

1996 ACF Nationals
Questions by Berkeley 1 & 2

1. This German physicist was one of the leading experts of his day on thermodynamics, and his struggles with one of the most significant problems in physics forced him to abandon all principles of physics except for the first and second laws of thermodynamics. One of the most prominent results which he abandoned was the classical equipartition theorem of statistical mechanics because one of its applications led to the problem known as the ultraviolet catastrophe. FTP, name this scientist, who successfully dealt with the ultraviolet catastrophe by introducing the concept of quantized energy.

Answer: Max Planck

2. He wrote his first book in Fresnes prison in 1942 on sheets of brown paper given to French convicts to make into bags. The novel celebrated crime, betrayal, and homosexuality, and consequently was banned in the more prudish English speaking countries, including Britain and American. His childhood as the illegitimate son of a prostitute is reflected in later works, including "Miracle of the Rose". FTP Who wrote, "The Maids", "The Blacks", and "The Balcony"?

Answer: Jean Genet

3. Her agent claimed "She looks like Loretta Young, walks like Marilyn Monroe, and talks like Dr. Freud". Her thesis at Columbia University was on "The Conditioned Salivary Response in Human Subjects", though she is better known for more popular works, including "Ten Days to a Successful Memory", and "What Every Woman Should Know About Marriage". FTP, Who is this popular psychologist, who first achieved fame by memorizing the "Ring Encyclopedia" and winning \$64,000 on a game show by her boxing knowledge?

Answer: Dr. Joyce Brothers

4. Grandson of James I of England and son of Elizabeth Stuart, this German prince came to the aid of his beleaguered uncle, Charles I during the English Civil War. Handsome and dapper, he fought with distinction at Edgehill and Bristol and was soon recognized as the Cavaliers' best general. FTP, name this son of the Elector of Palatine whose defeat at Marston Moor sank the cause of the Cavaliers?

Answer: Prince Rupert

5. The name of this country has been transferred from its original territory in the Roman empire—a strip of coastal land on the northern coast of Morocco and Algeria—to a different place in West Africa. The modern day country is largely desert, and though it borders Algeria, it has no border with Morocco proper, unless you count Western Sahara. FTP, what is this Islamic Republic whose capital is Nouakchott?

Answer: Mauritania

6. The smaller one is almost completely in the constellation Tucana, and is about 4 degrees in angular diameter. The larger one is located mostly in the constellation Dorado and is about 7 degrees in diameter. In 1987 it became the site of the first supernova visible to the naked eye since 1604. FTP, name these satellites of the Milky Way, visible to the naked eye in the southern skies.

Answer: Magellanic Clouds

7. Barbara Branden has just written a biography of her. Born in 1905 to a Jewish pharmacist in St. Petersburg, she took her last name from her typewriter. Miss Branden was, with her husband Nathaniel, one of her students, and "Atlas Shrugged" is dedicated to them. FTP, who is this writer, known for her objectivist philosophy?

Answer: Ayn Rand

8. Formed in St. Louis in the 1870's, it was cracked in 1875 by Secretary of the Treasury Benjamin H. Bristow. The conspirators, including the President's personal secretary General Orville Babcock, forced many innocent and weak producers of its namesake product to join. FTP what is this association of distillers which cheated the government of Ulysses Grant out of much tax revenue?

Answer: Whiskey Ring

9. Born in 1791, this Romantic painter caused a furor in official French art circles with his realistic and freely rendered paintings of historical and animal subjects. Many of his paintings depict military uniforms, such as The Wounded Cuirassier and Mounted Officer of the Imperial Guard. FTP, who was this artist, best known for The Raft of the Medusa?

Answer: Theodore Gericault

10. It is a complex, discrete lens shaped structure or organelle contained in cytoplasm of plant cells. They have submicroscopic, disk-like bodies called grana and are the central site of the process of photosynthesis. FTP what are these structures in the cells of green plants which serve as storage containers for chlorophyll?

Answer: chloroplasts

11. This son of Laomedon was indirectly responsible for arousing Juno's legendary hatred for the Trojan race. This Trojan prince had been abducted by an eagle, and upon arrival at Olympus, he ousted Hebe as cupbearer to the gods. FTP, name this young lad given immortality for bearing Jupiter's cups, and perhaps performing other jobs as well.

Answer: Ganymede

12. In his youth he was a follower of Socrates, who is featured in "Symposium". Later he admired Cyrus the elder and the Spartan king Agesilaus. A Spartan historian, his "Hellenica" picks up where Thucydides left off, while his "Anabasis" or the "Persian Expedition" covers his adventures with the 10,000 mercenaries enlisted by Cyrus the younger. FTP Who is this Olympian writer?

