money you love them, if they screw you out of it you hate them. FTPE, identify the antitrust act from description.

10—Woodrow Wilson demanded this piece of legislation that would create a commission to regulate all unlawful trade practices.
Answer: _Federal Trade Commission Act_

10—This act, also pushed by Woodrow Wilson, prohibited pricing agreements, outlawed interlocking directorates, and made it illegal for a firm to purchase stock in a competitor.
Answer: _Clayton_ Antitrust Act

10—The Clayton Antitrust Act tightened loopholes in this piece of legislation from 1890, the first of its kind.
Answer: _Sherman_ Antitrust Act

20. (piguy_chem) 30-20-10—Name the chemical.

30—The bombardier beetle uses the catalyzed decomposition of this chemical as a defense mechanism, with the heat of the reaction letting the insect eject steam and other irritating chemicals with explosive force.
20—This compound decomposes into water and oxygen in the presence of numerous catalysts, such as most metals, acids, or oxidizable organic materials.
10—This chemical is available for household use as a 3% water solution and is used as a mild bleaching agent or as an antiseptic.
Answer: _hydrogen peroxide_ (accept H_2O_2)

21. (jlive_philo) Identify these ideas related to both philosophy and physics, FTPE.

10—Substantivalism says it is a real thing comprised of points in which things are located. Relationalism says the only real thing about it is the relation between physical objects.
Answer: _space_

10—This contested idea is contrasted to the requirement of direct contact to transmit motion from one object to another. Difficulty with this theory led to the postulation of subtle fluids and ether during the Enlightenment.
Answer: _action at a distance_

10—It is characterized by the particular distribution of a physical quantity, such as electricity, at different points in space.
Answer: _field_

22. (laura_psych) Answer the following psychology questions for the stated number of points.

5,5—For 5 points each, name the two divisions of needs in Maslow's hierarchy of needs.
Answer: _basic_ needs and _growth_ needs

5,5,5,5—For 5 points each, name any four of the five growth needs.
Answer: _love and belonging, esteem, understanding and knowledge, aesthetics, self-actualization_

23. (piguy_curr) On November 24, 2003, a gorilla named Snowflake died of skin cancer at the age of 40. Answer the following questions about him for the stated number of points.

5—Snowflake was special, being the only known gorilla to have been afflicted with a condition evident by the lack of pigment in his skin and hair. Name this condition.
Answer: _albinism_

10—Snowflake had been a resident in a zoo since his capture in 1966. The zoo had been built in 1892 on a publicly-owned site that was left vacant in Ciutadella Park after the 1888 Universal Exposition. Name the city in which Snowflake's zoo is located.
Answer: _Barcelona_, Spain

10—Snowflake was discovered and captured in 1966 in this western African country which has its capital at Malabo.
Answer: Republic of _Equatorial Guinea_

5—Snowflake was a lowland gorilla. Within 5,000, about how many lowland gorillas now remain in the wild?
Answer: _50,000_ (accept 45,000-55,000)