

## 1995 ACF Nationals Questions by Princeton

1. One is made of two hollow, copper pieces of metal called dees. The dees are placed side to side with the flat edges almost touching each other, are surrounded by a large electromagnet, and then placed in a vacuum. Particles are injected into the center of the dees and the magnetic field begins to oscillate at the fixed frequency through which the particles will spin around the dees. The particles spin faster and faster until they spiral out of the device. FTP what type of particle accelerator, invented by Ernest Orlando Lawrence did I just describe?

Answer: cyclotron

2. Among the advice and comments it sets out are "You will get nothing written or created unless Minerva helps," "The making of a poem is like that of a painting," and "Not gods, nor men, nor even booksellers have put up with poets being second rate." Centuries later it still exerted a profound influence on the English critics of the Renaissance and the post-Renaissance. For 10 points, what is this guide for writing verse written around 13 BC by Horace.

Answer: Ars Poetica or The Art of Poetry

3. With his older brothers, Duarte and Pedro, this son of King John I and Queen Phillipa raised an army and captured the Moroccan town of Cueta. Once he became the Governor of Cueta, this student of mathematics and astronomy organized an expedition that rounded the Cape Bojador--an expedition that brought back not only the first black slaves to Europe but also stories about lands farther south. FTP, name the prince who was so interested in those southern lands that he funded over 50 Portuguese expeditions to Africa.

Answer: Henry the Navigator or Henry III

4. He is credited with foreseeing the practical possibilities of the telescope, glasses, gunpowder, mechanical navigation, and mechanical flight. He was called, Doctor Mirabilis - the Admirable Doctor, and in his Opus Majus, this Franciscan argued that for the church to become the leader of civilization, it needed to include the sciences in Christian studies. For 10 points, name this 13th century English philosopher.

Answer: Roger Bacon

5. William Tecumseh Sherman's troops were slow in moving toward Atlanta, so the general was eager to send his men into a major conflict in June, 1864. He attacked the well-entrenched troops of Johnston, Hood, and Hardee north of the city and learned the hard way the futility of directly assaulting fortified positions. For 10 points, name this battle which later named the first commissioner of baseball.

Answer: Kennesaw Mountain

6. It was twice the site of the death in a great oak chair of the head of the family that built it on land of a man falsely condemned for witchcraft. By 1850, one wing was let to Mr. Holgrave, a maker of daguerrotypes by the elderly Hepzibah, its single owner. FTP, identify this structure in Salem, Massachusetts that has its curse lifted only when Holgrave and Phoebe fall in love and so rise above it.

Answer: The House of The Seven Gables

7. The Mountains of Mayo, the Mountains of Connemara, the Wicklow Mountains, the Mountains of Kerry, and the Donegal Mountains all serve as backdrops for this country's picturesque lowlands. For 10 points, name this country which also contains the famous Lakes of Killarney and the Shannon and Liffey Rivers.

Answer: Ireland or Eire

8. Once its DNA enters a bacterium, a race ensues between *cro* and *cII* [see 2]. If *cII* wins, the viral DNA will integrate into the chromosome and will stay there in a lysogenic state. If *cro* wins, the virus will replicate to a high copy number and lyse the cell. For 10 points, this is the life cycle of what highly-studied bacteriophage whose name is designated by a Greek letter?

Answer: Lambda

9. With this play, Shakespeare achieved his first great success in a new genre, the Romance, which had been preceded by flawed endeavors such as *Pericles* and *Cymbeline*. Characters include the flamboyant Autolycus, the saucy Paulina, Antigonus, Mamillius, Florizel, Hermione, Polixenes, Perdita, Leontes, and an infamous bear. FTP, identify this late Shakespeare romance set fairly equally in both Sicily and Bohemia.

Answer: The Winter's Tale

10. He accompanied his friend, Theodore Roosevelt, into Cuba at the outbreak of the Spanish-American war, but once there, he complained to his boss, William Randolph Hearst, that he could not find the war. Hearst wired him back: "You furnish the pictures, I'll furnish the war!" The artist complied--eventually painting his famous "Charge of The Rough Riders At San Juan Hill." For 10 points, name this western painter most famous for his 25 bronze sculptures, including Bronco Buster.

