

Tossups

1. This experimental method, developed by Mikhail Tsvet, is used in conjunction with a flame-ionization detector in the identification of hydrocarbons. It exploits the fact that its stationary and mobile phases adsorb the components of a mixture at different relative rates, allowing the parts of the mixture to be separated. FTP, name this technique, first used in the study of plant pigments, whose "thin-layer" type is well known and which owes its name to the fact that it can be used to separate colored compounds.

Answer: Chromatography

2. Although a settlement existed on the site in ancient times, the history of the modern city began in the 14th century when the Tatar fortress of Khadzhibey was established there, and it later passed to Lithuania-Poland and in 1764 to Turkey. It stands on a shallow indentation on the coast at a point approximately 19 miles north of the Dniester River estuary and about 275 miles south of Kiev. FTP, name this seaport, one of the chief centers of the Russian Revolution of 1905 and the scene of the mutiny in the film Battleship Potemkin.

Answer: Odessa

3. After her death, the body of St. Catherine of Alexandria was allegedly taken here by angels, and it was discovered here around 800. Also called Mt. Horeb, it is the namesake of a notable medical center in New York City, as well as a small town in Long Island located near Port Jefferson. FTP, name this mountain in Egypt, whose Biblical location is disputed by many scholars, but is recognized universally as where God gave the Ten Commandments to Moses.

Answer: Mt. Sinai

4. The Guinness Book of World Records lists the highest value for this property as being recorded in Agata, Siberia. At sea level, it seldom falls more than 15% below the record high, but at 270 km it's equivalent to the best man-made vacuums. Measured in dynes per square centimeter, kilopascals, or most commonly in the US, inches of mercury, FTP, name this term for the force exerted on a given area by the column of air above it.

Answer: atmospheric pressure or barometric pressure

5. The son of a village chief, he attended local mission schools before joining the French army in 1939. He distinguished himself in the French conflict in Indochina, and by 1961 he had achieved the rank of captain. Because of this brilliant service, the President of his country, David Dacko, asked him to helm the national army, a request he accepted. However, his true fame began after he overthrew Dacko and began ruling out of the capital city of Bangui. FTP, name this despot, a self-styled "emperor" who participated in a massacre of 100 schoolchildren and bankrupted the Central African Republic.

Answer: Jean-Bedel Bokassa or Emperor Bokassa I

6. It was to combine the thinker and the worker, to guarantee the greatest mental freedom, and to prepare a society of liberal, cultivated persons, whose relations with each other would permit a more wholesome and simpler life than could be led amid the pressure of competitive institutions. Among the original shareholders were journalist Charles A. Dana and author Nathaniel Hawthorne, who partly based his *Blithedale Romance* on it. FTP, name this utopian community founded by George Ripley in Boston, which lasted from 1841-1847.

Answer: Brook Farm

7. Though it is not American in origin, John Kenneth Galbraith recently told *Forbes* magazine that this was the most overrated notion in American economics. A special case of it would predict that if prices are uniformly too high, the situation may immediately be remedied by increasing the money supply. FTP, name this law, refuted by Keynes' discovery of ineffective demand, which suggests that the market can remove itself from depressions on the grounds that supply creates its own demand.

Answer: Say's Law

8. The first major defeat that the French army suffered in over 50 years, it saved Vienna from a threatening Franco-Bavarian army, preserved the alliance of England, Austria, and the United Provinces against France, and knocked Bavaria out of the War of the Spanish Succession. All this was achieved at a cost of 12,000 British, Austrian, and Dutch casualties, yet the seeming invincibility of the army of Louis XIV was destroyed. FTP, name this 1704 battle, the most famous victory of John Churchill, 1st Duke of Marlborough.

Answer: Battle of Blenheim (blen-hem)

9. Near the end of this novel, its protagonist joins his old friend Gustav, now a theology professor, in shooting at automobiles in part of a war against technology, but shortly thereafter finds himself playing a symbolic game of chess with someone who resembles his friend Pablo, a saxophonist. It is introduced by the protagonist's landlady's nephew, but is mostly narrated by the protagonist himself, climaxing in his entrance into the Magic Theater. FTP, name this novel about Harry Haller's multiple personalities, written by Hermann Hesse.

