

Tossups

1. Defined as "the interdisciplinary study of why man has acted the way he has in history, prominently utilizing psychoanalytic principles," an international association has been founded on this science. However, it is better known as a fictional field of almost psychic study founded by Hari Seldon to predict the downfall of the Galactic Empire. FTP, what is the name of this science, coined in Isaac Asimov's *Foundation Series*?

Answer: psychohistory

2. They are the subject of John Updike's poem *Cosmic Gall*. These tiny particles, emitted via reactions in the core of the sun, are a by-product of proton-proton fusion and are produced by particle interactions through the weak nuclear force. If these particles do have mass they will account for much of the missing mass of the universe. FTP, identify these incredibly light leptons, first postulated by Wolfgang Pauli, whose scintillations are used to predict the occurrences of supernovae.

Answer: neutrino(s)

3. Now called Slavkov in the Czech Republic, it was here that a feint by Napoleon led the Russian General Grand Duke Alexander to commit his reserves. Napoleon and his troops then stormed the Pratzen Heights and the trap led to the complete rout of the Russian and Austrian forces. FTP, name this December 2nd, 1805 battleground.

Answer: Battle of Austerlitz

4. He entered Oxford at the age of 14, studying mathematics and astronomy. Although he didn't really want the job, at the age of 29 he was appointed by the government to assist the surveyor general in the upkeep of public buildings, in spite of his education. Afterwards, he pursued much more than just repair. FTP, identify this 17th century Englishman whose work includes the design of the Sheldonian theatre and Chelsea Hospital as well as the restoration of St. Paul's Cathedral.

Answer: Sir Christopher Wren

5. Twenty-two members make this one of baseball's more exclusive clubs. Among the greats who don't belong are Joe DiMaggio, Mickey Mantle, Babe Ruth, and Ted Williams. The first member, Honus Wagner, achieved this mark on June 9, 1914. Other members include Rod Carew, Hank Aaron, Stan Musial, Paul Molitor, and Willie Mays. FTP, name this exclusive club, to which Pete Rose could be considered the president.

Answer: 3,000 Hit Club

6. When this author was five, he saw a hatter shot in the back on the street outside his home in the town of Grenoble. He considered it the first blood of the revolution. His characters consider themselves "superior beings" on the Napoleonic model. This won over fellow authors like Honoré de Balzac, who wrote praise for a novel that the author wrote in only 53 days, *The Charterhouse of Parma*. FTP, name this author, also known as Henri Marie Beyle, whose masterpiece is the 1830 work *The Red and the Black*.

Answer: Stendhal (accept Henri Marie Beyle on an early buzz)

7. Trained as a mining engineer and later Professor of Chemistry at the Paris School of Mines, he worked on specific heats of gases at high temperatures, and devised an optical pyrometer for measuring temperatures beyond the range of mercury thermometers. FTP, identify this chemist whose principle states that any change in the pressure, temperature, or concentration of a component in a state of equilibrium has little effect, being compensated for by an automatic adjustment in the other components of the equilibrium.

Answer: Henri Louis Le Châtelier

8. Not a political party and not controlling a majority in Congress, nonetheless, this nonpartisan group eventually got one of their members, Henry Clay, elected as speaker of the house. Formed in response to the Orders in Council and angered by raids by Indians in the west and impressment of American sailors into the British fleet, FTP, what 19th century political alliance of southern and western congressmen

eventually convinced President Madison to start the War of 1812?

Answer: War Hawks

9. This company merged with Pratt & Whitney in 1929 and formed the United Aircraft and Transport Company, but was forced to split in 1934 due to new federal anti-trust guidelines. It was very active in World War II, designing planes such as the B-17. Currently, it is known for its commercial aircraft, but is also an important military and NASA contractor. FTP, name this company, known best for its 490 person transcontinental "jumbo jet."