Answer: Fredrick Remington

11. He destroyed Babylon and, during the reign of Hezekiah, recaptured many of the cities of Judah. Jerusalem, however, was spared when an angel of God descended in the night and destroyed his army. Forced to return to Nineveh, he was murdered by two of his sons, who disagreed with his choice for a successor. FTP name this seventh-century B.C. Assyrian king who revived the capital as Ninevah and struggled to maintain the embattled Assyrian empire.

Answer: Sennacherib

12. One of the few stars to successfully make the transition from silent to sound films, she first starred in The Story of Gosta Berling. She moved to the US and made the silent films Flesh And The Devil, Love, and A Woman Of Affairs. Her voice soon was heard in the sound films, Hata Hari, Anna Christie, and Grand Hotel. For 10 points, name this Swedish actress born Greta Gustafsson who retired, without explanation, at the height of her fame.

Answer: Greta Garbo (accept Greta GUSTAFSSON on early ring-in)

13. Coffee does not cool down and spontaneously begin swirling around, nor does one end of a spoon resting on a table spontaneously become searingly hot while the other end becomes icy to the touch, nor do all the molecule of air in the room move over to a corner and stay there. None of these things happen for the same reason that there are no perfect engines or refrigerators. For 10 points, name the law which disallows these behaviors because entropy always wins.

Answer: Second Law Of Thermodynamics

14. He was a half-Cherokee trader who, in 1865, turned his wagons southward from the Arkansas river into Indian Territory and finally to Fort Cobb. Well liked by those who knew him, he was also honored by people who never met him but who followed his wagon ruts while driving their cattle from Texas to Abilene, Kansas. For 10 points, name this man whose trading path named a major trail of the old west.

Answer: Jesse Chisholm

15. She was the guardian of those treaties by which the Romans began peaceful relations and from her sacred grove at Aricia, she presided over the league of Latin cities. During the Middle Ages, her name, along with Hecate, was used as a leader of witches - hence her use in the title of a George Meredith novel. FTP, name this Roman goddess, who with her twin brother Apollo was identified with a celestial object.

Answer: Diana

16. He met many personalities in Paris, and his connections with Lamartine and Lamennais particularly influenced his career, as did the appearance in 1831 of the Italian virtuoso, Nicolo Paganini. In 1833, he met the French countess Marie d'Agoult whose pen name was Daniel Stern. They formed a liaison that produced three children, one of whom later married Richard Wagner. For 10 points, identify this developer of the symphonic poem who created a series of twenty Hungarian Rhapsodies.

Answer: Franz Liszt

17. A member of Dr. Johnson's circle, he was noted for his comic, verbal faux-pas, but he probably played the buffoon purposely, a fact the circle never suspected. In later life, he stuck it to the circle by caricaturing them in his work The Retaliation. For 10 points, name this author of The Citizen of the World, The Deserted Village, and The Vicar of Wakefield.

Answer: Oliver Goldsmith

18. When it was discovered it was believed to be a tiny star and after the 1655 calculation of its orbit, little was learned about this object for 300 years when Gerard Kuiper discovered that it had an atmosphere. It orbits its planet every 16 days and with a diameter of 5800 kilometers is larger than Mercury. For 10 points, identify this reddish-orange moon of Saturn, the largest in the solar system.

Answer: Titan

19. Their name is derived from the Hebrew for "fetus" or "unformed mass" and the most famous one was created by Judah Low in Prague in the 16th century. They were created by saintly scholars to help protect the oppressed in many parts of Europe, but they were unable to do anything but follow directions literally, often in a most destructive manner. FTP, name these clay, automaton-like servants of Jewish folklore.

Answer: golem(s)

20. Founded by Hernando Cortes in 1519, this city on the Bay of Campeche was the first Spanish settlement in Mexico. It was occupied briefly by the French in the 1860s and following the arrest of several American Marines at Tampico in 1914, it was bombarded and captured - pushing the US and Mexico to the brink of war. For 10 points, identify this chief port of Mexico that lies about 200 miles east of Mexico City.