Answer: Steppenwolf

10. In 1921, the director returned from the Belcher Islands to the United States, and edited his footage into a seventy-five minute feature film distributed internationally by Pathe. Sixteen months earlier, sponsored by the fur company Revillon Freres, he arrived in the Canadian Arctic to film in the lands he had surveyed in 1917. FTP, name this documentary in which director Robert Flaherty lived with an Eskimo family and filmed their daily lives.

Answer: Nanook of the North

11. In 1924, this composer's "First Choral Symphony" had its premiere; the composer scrapped plans for a second. The son of a Swedish father, this composer's works include "Double Concerto for Two Violins and Orchestra," and the operas "The Perfect Fool" and "At the Boar's Head." FTP, name this British composer best known for his "St. Paul's Suite" and "The Planets."

Answer: Gustav(us) Theodore (von) Holst

12. This pyrrole [PIE-rohl] derivative has been used to reduce knock in gasoline and to develop photos. Certain bacteria have their own special form, while the rare "e" form is found in algae. In these compounds, a phytol [FIE-tohl] chain is attached to a porphyrin ring, which surrounds a central magnesium atom. FTP, name this plant analog of hemoglobin, and a major player in photosynthesis.

Answer: chlorophylls

13. As a secondary-school student, this son of an art teacher coincidentally earned the German nickname "Kleck" because of his interest in sketching. He would surely be quite obscure but for his discovery of the work of Szymon Hens, which he extended to investigate how his subjects projected interpretations and feelings onto ambiguous stimuli. FTP, name this psychiatrist known for asking his patients "What might this be?" after showing them accidental inkblots.

Answer: Hermann Rorschach

14. It was in a translation of a book by this ancient mathematician that Fermat wrote his famous comments about his Last Theorem. As one mathematical problem points out, he died at 84, four years after his son's death at age 42. The author of the *Arithmetica*, he was the first Greek to use algebraic symbols. FTP, name this man for whom is named a class of equations all of whose coefficients and solutions are integers.

Answer: Diophantus of Alexandria

15. Unlike his friend and rival Heidegger, to this German philosopher man's existence meant not mere being-in-the-world but rather man's freedom of being. This idea of being oneself thus signified the potentiality to realize one's freedom of being, if not action, in the world. Hence, the tasks of philosophy were to appeal to the freedom of the individual and to focus on man's existence as the centre of all reality. Not surprisingly, such views, as well as the fact that his wife was Jewish, put him at odds with the Nazis and he was forced into exile in Switzerland. FTP, name this author of *Philosophy and Existence*.

Answer: Karl Jaspers

16. This ancient city was subdivided into about a dozen blocks measuring 1250 by 750 feet, with a central block built up by 20-40 feet and serving as a citadel. With a name meaning "Mound of the Dead," it lies about 450 miles southwest of both Kalibangan and Harappa, and it was first excavated in 1922 by John Marshall. FTP, name this ancient city, now in the Sind province of Pakistan, the largest city of the ancient Indus Valley civilization.

Answer: Mohenjo-daro

17. The entire novel takes place during a day in the life of a man referred to as "the Consul". He is a hopeless alcoholic, living in Mexico, and is spending the day with his ex-wife Yvonne and her fiancée, Hugh. As the story progresses, he becomes drunker and drunker, more is revealed about the deterioration of his life and marriage, and he finally dies. FTP, name this novel, considered one of the most realistic portrayals of alcoholism in fiction, written by Malcolm Lowry.

Answer: Under the Volcano

18. Born into a wealthy family in 1783, he was orphaned at an early age. In 1810, he took part in a rebellion against the Spanish in his home city. In 1814, he led a Colombian independence movement which captured Bogotá, and then moved on to lead independence movements in modern-day Ecuador and Panama. FTP, name this revolutionary and namesake of a South American country.

Answer: Simon Bolívar

19. In 1825, William Sturgeon devised one that could support 4 kilograms--impressive, as it weighed just 200 grams. A few years later, Joseph Henry created one for Yale that could support over a ton of weight. Used in cyclotrons, FTP, name these devices formed when one passes a current through a solenoid--or coil--of wire wrapped around an iron bar.