Answer: Xenophon

12. Some of Shakespeare's villains are monstrous, but few are actually monsters. One such is this character from Shakespeare's last play. He wanders the beaches of a small island being tormented by Ariel, a spritely creature and duped in his search for love. FTP, name this monster in The Tempest.

Answer: Caliban

14. It results from the wavelike properties of particles; the wave associated with the particle "decays" through the barrier, but the amplitude of the wave on the other side of the barrier is large enough that there is a finite probability of finding the particle there. Although this process is forbidden by ordinary classical mechanics, it has been convincingly demonstrated even in solids. FTP, name this quantum-mechanical effect by which a particle can pass through a barrier that the particle has insufficient energy to overcome.

Answer: Tunneling

15. In existence since 1776, it has been led by Leonid Lavrovsky and Yuri Grigorovich. This company staged the first productions of the Petipa-Minkus ballet "Don Quixote" in 1869 and the Risinger-Tchaikovsky "Swan Lake" in 1877. FTP, identify this long lasting Russian ballet company?

Answer: Bolshoi Ballet

16. The critical reviews state that his works are pervaded by a sense of alienation. Perhaps this is because by the age of ten, almost all of his relatives had died. When in college he joined the movement called the "neo-perceptionists", and worked over his career to link east and west. His works include "Beauty and Sadness," "The House of the Sleeping Beauties," "The Sound of the Mountain," "Thousand Cranes," and "Snow Country." FTP What Japanese author won the Nobel Prize in Literature in 1968?

Answer: Yasunari Kawabata

17. Born in 1883 in Triesch, Moravia, he trained and practiced in Austria, where he created the Econometric Society in 1930. He developed theories of business cycles, studied growth, and predicted that businesses ultimately perish from their success, arguing that monopoly concerns can be taken care of by the market. In 1912 he wrote "The Theory of Economic Development", in which he was the first economist to analyze aggressive capitalism from the corporate perspective. FTP What economist coined the term "creative destruction" to describe the processes of capitalism?

Answer: Joseph Alois Schumpeter

18. This man translated Georgius Agricola's monumental treatise "De Re Metallica" into English. He wrote American Individualism (1922) and The Challenge to Liberty (1934). Born in West Branch, Iowa, he was a Stanford graduate and director of the Belgian Relief Commission during World War I. He served Harding and Coolidge as Secretary of Commerce. FTP, name this man who received the Republican nomination for president in 1928.

Answer: Herbert Hoover

19. Many hydroxide compounds and organic molecules, such as carboxyls, usually possess this property. It is the property of certain compounds of acting either as acids or as bases, depending on the reaction in which they are involved. FTP, what is this chemical property?

Answer: Amphoterism or Amphoteric

20. The protagonist and novel's namesake is a New England farmer who marries the woman who nurses his mother in her last illness, Zenobia, a whining and domineering hypochondriac. He falls in love with Zenobia's young cousin Mattie Silver, they try to attempt suicide but fail and are crippled and remain more than ever in Zenobia's power. FTP what is this Edith Wharton novel.

Answer: Ethan Frome

21. From 1651 to 1655 they made war on Sweden, from 1652 to 1654 they fought the English. In 1664 their outposts were attacked by New England, but by 1672 they recaptured New Amsterdam, which they traded for Senegal and a country to be named later. FTP What is this nation, now one of England's strongest trading partners?

Answer: The Netherlands, or Holland, or the Dutch

22. When an atom is immersed in an external magnetic field, the interaction between the atom's magnetic moment and the external magnetic field results in a splitting of the spectral lines emitted by the atom. What is the name for this occurrence, not to be confused with the "fine structure" splitting of spectral lines due to the atom's internal magnetic field?

Answer: Zeeman Effect

23. Following the White House's opposition to a treaty of annexation, this nation's monarchy was not restored. Instead President Dole took over and suppressed royalist rebels, while awaiting a new administration in Washington which would be more amenable to annexation. McKinley proved to be such, and in 1898 the transfer became official. FTP, name this nation whose last indigenous ruler was Queen Liliuokalani (lili ook a lahn ee)?

Answer: Hawaii

24. Many believe this man became Caesar's enemy as early as 63 BC when Caesar had an affair with his half-sister. Later in the 50s, his bid for consul was frustrated by Caesar's political maneuverings, and he led the Senate's decision to make war on Caesar. A personal enemy of Pompey, he nevertheless supported Pompey against Caesar, though he claimed he would take himself into exile if Pompey won--or kill himself if Caesar prevailed. FTP, who was this martyr of the Roman Republic who did kill himself after the battle of Thapsus in 46 BC?