Answer: Veracruz

21. Take the permittivity of a vacuum and multiply it by the permeability of a vacuum; take the square root and then take the reciprocal. You now have a constant that is important shows up in all the Lorenz transformations in the factor known as gamma. For 10 points, name this constant which is 2.99 times 10 to the eighth meters per second.

Answer: speed of light or c or numerical equivalents on early ring in

22. In it, Paul thanks Greek Christians for sending him money when he was imprisoned in Rome, tells them that he converted members of the emperors household, and urges them to keep peace with the church and to guard against evildoers. For 10 points, name this Pauline epistle--the eleventh book of the bible which comes just before Colossians and just after Ephesians.

Answer: Phillippians

23. It is a type of live oak tree grown mainly in Spain, Portugal, and Algeria. The outer layers of its bark are very compact and waxy and are stripped every decade or so. The harvested bark is then processed into several products--including the paint called "Spanish black," linoleum, and even Marcel Proust's bedroom lining. For 10 points, name this staple of Birkenstock sandals.

Answer: Cork

24. Situated on the Golden Horn, this former palace of the Sultan of Turkey at Constantinople is surrounded by a circular seven-and-a-half-mile-long wall. The name of this palace also, however, generally names a harem or the part of a royal or noble Muhammedan household where the wives and concubines are confined. FTP identify this term that also completes the title of a Mozart opera.

Answer: Seraglio

25. When I pay for cable, my neighbor taps into my line for free without distorting my picture; after I take out my trash, my neighbor eats the moldy bean dip I threw away, but I didn't want it anyway; when I go out on dates, my neighbor takes the opportunity to sleep on my kitchen floor, but he cleans up after himself so I'm not bothered. In fact, you could say that everything I do is to his advantage, yet he does nothing for me--good or bad. For 10 points, what sub-class of symbiosis do I share with my neighbor?

Answer: commensalism (prompt for more specific on symbiosis)

26. During his life, rumors arose that he was part black, and he later confided, "One of my ancestors may have jumped the fence." But don't expect to see him in Ebony soon, because he often ranks as the worst president in history. FTP, name this curse-of-Tecumseh victim whose Sec. of the Interior, Albert B. Fall, launched the Teapot Dome Scandal.

Answer: Warren G. HARDING

27. Australians tried to kill them by infecting them with the myxoma virus--which usually kills the european varities; however, they died too quickly for mosquitos to spread the disease, and soon the animal grew resistant. In 1887, New South Wales residents killed 20 million of these herbivores--a recent addition introduced to the continent by an English gentleman who wanted the cute, little, furry creatures to grace his estate. For 10 points, name this type of animal.

Answer: Rabbit

## 1995 ACF Nationals Questions by Princeton University

1. FTP apiece, answer these questions on Spanish geography.

1. Majorca, Minorca, and Ibiza are the three largest islands in what group?

Answer: Balearic Islands

2. What huge, dry plateau covers most of Spain?

Answer: Meseta

3. The Tagus River is the longest in Iberia, but it flows partially through Portugal, so what other river lying completely within Spain is considered the country's longest?

Answer: Ebro

2. Name the author from a list of works, 30-20-10-5.

1. Discourses upon the first ten books of Titus Livius

2. History of Florence and La Mandragola

3. The Art of War

4. The Prince

Answer: Niccolo Machiavelli

3. Name these things from Commodore Mathew Perry's opening of Japan.

1. For 5 points, in what year did he go to Japan?

Answer: 1853 (accept 1854, when he arrived)

1. For 5 points, what President sent Commodore Perry on his mission?

Answer: Millard Fillmore

2. Previously, at only one Japanese port were foreigners (and then, only the Dutch and Chinese) allowed to trade. For 10 points, what was that port?

Answer: Nagasaki

3. For 10 points, what shogunate signed a treaty with the U.S. as a result of Perry's mission.

Answer: Tokugawa Shogunate

4. Given the first lines of a few novels, name the novel. Ten points per correct answer. If you need the author, you will only receive five points.

1. 10 pts: "That was when I saw the pendulum."

5 pts: Umberto Eco

Answer: Foucault's Pendulum

2. 10 pts: "Roy Hobbs pawed at the glass before thinking to prick a match with his thumbnail..."