Answer: electromagnets

20. At 15, he co-founded the Philadelphia chapter of the Black Panther Party, becoming the Minister of Information in 1969. In 1980, he was elected President of the Philadelphia Chapter of the Association of Black Journalists. On December 9, 1981, he and a police officer were shot. He was arrested in conjunction with the shooting of the police officer, and sentenced to death in 1982. FTP, whose December 2 execution date is setting off a new round of protests across the country?

Answer: Mumia Abu Jamal

21. Lasting from approximately 600-900 A.D., this period saw a flourishing of the arts, particularly jade and stone carving, vases depicting scenes from the Popol Vuh, and architecture. In the south, the population of the city of Tikal grew to over 100,000, and trade routes expanded. In the north, however, warfare increased and the major city of Teotihuacan was destroyed. FTP, name this period in Mayan civilization.

Answer: Classic period (prompt on Maya on an early buzz)

22. *Dusklands*, his first book, contains two novellas, including "The Vietnam Project." *In the Heart of the Country* is a stream-of-consciousness narrative of a Boer madwoman, and *Waiting for the Barbarians* is a parable of South Africa. However, this novelist garnered much of his fame for his Booker Prize winning opus *The Life and Times of Michael K.*, concerning the dilemma of a man of limited intelligence beset by conditions he can neither comprehend nor control during a civil war in an unnamed country. FTP, name this author, now a professor of literature at the University of Texas.

Answer: J(ames) M(ichael) Coetzee

23. Classified as simple lipids because they do not undergo hydrolysis like fats, oils, and waxes, most have an oxygen functional group at C3 and some kind of side chain at C17. The four rings of these compounds are designated A, B, C, and D, with B-C and C-D ring junctions always nearly trans. FTP, name this group of compounds based on the androstane ring system that includes hormones, emulsifiers, and components of membranes.

Answer: Steroids

24. In 1880 he began two years of formal study under Thomas Eakins at the prestigious Pennsylvania Academy of Fine Arts in Philadelphia, where he was the only black student in attendance. He taught

unsuccesfully at Clark University in Atlanta before moving on to Paris, where critics lauded him for his expert manipulation of light and shadow for dramatic effect. FTP, name the artist, most famous for his biblical themes as exhibited by works such as Daniel in the Lions' Den and The Raising of Lazarus, the first African-American to be granted full membership in the National Academy of Design.

Answer: Henry Tanner

25. Torn. Ode. Pity for a Dime. In America. Illusion. Unforgiven. Sister. What's This Life For? One. All these tracks and the title track appear on their quadruple platinum album My Own Prison. Nowadays, the group is busy at work in its position as executive producer for the *Scream 3* soundtrack, to which it will contribute the single What If? FTP, name this band whose new album includes the recent hit Higher.

Answer: Creed

26. Though his father had one of the largest medical practices outside of London, he was repelled by surgery performed without anesthetics. Still, at the age of 16, he was sent to study medicine at the University of Edinburgh, though he was truly interested in specimen collecting and chemical investigations. FTP, name this scientist, author of *Selection in Relation to Sex*, as well as *On the Origin of Species by Means of Natural Selection*.

Answer: Charles Darwin

27. Stated mathematically as the percentage change of real GDP equals three percent minus two times the percentage change in unemployment, this sometimes dubious law was first published in 1962 as part of a paper entitled Potential GDP, its Measurement and Significance. It propounds the notion that decreases in the unemployment rate will lead to increases in the growth rate of output. FTP, identify the law, which is at times incorrect because GDP growth also depends on the level and rate of change of labor resource use.

Answer: Okun's Law

28. It begins with the protagonist, an unemployed railroad worker, stumbling into a mining camp and being hired on the spot to replace a dead miner. He decides to stay, and is caught up in the struggle between the miners and the owners of the company. The miners eventually strike, the company tries to break the strike and finally succeeds, and the miners who return are killed when the sabotaged mine collapses on top of them. This is the plot of, FTP, what novel by Emile Zola?