Answer: Boeing

10. She was born in 1922 with the name Frances Gumm in Grand Rapids Minnesota. She first acted at the age of 2 in her father's theater. With her sister, she formed a vaudeville act that toured the U.S. from 1927-1935. Her film debut was in 1936, but quickly escalated. She won a special academy award in 1939. FTP, name this actress who has starred in such films as *Meet Me in St. Louis*, and *The Wizard of Oz*.

Answer: Judy Garland

11. After meeting some of the greatest minds of his generation at Columbia University, this Massachusetts-born author began writing the novels that comprised his *Legend of Duluoz*. This was a sprawling autobiography whose chapters were composed of entire novels, like *The Subterraneans*. FTP, identify this author that coined the term "Beat Generation," the creator of such works as *The Dharma Bums* and *On the Road*.

Answer: Jack Kerouac

12. Among its important minerals are diaspore and gibbsite. Its value on the Mohs scale ranges from 1 to 3 and it varies in color from white to brown, aggregating in pea-size lumps. Formed from the weathering of granite rocks in warm, humid climates, it is mined in large quantities in Australia, Guinea, and especially Jamaica. FTP, identify this commercially important ore that is the primary source for the element aluminum.

Answer: bauxite

13. It was founded on December 8, 1991 with only three members. It expanded to add eight others two weeks later. Although Estonia, Latvia, and Lithuania gained independence in 1991, they declined to join this organization. Georgia was officially the last to join this group in 1993. FTP, identify this organization of nations that is considered to be the successor to the USSR.

Answer: Commonwealth of Independent States or CIS

14. He was born in 1723 in Kirkcaldy, Scotland, and educated at the Universities of Glasgow and Oxford. He developed a close friendship with David Hume, which apparently influenced some of his ideas. In 1751 he was appointed Professor of Logic at the University of Glasgow and in 1752, the Professor of moral philosophy. However, he is best known for a work of economics that influenced the downfall of mercantilism. FTP, name this man, whose most famous work, *Wealth of Nations*, was published in 1776.

Answer: Adam Smith

15. Based on events during the French Revolution, it concerns the unjust imprisonment of Florestan, husband of Leonore, who attempts to free him by disguising herself as a man and entering the service of Pizarro, the prison governor. Pizarro tries to have Florestan executed before Don Fernando, head of state, can arrive, but Leonore foils his plans. Don Fernando arrives and reunites Florestan with Leonore. FTP, this serves as the plot for what opera, the only one composed by Ludwig van Beethoven?

Answer: Fidelio

16. It is the diary of an academician who frequents cafés. He begins the novel with the inability to doubt things, but before long he suffers the kind of malaise characteristic of the author's philosophical work. At the end, the academician, Antoine Roquentin intends to write a novel. FTP, what is this 1938 Jean-Paul Sartre work, which could also be considered a precursor to vomiting?

Answer: Nausea (prompt on *The Diary of Antoine Roquentin*)

17. This day in the Sikh tradition celebrates Guru Hargobind's release from prison. On this day in the Hindu tradition, traders close their old accounts, debts are settled, and puja is offered to Lakshmi, the goddess of wealth and good fortune. It also celebrates the return from exile of Rama and Sita. This holiday is the only mutual holiday between Hindus and Sikhs. FTP, identify this holiday, the celebration of the new year and the festival of lights in Hinduism.

Answer: Diwali (accept Deepawali)

18. Excavation of this site began in 1931 and was supervised by James Henry Breasted. Its ruins are located at Takht-I Jamshid. The palace and audience hall, or Apadana, contain sculptured reliefs depicting Achaemenid court ceremonies. Plundered and burned by Alexander the Great in 330 BCE, it was eventually abandoned. FTP, identify this ancient city located in present-day Iran, first used as the capital of the Persian Empire by Darius I.

Answer: Persepolis

19. Its creator viewed it as an injunction to be obeyed as a moral duty, regardless of an individual's impulses, to produce a humanitarian society based on reason and thus created by free will. In other words, moral choices are only valid if they are choices that everyone should hold to at all times. FTP, identify this two-word philosophical doctrine created by the German philosopher Immanuel Kant.