Answer: M. Porcius Cato the Younger

25. It was renamed for the future James II when it was captured in Sept.

1664 by 300 British troops. As Charles had no legitimate sons, James was his heir apparent. The Dutch took it back in 1673, but yielded it the following year. The name by which it is now known was taken from James' title in the 1660s and 70s. FTP, what future US state is this, formerly New Netherland whose capital was New Amsterdam?

Answer: New York

26. Quotes from him include "Research is what I'm doing when I don't know what I'm doing," and "The trouble with crash programs is that they're based on the theory that, with nine women pregnant, you can get a baby a month." He was quite familiar with crash programs; most of his work was done under tremendous time pressure, and many of his projects ended up crashing. Tom Lehrer ridiculed him as "a man whose allegiance is ruled by expedience" - and indeed, his successes for the American space programs of the 1960's did not make many forget the work he did for the Nazis during World War II. FTP, name this designer of the buzz bombs that menaced London.

Answer: Wernher Von Braun

27. This theory, for which Sheldon Glashow, Abdus Salam, and Steven Weinberg shared the 1979 Nobel Prize in physics, was confirmed in 1983 by the discovery of the W and Z particles, two of a number of elementary particles it predicted. FTP, name this unified field theory that describes 2 of the fundamental forces of nature, electromagnetism and the weak interaction.

Answer: Electroweak Theory

28. This doctor arrived in London in 1756 with practically nothing to his name, but he gained some status by garnering praise from Samuel Johnson for his adept writing style. He wrote relatively little, and his fame stems partly from poems such as "The Traveler" and "The Deserted Village." For ten points, name this author of the novel The Vicar of Wakefield and the romantic comedy She Stoops to Conquer.

Answer: Oliver Goldsmith

29. Born on the border of Germany and Russia, she was raised in St.

Petersburg, and emigrated to America in 1886. She became involved in the anarchist movement after reading of the Haymarket Riot, which led to her defense of McKinley's assassin, Leon Czolgosz. She was imprisoned by the U.S. government in 1917 for her anti-war views, and was eventually deported to the Soviet Union. FTP, name this early women's rights activist who chronicled her life in the books My Disillusionment in Russia and Living My Life.

Answer: Emma Goldman

30. This battle saw the destruction of much of the French navy at the hands of Nelson. As a result, the French expeditionary force was stranded in Egypt and Napoleon had to flee in secret to avoid being captured. He returned safe to France and toppled the Directory, but it took years for the French navy to be rebuilt--only to be destroyed again by Nelson at Trafalgar. FTP, name this battle which took place in Egypt in 1798 at the mouth of the Nile.

Answer: battle of Aboukir BAY prompt on "battle fo the Nile"

This mathematician did extensive work on the structure of the symmetry group of the icosahedron and its applications to the solution of quintic equations. In group theory, the noncyclic group of order four is often given his name; in topology, a nonorientable manifold with only one "face" is named for him. FTP, identify this German mathematician who, despite his name, was of no small importance.

F e l i x

K l e i n

1996 ACF Nationals
Questions by Berkeley 1 & 2

1. Name these two physicists, 15 pts. each.

1. With his father L.S., he invented the optical illusion of the "infinitely rising staircase" which Escher used in several of his works. He became well-known in recreational mathematics by discovering a pair of shapes which tile the plane, but only in an aperiodic manner. He wrote a book on physics and cognition, entitled "The Emperor's New Mind."

Answer: Roger Penrose

2. He lived from 1805-1865. He was appointed Astronomer Royal of Ireland before receiving his college degree. His name is used in physics in reference to a function of classical mechanics which resembles the Lagrangian and has widespread uses in quantum mechanics.

Answer: William Rowan Hamilton

2. This bonus is on flags from around the world. Hint: All the flags described consist of only red and white. For example, if I said "A red square flag with a white cross in the middle," you'd say Switzerland. For 5 points each, identify the following:

1. Three equal horizontal stripes, the middle white, the others red.

Answer: Austria

2. A red flag with a white circle in the center. In the white circle is a red crescent moon and a star both red.

Answer: Tunisia

3. Two horizontal equal stripes: top is white, bottom is red.

Answer: Poland

4. A red flag with a white crescent moon and star on it, both a little off-center closer to the flagpole.

Answer: Turkey

5. These two countries have the same flag: a Reverse Poland. The top stripe is white, the bottom is red.

Answer: Monaco and Indonesia

3. Who wrote the following works of South African Literature for the stated number of points:

1. (5) Cry, Thy Beloved Country

Answer: Alan Paton

2. (10) Cry Freedom

Answer: Donald Woods

3. (15) The Life and Times of Michael K

Answer: J.M. Coetzee

4. Never can you escape the Civil war it is a lot like the Spanish Inquisition. On a 10/5 basis, identify these flamboyant personalities from the War:

1. 10. He was the nominal CSA commander at 1st Bull Run

5. He fired the first shot at Fort Sumter

Answer: Pierre T.G. Beauregard

2. 10. He fought at Antietam under McClellan and a month later assumed his command before being defeated at Fredricksburg.