Answer: Germinal

29. In it's heyday, sometime between 1050-1150 a.d., the population was close to forty thousand. By the year 1400, however, disease, warfare, and environmental devastation had left it almost completely deserted. Excavations have shown that most of its characteristic "mounds" actually served as temples, civic buildings, or places of residence. FTP, name this site about 8 miles east of modern-day St. Louis, the former urban center of the Mississippian culture.

Answer: Cahokia

30. Rasmus Rask demonstrated the principles on which it was based in 1818, while Verner's law explains its apparent exceptions, in particular for unstressed syllables. FTP, name this linguistic law, which correlated sounds in German with those in Indo-European, formulated by the brother of Wilhelm.

Answer: Grimm's law

Bonus Questions

1. Name these tectonic plates, FTP each.

a) The volcanoes of the Cascades are caused by subduction of this small plate under the Pacific Plate.

Answer: Juan de Fuca Plate

b) The Himalayas were created by the collision of the Indian or Indian-Australian plate with this massive plate.

Answer: Eurasian Plate

c) The SWEAT hypothesis, based on geological evidence, states that this plate may have bordered the southwestern US 600 million years ago.

Answer: Antarctic Plate [SWEAT = SouthWest (US)/East AnTartica]

2. Given an Egyptian monument, name the pharaoh who commissioned it for the stated number of points.

a) (5) The great pyramid at Giza

Answer: Khufu (or Cheops)

b) (10) The temple at Abu Simbel

Answer: Ramses II or Ramses the Great

c) (15) The step pyramid at Saqqara

Answer: Djoser or Zoser (NOT Imhotep, he designed it)

3. Answer the following about OPEC for the stated number of points:

a) (5) Expand the acronym OPEC.

Answer: Organization of the Petroleum Exporting Countries

b) (10) Which country in OPEC produces the most oil per year?

Answer: Saudi Arabia

c) (15) Of the 11 countries in OPEC, eight are in the Middle East or North Africa. Name the other 3 for five points each.

Answer: Indonesia, Nigeria, Venezuela

4. Ready for a Tang Poetry question? "Du Fu and Li Bai", I hear you whisper to your teammates, and you are absolutely correct. Answer these questions about the subject material of their poems FTP each:

a) Li Bai wrote that the mountain roads of this province were "more dangerous than even trying to climb the heavens". Du Fu had a cottage outside Chengdu, it's modern-day capital. For ten, what is this region whose name means "four rivers"?

Answer: Szechuan

b) Li Bai wrote about the favorite concubine of the emperor Xuanzong (shWEN-zong), who was later blamed for the deterioration of the empire under his rule and forced to kill herself. Name her.

Answer: Yang Gui Fei

c) Du Fu described the opulence of court life in the Tang capital city. Name it.

Answer: Chang'An

5. FTP each, given the name of a character from A Bug's Life, give the appropriate order from the class Insecta, or five if you need the insect type:

a) 10) Hopper

5) Grasshopper

Answer: Orthoptera

b) 10) Flick

5) Ant

Answer: Hymenoptera

c) 10) Heimlich

5) German caterpillar

Answer: Lepidoptera

6. Answer these questions about thermodynamics, FTP each.

a) A state property of a system that measures its degree of disorder, it is proportional to the logarithm of the number of microstates available to the molecules of the system.

Answer: Entropy

b) A function of state, defined as $H=E+PV$ for changes carried out at constant pressure, it is equal to the heat absorbed by the system.

Answer: Enthalpy

c) A function of state, defined as $G=H-TS$ for processes occurring at constant pressure and temperature, it is the thermodynamic criterion for spontaneity when $\Delta G < 0$.

Answer: Gibbs free energy

7. Identify the books of the Bible where each of these quotes appears, FTP each

a) "Jesus wept."

Answer: John

b) "The Lord, who delivered me from the claws of the lion and the bear, will also keep me safe from the clutches of this Philistine."

Answer: 1 Samuel

c) "Holy, holy, holy is the Lord God almighty who was, and who is, and who is to come."

Answer: Revelation

8. Name the author from works, 30-20-10

a) (30) Summer, A Backward Glance

b) (20) The Custom of the Country, The Buccaneers

c) (10): The House of Mirth

Answer: Edith Wharton

9. Name these units of astronomical time, FTP each.

a) The time required for the Earth to rotate once with respect to the background of the stars.