Answer: categorical imperative

20. After four years as a New York State assemblywoman, she was elected to the U.S. House of Representatives in 1968. She served on the House Education and Labor Committee and instituted such programs as day care and minimum-wage increases to help her predominately Black constituency. FTP, name this person who, in 1972, became the first woman and first African-American to seek a major party's nomination for the presidency.

Answer: Shirley Chisholm

21. He purportedly once resolved an argument between two of his pupils by calculating a number to the 50th decimal place in his head. He attempted to solve Fermat's Last Theorem for n equals three and his constant, represented by gamma, is approximately .5772. His equation states that cosine of x plus i times the sine of x equals e raised to the quantity i times x . FTP, identify this Swiss mathematician, a student of Jacob Bernoulli, and contributor to the fields of optics, celestial mechanics, and calculus.

Answer: Leonhard Euler

22. In this kiss-ass opus, Britomart the virgin warrior searches for Arthegall so she can quit with the boring "patron of chastity" crap and get to producing a powerful line of royalty leading eventually to the swell queen to whom this work is dedicated. The Red Crosse Knight, a representation of Sir George, slays a dragon and rescues Gloriana, the figure that represents that swell queen. FTP, name this work written by brown-noser Edmund Spenser.

Answer: *The Faerie Queen*

23. Discovered by Gerard Kuiper in 1949, this satellite has the most elliptical orbit of all satellites in the solar system. Voyager 2 was the only spacecraft to come within 5 million miles of this satellite, revealing only a few large craters. Its orbit is tilted roughly 28 degrees relative to its home planet of Neptune's, equator. FTP, identify this eighth moon from Neptune named after the fifty daughters of Doris and Nereus.

Answer: Nereid

24. The cross of St. Andrew rests on a white background on this state's flag. Its motto is "We dare defend our rights." Cultural attractions in this state's 67 counties include the Ave Maria Grotto in Cullman County, Dauphin Island, and the DeSoto Caverns, located near Sylacauga. FTP, name this state, which had Cahaba and Tuscaloosa as capitals in the early 19th century, before it was changed to Montgomery.

Answer: Alabama

25. Individuals must select mates randomly. No genotype can be favored in such a way that it will increase in frequency in the population over time. No new alleles can be introduced into the population, including changes by mutation. Finally, the number of individuals and genotypes in the population must

remain high. After these conditions are met, the equation $p^2 + 2pq + q^2$ describes, FTP, what rule of genetics formed by a British mathematician and German physician in 1908?

Answer: Hardy-Weinberg equilibrium

Bonus Questions

1. For centuries, writers have struggled with the crippling problem of writer's block. What better way to get past it than hard drugs! Name the author from the first line of a famous work and his drug of choice FTPE.

a) (10) This writer used laudanum or opium and wrote "In Xanadu did Kubla Khan / A stately pleasure dome decree..."

Answer: Samuel Taylor Coleridge

b) (10) Heroin was the drug of choice of the writer of "I can feel the heat closing in, feel them out there making their moves, setting up their devil doll stool pigeons."

Answer: William Burroughs

c) (10) This writer drank alcohol and wrote "The 'Red Death' had long devastated the country."

Answer: Edgar Allen Poe

2. Answer these questions about these royals with a common theme FTPE.

a) (10) This king created the Privy Council, wrestled with Francis I of France, and was notorious for extremely lavish meals. His best-known Prime Ministers are Wolsey and Cromwell.

Answer: Henry VIII

b) (10) He converted to Catholicism in 1584, ending the conflict between his family and the Catholic League that occupied Paris. This led directly to his coronation and the establishment of his Bourbon dynasty and finally led to the expulsion of Spanish troops in France in 1598.

