## Technophobia 2000!

Tossups by Caltech (M. Swiatek, J. Catherwood, J. DenHartog, J. Meltzer and R. Mason)

1. Their carbonyl groups can be removed by the Hoffman hypobromite reaction. Their characterization was important to the study of protein structure, since their resonance structures constrain the peptide bond to be planar. They can be hydrolyzed to carboxylic acids and ammonia or synthesized by treating acid chlorides with amines. For 10 points--what class of organic molecules contains the functional group $\mathrm{CONR}_{2}$, whose name is also used to describe the conjugate acids of amines?
answer: amides
2. In the 1947 movie version of this novel, its author appears as a minor character played by Herbert Marshall. After Larry breaks his engagement with Isabel to seek enlightenment in India, Isabel marries Gray for money, goes broke in the 1929 crash, moves to Paris and drives Larry's new fiancée Sophie back to her old ways as an opium whore. For 10 points--identify this 1944 novel by W. Somerset Maugham, whose title object may have been the instrument that decapitated Sophie in the end.
answer: The Razor's Edge
3. The local judge acquits him after his first apprentice dies in a fishing accident, but when he becomes abusive, his second apprentice dies accidentally while climbing down a cliff. This second death further enrages the townspeople, and a mob tries to kill him, but he kills himself before they get the chance. For 10 points-this is a brief synopsis of what 1945 opera, featuring Ned, Auntie, and the title character, composed by Benjamin Britten?

## answer: Peter Grimes

4. Uninstall. Using "regedit" find key 35D38C12-1434-AB73-003483943341AA. Delete every key which contains an instance of the ID number associated with this key. Restart your computer, then reinstall the program, using a different username. For 10 points--this is the procedure for regaining the ability to use what software program, the archnemesis of Dr. Dre and Metallica?

## answer: Napster

5. In a public debate in Ravenna he successfully argued that physics is a branch of mathematics and not a separate discipline, attracting the patronage of the referee, Holy Roman Emperor Otto II. He became the tutor and then the advisor of Otto III. His interest in science and his promotion of the abacus gave ammunition to those who considered him to be the Anti-Christ. For 10 points--name this man, born Gerbert of Aurillac, who in 999 became the first French pope.

## answer: Sylvester II

6. In Common Lisp, temporary functions are identified by this symbol. In computer science, it gives its name to a formal mathematical system created by Alonzo Church used to investigate functions. In economics, it represents the Lagrange multiplier in constrained optimization problems. In physics, it represents the wavelength of a transverse wave. For 10 points--identify this symbol, eleventh in the Greek alphabet, that looks like an upside-down "y".
answer: lambda
7. In the 10th century, King Howel the Great of Wales laid down a set of rules for making it, which included the addition of cloves, ginger, rosemary, hyssop and thyme to augment the medicinal properties suggested by its name, which translates as "physician." This Celtic variety was similar to the hydromel of the Greeks and Romans, but by the Middle Ages, yeast was no longer added and it resembled sparkling wine. For 10 points--name this alcoholic mixture of honey and water served to kings and thanes in Heorot.

## answer: mead or metheglin

8. At Leicester he specialized in medieval history because it was easy, but he is disgruntled that in his university job he has to teach all the medieval stuff. His paper on The Economic Influence of the Developments in Shipbuilding Techniques, 1450 to 1485 is stolen and published in Italian by L.S. Caton, and he loses his job after giving a public lecture while drunk, but in the end he gets a better job and the beautiful Christine Callaghan. For 10 points--name this fortunate title character of a 1954 novel by Kingsley Amis.
answer: Lucky Jim (accept: Jim Dixon)
9. The classic 17th-century text on this subject was compiled by Bernhardus Varenius, whose work was revised in 1672 by Isaac Newton and remained the standard for over a century. The previous classic was a 17 -volume treatise by Strabo, whose first two books reviewed the observations of Herodotus and the 3rd-century BC calculations of the Earth's circumference by Eratosthenes, who published the first work with this word as its title. For 10 points--what is this study of the surface of the earth, particularly concerned with location?

## answer: geography

10. His 1955 dissertation concluded that race discrimination in labour markets has costs for both the victim and the perpetrator. By applying theories of production to households, he was able to make predictions about family size, divorce, and the role of women in the workplace in A Treatise on the Family. For 10 points--identify this University of Chicago economist whose idea that rational economic choice governs most aspects of human behaviour won him a 1992 Nobel Prize.