Answer: sidereal day [sih-DEH-ree-ul]

b) The average time required for the Sun to return after crossing a given meridian of longitude.

Answer: mean solar day

c) Every 18 years and 11 1/3 days, after which the Earth, Sun, and Moon return to approximately the same relative positions, starting a new iteration of this period of lunar and solar eclipses.

Answer: saros [SAH-rohs]

10. Answer these questions about the Prague Spring, FTP each:

a) The chief reformer, he claimed that he was offering "socialism with a human face."

Answer: Alexander Dubcek

b) He replaced Dubcek as first secretary in 1969 and declared that he was leading a return to "normalcy."

Answer: Gustav Husak

c) The Czech and Slovak people were most impressed by his suicide. He was a student who in January 1969 set himself afire in protest against infringements of Czechoslovak independence.

Answer: Jan Palach (pall-OCK)

11. Answer these questions on the anatomy of the heart, FTP each.

a) Name the four chambers of the heart in the order in which blood flows through them.

Answer: Right Atrium, Right Ventricle, Left Atrium, Left Ventricle

b) This valve, which admits blood back into the left atrium from the lungs, fails more frequently than the other three.

Answer: mitral valve or bicuspid valve [do not accept "pulmonary" or "semilunar" valve]

c) This structure in the septum between the atria allows a small left-to-right shunt of blood. It normally closes at birth, but in about 1/3 of adults it remains open.

Answer: oval fossa or fossa ovale or foramen ovale

12. Name these forms of memory, FTP each.

a) This form of memory is postulated to be capable of holding five to nine pieces of information for about 30 seconds.

Answer: short-term memory

b) Theodule Ribot [tay-oh-DOOL ree-BOH] worked with this memory of emotional states.

Answer: affective memory

c) This long-lasting visual memory, sometimes mislabeled "photographic" memory, is seen only in children, and usually is lost by age 16.

Answer: eidetic memory or imagery

13. In the summer of 1996 two young men walking through a park in the state of Washington discovered a prehistoric skeleton on the shores of the Columbia River. The remains have become the center of quite a controversy between scientists and local Native Americans. Answer the following questions FTPE:

a) Give the name by which this skeleton is commonly known.

Answer: Kennewick Man

b) Give the approximate age of Kennewick man, plus or minus 500 years.

Answer: 9,000 years

c) Give the name of the tribe who claim Kennewick man as one of their ancestors, and are therefore demanding burial rights.

Answer: Umatilla

14. Let $a = 5$, $b = 9$, and $c = 0$. Given the following expressions in C++, give the values of a , b , and c , for the stated number of points. Note: all three values must be correct to receive points.

a) (5) $b = b++$ [b equals b plus plus]

Answer: $a = 5$, $b = 10$, $c = 0$

b) (10) Restore the variables to their previous values. $a = a + b++$ [a equals a plus b plus plus]

Answer: $a = 14$, $b = 10$, $c = 0$

c) (15) Restore the variables to their previous values. $c = --a * b$ [c equals minus minus a star b]

Answer: $a = 4$, $b = 9$, $c = 36$

15. Identify the following British Prime Ministers, FTP each

a) The first P.M., he took office in 1721

Answer: Sir Robert Walpole

b) He was installed as Prime Minister in a minority Tory government in 1834. He also served in the office from 1841-1846, and notably helped repeal the Corn Laws

Answer: Sir Robert Peel

c) In May 1812 P.M. Spencer Perceval was assassinated. This man reluctantly accepted the office after 4 other men rejected it. He served nondescriptly until 1827, when he was forced to retire after a paralytic stroke. He was known for his kindness and integrity, but did little to lead England during the Napoleonic campaigns and the War of 1812.

Answer: Second Earl of Liverpool or Robert Banks Jenkinson

16. FTP each, name the Anthony Trollope work given clues.

a) Archdeacon Grantly's hopes of succeeding his father as bishop are dashed when an ineffectual evangelical, Dr. Proudie, is set over him by a new Whig government. The rest of the novel is a record of the struggle for the diocese.