Answer: Henry IV or Henry of Navarre

c) (10) The death of this royal ended the Avis dynasty in his country, and led to the "Six-Year Captivity" in which Phillip II of Spain ruled the country. He was a major proponent of the Inquisition and was eventually made a Cardinal.

Answer: Henry of Portugal

3. Given the statement of a physical law, identify that law FTP each.

a) (10) A closed system will always proceed towards more entropy as time progresses.

Answer: Second Law of Thermodynamics

b) (10) The electric flux through any closed surface is proportional to the charge enclosed by that surface.

Answer: Gauss's Law

c) (10) This is a fundamental quantitative relationship between an electric current and the magnetic field it produces, based on the experiments in 1820 of its two namesake scientists.

Answer: Biot-Savart Law

4. Answer these questions about the offspring of the Norse god Loki FTSNOP.

a) (10) Loki was the mother of this eight-legged animal, giving birth to it after mating with Svaldildfari, the horse of a rock giant. Loki gave it to Odin after the giant almost won control of the sun and the moon.

Answer: Sleipnir

b) (5) He is the eldest of three children fathered on Angerboda by Loki. The god Tyr sacrificed a hand so that the other gods could bind this animal.

Answer: Fenrir or Fenris Wolf

c) (10) This youngest offspring of Loki and Angerboda shares her name with the citadel over which she reigns, located in the dark world of Niflheim.

Answer: Hel

d) (5) Odin took one look at the middle child of Loki and Angerboda and hurled him into the ocean. He sank to the bottom, where he lived and grew to such a length that he encircled the world and bit his own tail.

Answer: Jormungand (accept Midgard Serpent)

5. Given a year, name the winner of the Best Picture Oscar FTPE, or FFPE if you need the lead actor or actress.

a) (10) 1976

(5) Sylvester Stallone

Answer: Rocky

b) (10) 1943

(5) Humphrey Bogart

Answer: Casablanca

c) (10) 1965

(5) Julie Andrews

Answer: The Sound of Music

6. Answer these questions about the Roman Republic FTSNOP.

a) (5) This was the title given to a man elected by the people to wield absolute power in times of threat for 6 month intervals. Legendary Cincinnatus was the most famous early man to wield this power, defeating the Aequi in 16 days.

Answer: dictator

b) (10) This document was made into formalized code by the decemvirs in 450 BCE. It was destroyed in the sack of Rome in 390 BCE but remained an integral part of Roman law until the end of the Empire. Better known is the fact that these were placed in the middle of the Roman Forum.

Answer: Law of the Twelve Tables

c) (15) This was an honorary title given to victorious generals in ancient Rome. The first recorded one was Paullus in 189 BCE. Julius Caesar used it as a permanent title.

Answer: imperator

7. Given a brief description, identify the chemical process being described FTPE.

a) (10) This process, developed by its namesake scientist, is used to synthesize ammonia.

Answer: Haber process

b) (10) This process is used in the technique of sulfur extraction from the ground.

Answer: Frasch process

c) (10) Named after the 1909 Nobel prize winner in Physics, this is the process by which nitric acid is synthesized.

Answer: Ostwald process

8. Identify these works by Umberto Eco FTSNOP.

a) (10) This newest Eco novel explores man's arbitrary ways of measuring and defining time.

Answer: The Island of the Day Before

b) (5) In this novel, three dodgy publishers start investigating a document that describes a secret energy source known only to a league of medieval knights.

Answer: Foucault's Pendulum

c) (5) This murder mystery is set in a medieval monastery. Brother William of Baskerville's hunt for clues leads the narrator, a young monk, to ponder signs and their meanings.

Answer: The Name of the Rose

d) (10) How to Recognize a Porn Movie and How to Follow Instructions are among the essays in this funny 1994 collection.

Answer: How to Travel with a Salmon & Other Essays

9. Given the number, identify the name of the symphony by Joseph Haydn FTPE.

a) (10) Symphony Number 100

Answer: The Military Symphony

b) (10) Symphony Number 94

Answer: The Surprise Symphony

c) (10) Symphony Number 45

Answer: The Farewell Symphony

10. Name these World War II battles given their descriptions FTSNOP.

a) (5) This battle occurred off of Sand and East islands and was the turning point of the war in the Pacific Theater.