## answer: Gary Stanley Becker

11. At the end of his life, he dabbled in science, introducing the art of mezzotint printing to England. He came out of retirement to become the first governor of the Hudson's Bay Company after the restoration of Charles II, with whom he had quarrelled after being chased from County Cork to the Mediterranean by his Parliamentarian archrival, Robert Blake. For 10 points--identify this Bohemian nobleman, the most talented Royalist commander of the English Civil War before his defeat at Naseby.
answer: Prince Rupert (or Ruprecht) of the Rhine (or Palatinate)
12. A very pure piece of tin or mercury cut to the right shape and size will exhibit this effect perfectly, while it will only partially occur for any piece of tin or niobium unless the magnetic field is extremely weak. This difference defines tin or mercury as Type I superconductors, while vanadium and niobium are Type II. For 10 points-what is this eponymous effect in which a magnetic field is expelled from the interior of a superconducting material below its transition temperature?

## answer: Meissner effect

13. Early examples include Swift's Tale of a Tub and Dryden's Absalom and Achitophel, while modern ones include Drury's Advise and Consent and Huxley's Point Counterpoint, in which Mark Rampion represents D.H. Lawrence. The term may have come from members of 17 th-century literary coteries, who enlivened their historical romances with fictional portraits of courtiers of Louis XIV. For 10 points--Orwell's Animal Farm and Primary Colors are well-known examples of what type of "novel with a key?"
answer: roman á clef
14. A potent laxative, it acts within 6-8 hours and its effects may last three or four days, with possible side effects including kidney irritation or skin rash. It was first synthesized in 1871 by Adolf von Baeyer, who, in the presence of sulfuric acid or zinc chloride, fused phthalic anhydride with phenol. For 10 points--identify this organic compound which is colourless below a pH of 8 and attains a deep red hue above a pH of 10 .

## answer: phenolphthalein

15. Based largely on the Revelations of St. Bridget of Sweden, it depicts, in part, the Crucifixion and scenes of the Blessed Virgin. Now found in the Unterlinden Museum, it was commissioned by a group of monks who ministered to those suffering from ergotism in a town in Southern Alsace and provided the inspiration for Paul Hindemith's Matthis der Maler. For 10 points--identify this polyptych whose most famous wing features St. Anthony, the masterpiece of Matthias Grunewald.
answer: the Isenheim Altarpiece
16. His death in Kentucky in 1865 ended this captain's three-year career with the Confederate Army, highlighted by an 1863 attack on Baxter Springs in which his men were disguised as Federal troops and a bloody assault the same year on the civilian population of Lawrence, Kansas. His outfit had begun as a group of guerrillas who killed and robbed Union sympathizers, and were treated as common outlaws by Union forces. For 10 points--after the Civil War, Frank and Jesse James joined one of the small criminal bands into which what man's "Raiders" had fractured?
answer: William Clark Quantrill(accept: Charley Hart)
17. In 2000, the settlers of this island will be transplanted to Nuremburg, where they will build walls, trade routes and factories in honor of the city's founding. In the year 2700 its citizens will gain space travel ability and become starfarers, each with their own solar system and mother ship, a far cry from the gold and pirates prominent during its seafaring age. For 10 points--identify this landmass whose principal crops include wheat, ore, sheep, clay and lumber, the focus of a series of popular German board games.

## answer: Catan (accept: Settlers of Catan or Die Siedler von Catan)

18. At professional conferences, this zealous disciple of I.V. Michurin viciously attacked opponents Hermann Muller and Nikolas Vavilov; Muller escaped with a 1946 Nobel prize, but Vavilov died in a concentration camp where he had been imprisoned for favouring the cultivation of hybrid corn. For 10 points--identify this scientist who believed that wheat raised in the proper environment would produce rye, the controversial dictator of Communistic agriculture under Stalin.