Answer: Barchester Towers

b) It is the third of the Barsetshire novels, the title character's brother seduces the sister of a Greshambury stonemason named Roger Scatcherd. Roger then kills the brother and the title character adopts the child of the illicit affair.

Answer: Doctor Thorne

c) Elias Gotobed, senator from the fictional state of Mickewa, comes to England on a fact-finding tour and finds "irrational and salutary" English manners more than he can understand.

Answer: The American Senator

17. Given an early 20th century American company, name its corporate descendant FTP each:

a) National Biscuit Company

Answer: Nabisco

b) Standard Oil of New Jersey

Answer: Exxon (do not accept Chevron, which formed out of a merger of the Standard Oil Company of California and the Pacific Oil company)

c) Computing-Tabulator Recording Company

Answer: IBM

18. Given philosophical works, name the author, FTP each

a) *The Passions of the Soul*

Answer: Rene Descartes

b) *The Vocation of Man, The Way Towards the Blessed Life*

Answer: Johann Gottlieb Fichte

c) *Work of Ninety Days*

Answer: William of Ockham

19. Answer these questions about "die Brucke" (brew-KA) for the stated number of points.

a) (5) What is the English translation for "die Brucke"

Answer: the bridge

b) (10) One of the most prominent of the "die Brucke" artists, his works, which include Negro Dance, Bathers at Moritzburg, and Sam and Milly; deal mostly with nude themes

Answer: Ernst Ludwig Kirchner

c) (15) He is best known for his woodcut of Friedrich Nietzsche, the philosopher who most greatly influenced the artists of *die Brucke*. He also admired African sculpture and attempted to replicate it with his Sleeping Negress and Crouching Girl.

Answer: Erich Heckel

20. Given the company and designation of the following American World War 2 aircraft, give the nickname, 5 pts each, 5 pt bonus for all correct.

a) North American P-51

Answer: Mustang

b) Martin B-26

Answer: Marauder

c) Grumman F4F

Answer: Wildcat

d) Consolidated B-24

Answer: Liberator

e) Boeing B-17

Answer: Flying Fortress

21. Answer the following questions about the trading colony of Goa (GO-uh) for the stated number of points.

a) (5) What present day country is Goa in?

Answer: India

b) (10) After its conquest in 1510, Goa was a colony of which European naval power?

Answer: Portugal

c) (15): This Portuguese admiral was responsible for conquering Goa. (hint: there is a city named for him in another country)

Answer: Alfonso de Albuquerque

22. 30-20-10 Identify the director from films:

a) (30) Blind Husbands, Foolish Wives

b) (20) The Merry Widow, The Wedding March

c) (10) Greed, Queen Kelly

Answer: Erich Von Stroheim

23. 30-20-10, name the nation:

a) (30) This archipelago has its highest peak at six feet above sea level, giving it the lowest high point of any country in the Guinness Book of World Records.

b) (20) Parallel to the Andaman Islands, this now independent island country was once a protectorate of

India.

c) (10) Its capital is at Male.

Answer: Maldives

24. Okay, here's one of Marino's obligatory wrestling questions.

Hey, it's the only thing he knows. For five points each, five point bonus for all 5 correct, given the real name of a wrestler who was a member of Degeneration X, given that wrestler's stage name.

a) Paul Michael LaVeque

Answer: Triple H or Hunter Hearst Helmsley

b) Brian James

Answer: The Road Dogg or Jesse James Armstrong

c) Monty Kip Sopp

Answer: Mr. Ass or Bad Ass or Billy Gunn

d) Sean Waltman

Answer: X-Pac

e) Joanie Lee

Answer: Chyna

25. Answer these questions on the 1980 work "Tehillim" [teh-HEE-leem], FTP each.

a) Name the minimalist composer of "Tehillim," better known for such works as "Music for 18 Musicians," "Six Marimbas," "Four Oranges," and "Clapping Music."

Answer: Steve Reich

b) Tehillim is a setting of texts from this book of the Bible.

Answer: the Book of Psalms

c) At the words "va im ee kaysh", Reich introduces a tritone. The lower note is a C sharp. What is the upper note?

Answer: G natural