Answer: Battle of Midway

b) (10) This battle was also called the Autumn Mist and Watch on the Rhine. It occurred between December 1944 and January 1945, and was the last major German offensive in the west in the war.

Answer: Battle of the Bulge

c) (15) This operation and set of battles was fought between British and American paratroopers and German SS troops in the Netherlands, and was the basis of a movie with a star-studded cast, *A Bridge Too Far*.

Answer: Operation Market Garden

11. Identify the following terms related to meteorology FTSNOP.

a) (5) This is defined as any form of water, either solid or liquid, that falls from the atmosphere and reaches the ground. Examples include rain, snow, sleet, and hail.

Answer: precipitation

b) (15) Precipitation begins when ice crystals in clouds grow larger by this process, named after the Swedish meteorologist who proposed that raindrops begin as ice crystals.

Answer: Bergeron process

c) (10) An early system of identifying cloud types was proposed by this French botanist and zoologist in 1802, who is perhaps better known for his work in the development of evolution.

Answer: Jean Baptiste Lamarck

12. Answer these questions about a significant scandal in 20th century American history FTSNOP.

a) (20) The Pan-American Petroleum Company and the Mammoth Oil Company both bribed Albert Bacon Fall, the Secretary of the Interior, to illegally lease government oil reserves at two sites. Identify these two sites FTPE.

Answer: Teapot Dome and Elk Hills

b) (10) This Secretary of the Navy was innocently involved in the scandal and resigned.

Answer: Edwin N. Denby

13. Name the following Stanley Kubrick films FTPE.

a) (10) This 1964 film stars Peter Sellers who plays three roles, including the title role, as well as George C. Scott.

Answer: Dr. Strangelove; or how I Learned to Stop Worrying and Love the Bomb

b) (10) This 1968 film is considered to be a groundbreaking piece of film work and is based off of the short story *The Sentinel* by a famous science-fiction writer.

Answer: 2001: A Space Odyssey

c) (10) This 1971 Kubrick film was based on a 1961 novel whose protagonist has a passion for classical music and is a member of a vicious teenage gang that commits random acts of brutality. The book was written in futuristic slang vocabulary in part an adaptation of Russian words.

Answer: A Clockwork Orange

14. Given the German state, name the capital FTPE each.

a) (10) Schleswig-Holstein

Answer: Kiel

b) (10) Sachsen (Saxony)

Answer: Dresden

c) (10) Hessen

Answer: Wiesbaden

15. Given a list of characters, identify the play by Shakespeare FTPE.

a) (10) Antipholus of Ephesus, Antipholus of Syracuse, Dromio of Ephesus, Dromio of Syracuse

Answer: The Comedy of Errors

b) (10) Grumio, Gremio, Kate, Petruchio

Answer: The Taming of the Shrew

c) (10) Dogberry, Hero, Don Pedro

Answer: Much Ado About Nothing

16. Answer these questions on Jewish holidays FTSNOP.

a) (5) This holiday begins with a ten-day repentance leading up to Yom Kippur. The shofar is blown every day for one month before this holiday, the Jewish New Year.

Answer: Rosh Hashanah

b) (10) The scroll of Esther is read aloud during this holiday, and every time the villain's name "Haman" is spoken, people attempt to drown out the sound by making loud noises.

Answer: Purim

c) (15) During this holiday, families build shelters in the open air and fill them with greenery. They then eat there for seven days. It commemorates the time when Israelites lived in temporary shelters in the desert on their way to Canaan.

Answer: Sukkot

17. Answer these questions about chloroplasts FTPE.

a) (10) Bounded by a double membrane that encloses it, this is the dense fluid content of the chloroplast.