5. His name became corrupted to describe a type of facial hair.

Answer: Ambrose Burnside

3. 10. He weighed 98 lbs and was considered a fire-eater when he was Senator of GA. After the war, he was immediately returned to the Senate by GA, although in prison for his CSA activities. This reelection of a prominent Confederate led Congress to imposed tougher restrictions on which candidates could represent the South in Congress.

5. He was Vice-President of the CSA.

Answer: Alexander Stevens

5. Recently two disease entities simpler than viruses have been discovered. Given a description, name them (15 pts each)

1. They are small pieces of RNA which are not complexed with any protein. They have about one tenth the genetic material of the smallest known virus.

Answer: Viroids

2. They are small proteins which appear to be self replicating, but are devoid of any nucleic acid. It is estimated they contain about 250 amino acids and is up to one hundredth the size of the smallest virus. They are known to cause scrapie in sheep and Creutzfeldt-Jakob disease in humans.

Answer: Prions

6. Identify these works by the Swiss/French philosopher Jean Jacques Rousseau for ten points each.

1. In this 1749 essay, he argued that arts and sciences brought only ruin and corruption to humans.

Answer: Discourse on the Sciences and the Arts, OR The First Discourse

2. Probably his most famous philosophical tract, this 1762 work champions a type of society where all decisions are made according to the "general will" of all citizens.

Answer: The Social Contract

3. Written about at the same time as The Social Contract, this book argues for a type of education where the senses and bodily health are favored over a more traditional intellectual development.

Answer: Emile

7. Identify the following Renaissance artists, 10 pts. each.

1. Born Tommaso di ser Giovanni di Mone in about 1401, he built on experiments in linear perspective to create paintings where he could depict three dimensions on a two dimensional canvass. His skill in creating the illusion of depth and perspective revolutionized painting. He is most famous for Trinity, unveiled in 1427.

Answer: Masaccio

2. This Dominican was a near contemporary of Massaccio and painted The Beheading of St. Cosmas and St. Damian, and The Madonna of Humility.

Answer: Fra Angelico

3. This Venetian painted Sacred and Profane Love which now resides in the Borghese gallery in Rome.

Answer: Titian

8. Some monarchs die in office, some are executed, a rare few abdicate either due to political pressure or so called personal desire. For 10 pts. each, identify the following abdicates:

1. He was forced to abdicate in favor of his cousin, Bollingbrook in 1399. The next year he was executed secretly.

Answer: Richard II

2. Twice king of Romania, this father of Michael lost his throne the first time due to his unpopular desire to divorce wife #1 for a less politically acceptable wife #2, and after his return to power, he was forced off again by the Iron Guard, the Romanian fascists.

Answer: Carol II

3. He abdicated in advance, renouncing the Russian throne. When the Decembrists revolted in 1825, they did so in favor of this prince (unsuccessfully) to avoid getting Nicholas I as tsar.

Answer: Constantine

9. Given the name of a character, identify the Edgar Allan Poe short story in which they appear, 10 pts. each.

1. Roderick and Madeline

Answer: The Fall of the House of Usher

2. Lady Rowena Trevanion

Answer: Ligeia

3. William Legrand & Jupiter

Answer: The Gold Bug

10. Identify these terms from chemistry for the stated number of points.

1. 5 pts: An electrical conductor in which current is carried by ions rather than free electrons, as in a metal. They include water solutions of acids, bases, or salts; certain pure liquids; and molten salts.

Answer: Electrolytes

2. 5 pts: The tendency for an atom to attract a pair of electrons that it shares with another atom. Nonmetals have a much higher measure of this than metals, with that of fluorine exceeding all other elements.

Answer: Electronegativity

3. 10 pts: It's a method for separating substances based on the rate of their movement in a colloidal suspension under the influence of an electric field.

Answer: Electrophoresis

2. 10 pts: This Scandinavian scientist, with his student Tiselius, developed the technique for electrophoresis. He also invented the ultracentrifuge and won the 1926 Nobel Prize in Chemistry. A unit used to measure sedimentation equal to 10^{-13} seconds is named for him.