## answer: Trofim Denisovich Lysenko

19. The American branch of this 19th-century movement grew out of the Emmet Monument Association founded by John O'Mahoney and attempted to achieve its goals by capturing Canada and holding it hostage, while the Irish branch, founded by James Stephens, threw its resources into a fleet of submarines with which they hoped to destroy England. Also known as the Irish Republican Brotherhood--for 10 points--name this Irish secret society named for the legendary band of warriors led by Finn MacCool.
answer: Fenian Society (accept: Irish Republican Brotherhood early)
20. The novel's protagonist tutors the children and beds the wife of Monsieur de Rénal, later joining a monastery before becoming secretary to the Marquis de la Mole, whose necrophiliac daughter Matilde he impregnates and is to marry. Madame de Rénal gets religion and reveals her affair with Matilde's fiancé to the Marquis, compelling Julien to shoot his former mistress in church, a crime for which he is guillotined. For 10 points--identify this racy, viceridden 1830 novel, Al Gore's favorite, the best-known work of Stendhal.
answer: The Red and the Black or Le rouge et le noir

## Technophobia 2000!

## Boni by Caltech (M. Swiatek, C. Lo, J. DenHartog, J. Meltzer, R. Mason, K. Costello, C. Nolte)

1. It centers on the brief affair between a Japanese businessman and a French actress starring in a film about peace. For 10 points each--name:
A. This 1959 film starring Emmanuelle Riva and Eiji Okada.
answer: Hiroshima mon amour
B. The New Wave French director whose first feature-length film was Hiroshima mon amour.
answer: Alain Resnais
C. The author who failed to win the Academy award for best screenplay for Hiroshima mon amour, but who did win the more prestigious 1984 Prix Goncourt for the novel The Lover.
answer: Marguerite Duras or Marguerite Donnadieu
2. 30-20-10. Give the common name.
A. It is the name of seven Norwegian kings who ruled between 1035 and 1355, the first of which was named after a Holy Roman Emperor and wrested the thrones of Norway and Denmark from Canute's sons Sweyn and Hardecanute.
B. It is the surname of a 19th century German physicist who observed the generation of a sideways force on a spinning object moving through a fluid, an effect which makes cricket balls and artillery shells curve.
C. Albert of Cologne, a 13th-century philosopher known as the Universal Doctor who discovered arsenic and taught Thomas Aquinas, was called by this six-letter byname meaning "The Great," even before his death.
answer: Magnus
3. Given a Biblical figure, identify his fatherófor 10 points each:
A. David
answer: Jesse
B.Joshua
answer: Nun
C. The apostles James and John
answer: Zebedee
4. Answer the following about a mysteriously-lost episode of Sesame Street for 10 points each:
A. In a fit of grumpiness, Oscar the Grouch decides to leave Sesame Street and roll down a nearby hill in his cylindrical trash can of radius R. If Oscar's mass is evenly distributed throughout the can and Oscar and the can have a combined total mass M, what is the moment of inertia of Oscar in the can about the can's axis in terms of R and M?
answer: $(\mathbf{1} / \mathbf{2}) * \mathbf{M} * \mathbf{R}^{\mathbf{2}}$ (one half M R squared)
B. Meanwhile, at the bottom of the hill, Cookie Monster is busy filling a cylindrical cookie jar with uniformly-sized spherical fudge balls in a hexagonal close-packed array. Within $5 \%$, when the jar is full, what fraction of its total volume will be occupied by fudge balls?
answer: 74 percent (accept $69 \%-79 \%$ ) [This is the densest possible packing fraction for spheres.]
C. Oscar collides with Cookie Monster, spilling the fudge balls and knocking Oscar out of his can. The ensuing argument is broken up by none other than guest celebrity Richard Feynman, who solves the problem by inviting them to accompany the theme song by banging on their respective containers while he plays the bongos. As the closing credits roll, Feynman announces that this episode has been brought to us by the letter J, which represents what class of functions used to describe the vibrational modes of a drum head in cylindrical coordinates?
answer: Bessel functions
5. For 10 points each--identify the non-Spanish composers of:
A. The 1875 Symphonie espagnole, dedicated to violinist Pablo Sarasate.
answer: Éduard(-Antoine-Victor) Lalo
B. 1907's Rapsodie espagnole, as well as the 1911 opera L'heure espagnole.
answer: (Joseph-)Maurice Ravel
C. 1887's Capriccio espagnol, first performed in St. Petersburg.
answer: Nikolay Andreyevich Rimsky-Korsakov
6. Answer the following about plague in the Peloponnesus--for 10 points each:
A. Which Athenian leader, who urged his people to avoid the Spartan army and instead use their navy to blockade enemy shipping, fell to the plague in 431 B.C.?
answer: Pericles
B. Which general survived an attack of the plague and wrote about its effect on Athenian morale in his history of the Peloponnesian War?
answer: Thucydides
C. Spartan initiatives during the plague years were unsuccessful except for the capture of what strategic Boeotian city in 427 B.C.?
answer: Plataea
7. Given a paradox, identify the person for whom it's named--for 10 points each:
A. The power set of $U$ has a cardinality strictly greater than $U$. But if $U$ is the set of all sets, the power set of $U$ is a subset of U , hence it has a cardinality less than or equal to U . Thus a contradiction arises.
answer: Georg Cantor [If you said Russell, you were not listening closely enough.]
B. If the universe is infinite and uniformly populated with stars, then every point in the sky should be filled with starlight. This is contrary to observation.
answer: Willhelm Olbers
C. Given a rotating disc, special relativity will predict a contraction in the radial direction. Motion of the disc is in the angular direction. The contraction is in a direction perpendicular to the direction of motion, hence a contradiction in Special Relativity.