5 pts: Bernard Malamud

Answer: The Natural

3. 10 pts: "In 1815 Monsieur Charles-Francois-Bienvenu Myriel was Bishop of Digne."

5 pts: Victor Hugo

Answer: Les Miserables

5. Name these three composers from works on a 10-5 basis.

10: Ba-ta-clan

5: Orpheus In The Underworld

Answer: Jacques Offenbach

10: Olav Trygvason

5: Norwegian Dances

Answer: Edvard Grieg

10: Scenes From The Bavarian Highlands

5: Pomp And Circumstance

Answer: Edward Elgar

6. Identify these terms from philosophy FTP apiece.

1. The branch of philosophy that studies the limitations and nature of knowledge.

Answer: Epistemology

2. A process of change brought about by two opposing forces coming into conflict. The opposing forces create a new force, called a "synthesis."

Answer: Dialectic (not Dialectic Materialism)

3. The belief that God exists but presently has no active role in world affairs.

Answer: Deism



7. FTP apiece, given descriptions, name the type of glass so described.

1. Named for the Irish town where it is made, this is a smoky colored glass made by a famous crystal company.

Answer: Waterford glass

2. Also called crystal glass or flint glass, this type of glass is named for its high content of the metal which has an atomic number of 82.

Answer: Lead glass

3. The Romans made this glass type by fusing together bundles of colored glass rods; its name literally means "glass of a thousand flowers."

Answer: Millefiori glass

8. Given clues, name the Japanese leaders active during WWII (5-10-15)

1. For 5 points, this man was Emperor during the war, a position that afforded him little real power. After the war, MacArthur forced him to deny his divinity.

Answer: Hirohito (or SHOWA)

2. For 10 points, this general and Japanese premiere led his country to the Axis and to war the U.S. Following the war he was hanged for war crimes.

Answer: Hideki Tojo

3. For 15 point, though this admiral opposed the war hawk policies of Tojo, he still planned and executed the attack on Pearl Harbor.

Answer: Isoroku Yamamoto

9. Identify the following about light FTP apiece:

1. In 1801, this man showed that light must be a wave through an ingenious double slit experiment.

Answer: Thomas Young

2. Light travels through optical fibers without losing intensity because the angle of incidence inside the fibers is larger than the critical angle between the fibers and air. By what three word phrase do we know this phenomenon?

Answer: Total Internal Reflection

3.  $S = \frac{1}{\mu_0} \mathbf{E} \times \mathbf{B}$  gives the intensity of a given electromagnetic wave. Whose name is applied to this vector S?

Answer: John Henry Poynting

10. Time for a question on the kidney. FTP apiece:

1. What is the functional unit of the kidney?

Answer: Nephron

2. In each nephron, as-yet-unfiltered fluid diffuses from the group of capillaries known as the glomerulus into what capsule?

Answer: Bowman's capsule

3. After urine leaves the Bowman's capsule, the fluid is made hypertonic in what loop?

Answer: Loop of Henle

11. For ten points apiece, answer these questions about the 1682 satirical poem Macflecknoe.

1. What British author wrote the poem?

Answer: John Dryden

2. What British poet, who succeeded Dryden as poet-laureate in 1689, is the target of the poem's sarcasm?

Answer: Thomas Shadwell

3. What other British poet used the poem as a model for his satirical poem The Dunciad (1728-1743)?

Answer: Alexander Pope

12. Here are some questions on the battle of The Monitor and The Merrimac. FTP apiece:

1. What name is given to the battle?

Answer: Hampton Roads

2. The Merrimac was not really called the Merrimac at the time, because the South had renamed the ship after they captured it from the North. FTP, what was the South's name for the Merrimac?

Answer: Virginia

3. What Northern genius created the Monitor?

Answer: John Ericsson

13. 30-20-10, given works, name the playwright.

1. In Russia and Chinese Encounters were collaborations with his wife, the photographer Inge Morath.
2. After the Fall recounts an earlier, less successful marriage.
3. His other works include All My Sons.