Answer: stroma

b) (10) These parts of the chloroplast function in the steps of photosynthesis that initially convert light energy to chemical energy. They are concentrated in stacks called grana.

Answer: thylakoids

c) (10) Chloroplasts are mainly found in this green tissue in the interior of the leaf.

Answer: mesophyll

18. Given the definitions, name the following legal terms FTP each.

a) (10) A court order prohibiting a person to do a certain act or commanding the person to discontinue acting in a specific way.

Answer: injunction

b) (10) Under civil law, this 4 letter word denotes a wrong committed by one person against another.

Answer: tort

c) (10) The policy that directs judges to follow precedent. It is a Latin phrase meaning to abide by decided cases.

Answer: stare decisis

19. Identify the state that concerns the following Edna Ferber works FTPE.

a) (10) *Ice Palace*

Answer: Alaska

b) (10) *Giant*

Answer: Texas

c) (10) *Cimarron*

Answer: Oklahoma

20. Identify the following Chinese dynasties FTP each:

a) (10) The earliest dynasty of which there is reliable historical record, which began in the 16th century B.C.E. and was succeeded by the Chou Dynasty.

Answer: Shang Dynasty

b) (10) The dynasty that was founded in 206 BC by Liu Bang, which lasted until AD 220. The practice of selecting public officials on the basis of their Confucian virtues was first put into place. After the fall of this dynasty, China entered the Three Kingdoms period.

Answer: Han Dynasty

c) (10) Under its only ruler, Wang Mang, this short-lived dynasty was also known as the Han Interregnum. A flood eventually led to a rebellion in which he was killed in CE 23, effectively ending the dynasty.

Answer: Hsin Dynasty

21. Name the following people who studied the mind FTSNOP:

a) (5) This German psychologist, born in 1832, is considered by many to be the founder of scientific psychology.

Answer: Wilhelm Max Wundt

b) (10) This psychoanalyst diverged from Freud and emphasized the birth trauma as the central cause of neurosis.

Answer: Otto Rank

c) (15) Born in 1859, he was a British psychologist and author who was an early advocate of birth control

and a pioneer researcher into the psychology and sociology of sex.

Answer: Henry Havelock Ellis

22. Given a description, identify the mathematical equation FTPE.

a) (10) This function of economics states that the marginal productivity of labor is proportional to the amount of production per unit of labor.

Answer: Cobb-Douglas function

b) (10) This theorem states that the line integral around the boundary curve of a surface S of the tangential component of the vector F is equal to the surface integral of the normal component of the curl of vector F.

Answer: Stokes' Theorem

c) (10) A function u satisfying this equation has the property that the second partial derivative of u with respect to x plus the second partial derivative of u with respect to y equals zero. It is named after a French mathematician who has a namesake transform.

Answer: Laplace's equation

23. Answer the following questions about DNA FTSP.

a) (20) FTPE, name the 4 nitrogenous bases of DNA.

Answer: adenine, cytosine, guanine, thymine

b) (10) [Note to moderator: read sequence slowly] Now, FTP, if a given DNA sequence reads G C T T A C A T, what would be the complementary RNA sequence for this DNA strand?

Answer: C G A A U G U A

24. Given a painting, identify the artist FTPE.

a) (10) *The Battle of San Romano*

Answer: Paolo Uccello

b) (10) *Madonna with the Long Neck*

Answer: Parmigianino

c) (10) *Conversion of St. Paul*

Answer: Michelangelo Merisi da Caravaggio

25. Given the real name of an author, give the better-known pseudonym FTPE.

a) (5) Eric Arthur Blair

Answer: George Orwell

b) (5) Theodore Geisel

Answer: Dr. Seuss

c) (5) Samuel Clemens

Answer: Mark Twain

d) (5) William Sydney Porter

Answer: O. Henry

e) (5) Charles Lutwidge Dodgson

Answer: Lewis Carroll

f) (5) Karen Blixen

Answer: Isak Dinesen