## answer: Paul Ehrenfest

8. Identify the following things you might or might not consider to be fun, for 10 points each:
A. In the second section of a poem by T.S. Eliot, "we shall play" this, "pressing lidless eyes and waiting for a knock upon the door.
answer: A Game of Chess (grudgingly prompt on: chess)
B. In this short story by Richard Connell, General Zaroff sets his shipwrecked captives free if they can survive on his island for three days while he hunts them down and tries to kill them.
answer: The Most Dangerous Game
C. Joseph Knecht was the Magister Ludi of this activity, which used ideas as pieces, in a novel by Hermann Hesse. answer: The Glass Bead Game or Das Glasperlenspiel
9. Give the call signs of these TV show radio stations, for 10 points each:
A. This Cincinnati AM rock station was the setting for a 1978-1982 TV show.
answer: WKRP
B. This New York station was the setting of the 1995-1999 TV show NewsRadio.
answer: WNXX
C. This Seattle radio station employs Frasier Crane.
answer: KACL
10. The leaves are falling and the days grow bleak. For 10 points each:
A. What Brit argued that it was impossible for scientists and English majors to communicate in the 1959 work The Two Cultures and the Scientific Revolution?
answer: C(harles) P(ercy) Snow, Baron Snow of the City of Leicester
B. In which F. Scott Fitzgerald short story does caddy Dexter Green fall for the selfish Judy Jones?

## answer: Winter Dreams

C. In the 1949 film "Neptune's Daughter," what four-word phrase does Ricardo Montalban sing to Esther Williams to keep her from leaving his apartment, despite her constant protests?
answer: Baby, it's cold outside
11. For the stated number of points each--state in which modern country the following medieval principalities were located. In some cases more than one answer may be acceptable.
A. For 5 points--Bohemia
answer: Czech Republic
B. For 5 points--Pomerania
answer: Poland or Germany [most of it is in Poland]
C. For 10 points--Silesia
answer: Poland
D. for 10 points--Swabia [SWAY-bee-uh]
answer: Germany or eastern Switzerland or Alsace, France [most of it is in Germany]
12. Identify these sweet transvestite transsexuals from Greek mythology--for 10 points each:
A. This Theban seer was temporarily turned into a woman after killing the female of two coupling snakes. He was then able to settle a bet between Zeus and Hera, telling them that women enjoyed sex ten times more than men. Hera struck him blind for making her lose the bet.

## answer: Tiresias

B. She was a beautiful maiden of Thessaly who was raped by Poseidon. Afterwards Poseidon tried to make it up to her by changing her into a man and making her invulnerable. At the battle between the Centaurs and the Lapiths, the Centaurs could not kill him but managed to bury him by piling pine trees on him.

## answer: Caenis or Caeneus

C. The nymph Salmacis fell in love with this handsome son of Aphrodite and Hermes and asked the gods to let her be united with him. The result was a fused half-man/half-woman.