Answer: Svedberg

11. Name the following figures of the Nazi regime in Germany, 10 pt. each:

1. His attempt to kill Hitler in July of 1944 was unknowingly derailed by Colonel Heinz Brandt, who moved this man's bomb-carrying briefcase to the opposite side of a large table support, thus shielding Hitler from the full force of the blast.

Answer: Klaus von Stauffenberg

2. He was Germany's ambassador to Austria during the Anschluss of 1938, and he was one of three defendants who were acquitted at the Nuremberg trial of 1946.

Answer: Franz von Papen

3. One of eleven defendants executed at the Nuremberg trial, he was Hitler's Foreign Minister, and his most notable accomplishment was the negotiation of the Non-Aggression Pact with Vyacheslav Molotov of the Soviet Union.

Answer: Joachim von Ribbentrop

12. Identify the following musical terms FTP each:

1. A solo instrumental piece often performed, but used primarily to improve the technique of the student

Answer: Etude

2. A melancholy musical composition written for one or more instruments, from the word for "Night Piece"

Answer: Nocturne

3. A romantic musical composition, poetic in quality, that usually has only one movement

Answer: Rhapsody

13. Given a year and evasive description, name the famous Pulitzer Prize winner. If you need to know the work which secured the prize, you will earn 5 points for each correct answer:

1. 10 pts: 1980/Posthumously awarded prize 5 pts: A Confederacy of Dunces
Answer: John Kennedy Toole
2. 10 pts: 1975 History, first/only Emory grad to earn Pulitzer 5 pts: Jefferson and his Time
Answer: Dumas Malone
3. 10 pts: 1940 Drama, Armenian American 5 pts: The Time of your Life
Answer: William Saroyan

14. You're in dire straits now! Identify the following straits, 10 pt. each.

1. This strait separates Sumatra and mainland Malaysia. Answer: The Strait of Malacca
2. This strait separates Sicily and mainland Italy. Answer: The Strait of Messina
3. Finally, this strait separates India and Sri Lanka. Answer: The Palk Strait

15. Identify the geological **period** based on a description of the significant developments in life forms for ten points each:

1. Climate warmer than present. Reptiles dominant on land, in sea and air. Archaeopteryx, first bird appears. First mammal fossils.

Answer: Jurassic

2. the present period. Human civilization begins to affect climate, geology. Extinction of other species continues.

Answer: Holocene

3. It saw the appearance of the Ostracoderms, among the oldest known vertebrates and was dominated by brachiopods, nautiloids, trilobites, and bryozoans.

Answer: Ordovician

16. Identify these medieval scholars, 10 pts. each.

1. An 8th century English scholar who was considered the intellectual leader of Northern Europe, in 781 Charlemagne asked him to establish schools and oversee learning in the Frankish Empire. Who led the Carolingian Renaissance?

Answer: Alcuin

2. A 13th century scholastic who was considered the intellectual leader of Northern Europe, he was a great naturalist and wrote on biology and chemistry. He was known as the Universal Doctor.

Answer: Albertus Magnus

3. Charged with heresy by Pope John 22nd, he was protected by Holy Roman Emperor Louis IV. A nominalist, he rejected the Aristotelian realism of St. Thomas Aquinas and developed the principle of parsimony.

Answer: William Of Occam

17. Identify the literary works on a 10-5 basis, given the title character's real name and the author.

1. (10) John Harmon (5) Charles Dickens
Answer: Our Mutual Friend
2. (10) Christie Mahon (5) John Millington Synge
Answer: Playboy Of The Western World
3. (10) Aleksey Ivanovich (5) Fyodor Dostoevsky
Answer: The Gambler

18. 30/20/10 Name this mythological character

30. He lost a contest for the hand of Marpessa to Idas

20. In another of his unfortunate experiences in love, his beloved, Coronis was unfaithful. He was so mad when he heard about it from a crow that he turned all crows black and killed Coronis.

10. He managed to save Coronis' yet unborn son, Asclepius, whom he taught to be the world's foremost physician.

Answer: Apollo

19. The Articles of Confederation were established in 1781 to govern the new United States. Under the Articles, what posts were held by the following men:

1. Generals Benjamin Lincoln and Henry Knox Answer: Secretary of War
2. Robert Livingstone and John Jay Answer: Secretary for Foreign Affairs
3. Robert Morris Answer: Superintendent of Finance

20. Identify the person 30-20-10.

(30). He attended Columbia University on a football scholarship in 1941 but withdrew after a leg injury forced him off the team. (20). His first novel, "The Town and the City", recounts his youth in Lowell, Massachusetts.

(10). His other novels include "Big Sur", "The Subterraneans", and "Desolation Angels".

Answer: Jack Kerouac