Answer: Arthur Miller

14. Name the physicist, 30-20-10.

1. Dalton was famous for studying color blindness. This scientist born in 1831 also studied color and color blindness and was the first to show that any color could be produced by a combination of a selected three colors.
2. In 1871 he became the first Cavendish director of experimental physics.
3. In his Treatise On Electricity and Magnetism, he expounded on his famous four equations.

Answer: James Maxwell

15. The Romans built walls in England where they had to defend open landscape. Answer the following questions 5-10-15.

1. For five points, what 74 mile long wall was built in the A.D. 120's.

Answer: Hadrian's Wall

2. For ten points, what 30 mile long wall was built 20 years later just north of Hadrian's Wall?

Answer: Antonine Wall.

3. For 15 points, Hadrian's Wall stretched from the mouth of the what river to Solway Firth?

Answer: Tyne River

16. Answer these questions about the brain FTP each.

1. Split brain studies were made possible because some epileptics had surgically-induced split brains. What brain-hemisphere connector was severed in these patients?

Answer: Corpus Callosum

2. This kind of slow (8-12 Hertz) brain wave measured by EEGs is indicative of abstract thinking. People who exhibit almost none of these tend to think almost exclusively by visual imagery.

Answer: Alpha waves

3. This type of cell engulfs newly-formed axon and eventually develops into the myelin sheath.

Answer: Schwann cell.

17. FTP each, I'll describe a common industrial method of obtaining a chemical element; name the element.

1. Six of the seven most common atmospheric elements are usually extracted from the air. The exception is obtained from natural gas wells in Kansas, Oklahoma, and Texas. Name this gaseous element.

Answer: Helium

2. The Frasch process uses superheated water to melt this element and drive it to the surface.

Answer: Sulfur

3. This second most abundant cation in seawater is precipitated out by the addition of calcium hydroxide, treated with hydrochloric acid, and finally electrolyzed.

Answer: Magnesium

18. Identify these people associated with Priam of Greek myth and the Trojan War for the stated number of points.

1. For five points, Priam was married to this woman.

Answer: Hecuba

2. For five points, Priam went to Achilles's tent and successfully retrieved the dead body of this son of Priam.

Answer: Hector

3. For 10 points, Priam's grandson who was thrown from the walls of Troy by the Greeks.

Answer: Astynax

4. For 10 points, this son of Achilles eventually killed Priam, after the gates of Troy were thrown open by the Greeks concealed in the wooden horse.

Answer: Neoptolemus or Pyrrhus

19. Given a first line from a book of the King James Bible, you name the book for 10 points each.

1. "Now it came to pass in the days of Ahasuerus..."

Answer: Esther

2. "Blessed is the man that walketh not in the counsel of the ungodly, nor standeth in the way of sinners, nor sitteth in the seat of the scornful."

Answer: Psalms

3. "In the third year of the reign of Jehoiakim king of Judah came Nebuchadnezzar king of Babylon unto Jerusalem, and besieged it."

Answer: Daniel

20. 30-20-10 Name this politician.

1. When Jackson opposed the Bank of the United States, he appointed this man to a cabinet position in order to withdraw all the bank's funds over congress's objections.

2. The cabinet position was Secretary of the Treasury, and the Senate refused to confirm the appointment.

3. Later, as chief justice of the Supreme Court, he presided over the Dred Scott case.

Answer: Roger Brooke Taney

21. Water, water everywhere... FTP apiece, name these watery locales:

1. This body of water, once found in the USSR, is primarily filled by the Syr Darya and Amu Darya waterways.

Answer: Aral SEA

2. This gulf lies between Yemen and Somalia.

Answer: Gulf of Aden

3. This river is the main waterway in Venezuela.

Answer: Orinoco

22. FTP apiece, given a description of an English Edward, tell me what Edward of which I am speaking.

1. This Edward led the English at their great victory at Crecy [kray SEE].

Answer: Edward The Black Prince

2. For over 25 years this son of Aethelred II ruled in peace until the powerful Godwin family annoyed him so much (by, among other things, murdering the King's brother, Alfred) that the King promised the crown to a Frenchman.

Answer: Edward The Confessor (or THE SECOND)

3. This Edward abdicated the throne in 1936 so he could marry Wallace Simpson.

Answer: Edward The Eighth