## answer: Hermaphroditus

13. Answer the following about trains and painting, for 10 points each:
A. J.M.W. Turner's fascination with the Industrial Revolution manifested itself in this 1844 painting of the Great

Western Railway.
answer: Rain, Steam and Speed
B. In this 1939 painting by Rene Magritte, a locomotive appears to emerge from a fireplace.
answer: Time Transfixed
C. As Turner is not French and Magritte did not paint in the $19^{\text {th }}$ century, neither Rain, Steam and Speed nor Time Transfixed can be found in this Paris museum, where a comprehensive collection of $19^{\text {th }}$-century French art is housed in a renovated early $20^{\text {th }}$-century train station on the Left Bank.
answer: Musee d'Orsay or Orsay Museum
14. For 10 points each--given a year and a political party, name the only state that party carried that year.
A. 1984, Democratic
answer: Minnesota
B. 1972, Democratic
answer: Massachusetts
C. 1924, Progressive
answer: Wisconsin
15. Name the following industrial processes, for the stated number of points:
A.For 5 points--this process is currently the predominant source of industrial fixed nitrogen.
answer: Haber(-Bosch) process
B. For 10 points--this process involves the use of steam to liquify sulfur in underground deposits. The liquified sulfur is used to make sulfuric acid.
answer: Erasch process
C. For 15 points--this process involves the conversion of gaseous hydrogen chloride into chlorine over a copper chloride catalyst.
answer: Deacon process
16. Answer the following related questions, for 10 points each:
A. In what Ernest Hemingway novel is Jake Barnes hopelessly in love with Brett Ashley?
answer: The Sun Also Rises
B. On what ABC soap is Dr. Jake Martin trying to rebuild his marriage with his wife, Hungarian princess Gillian Andraschy?

## answer: All My Children

C. Unfortunately for Jake and Jake, what problem stands in the way of their relationships with Brett and Gillian?
answer: impotence (accept equivalents)
17. Identify these food items from descriptions given in Neil Diamond lyrics, for 10 points each. Each comestible is the title object of the song whose lyrics are cited.
A. According to Neil, this beverage "goes to my head and makes me forget that I still need her so." That phrase just wasn't as poignant coming from UB-40.
answer: Red, Red Wine
B. Neil warns that you should not let this, um, meat-filled tart "get on your jeans. I know it sounds a little strange, but you've got to eat it with gloves, or your hands will turn green."
answer: Porcupine Pie
C. "Drop your shrinkin' and quit your drinkin'," 'cause this breakfast food "is neat! Sing it out! Alright! I'll have a double, please!" Although Neil's song about it "won't offend, if you sing it in school, they're likely to send you home," thinking that you're "growin' your own tea."
answer: Crunchy Granola (Suite)
18. 30-20-10. Name the college basketball team.
A. In the 1994 film Above The Rim, troubled teenager Kyle Watson sees his dreams come true when he ends up playing for this team.
B. If Watson had actually existed, he would have enjoyed throwing alley-oop passes to Jerome Williams and Othella Harrington.
C. Of course, if Watson had actually existed, head coach John Thompson probably wouldn't have thought of recruiting an explosive two-sport star from Virginia named Allen Iverson.
answer: Georgetown Hoyas (accept either)
19. For 10 points each--answer the following questions concerning the development of vertebrates:
A. The embryo's mesoderm gives rise to this rod-like structure, which runs from the head to the tail and lies centrally beneath the future nervous system.
answer: notochord
B. These segmented blocks of mesoderm lie on either side of the notochord. They will eventually give rise to the muscles, the vertebral column, and the dermis of the skin.
answer: somites
C. This process involves the ectoderm above the notochord folding to form the neural tube, which will give rise to the brain and spinal cord.
answer: neurulation
20. Identify these " A "-initialed Native American peoples, for 10 points each:
A. These ancestors of the Pueblo Indians lived in the Four Corners region of the American Southwest until their civilization collapsed mysteriously sometime around 1250. Their name comes from the Navajo for "Ancient Ones."
answer: Anasazi
B. These Plains Indians lived along the Platte and Arkansas rivers during the 19th century and spoke an Algonquin language. They were often allied with the Cheyenne in their wars against the Shoshone, Ute, and Pawnee tribes. A Colorado county is named for them.
answer: Arapaho (or Arapahoe)
C. This language family, still spoken in parts of the Yukon and Mackenzie river areas, also includes the Navajo and Apache languages. It shares its name with a river and lake in northern Alberta.
answer: Athabascan (or Athabasca)

