

Technophobia Seven Tossups by Berkeley C

1. In the middle ground, a man appears to be climbing over a brick fence to join two ladies on the opposite side. A village is seen behind them, nestled among autumnal-looking trees, and the sky is purplish-gray, but largely hidden by the object on which the title figure rests, surrounded by three women who can do nothing to ease his suffering. FTP, name this 1889 Paul Gauguin painting of the oddly colored title figure.

Answer: The YELLOW CHRIST

2. The groundwork for its second incarnation was established by Conon's victory at Cnidus [NIGH-dus] in 394 BC, though it was not actually created until 378 BC, and it remained in existence until Philip II's 338 BC victory at Chaeronea destroyed it. Its first and more famous incarnation formed in 478 BC, and though many members wanted it disbanded after the victory at Eurymedon in 468, it stayed in existence until the end of the Peloponnesian War in 404. Named for the temple of Apollo where the treasury was stored, FTP name this Greek league led by Athens.

Answer: the DELIAN league

3. He feels "as if the thread of the chief screw which held his life together were stripped, so that the screw could not get in or out, but went on turning uselessly in the same place." Preoccupied by the question of what meaning one's life can have, a question which the author would address directly himself in a work 14 years later, he hopes that joining the Freemasons will give him direction, but like his efforts to free his serfs, he is unable to effectively carry out his good intentions. After leaving his first wife, Helene, he finally finds happiness with Natasha Rostova. For ten points, name this character, one of the principal characters of War and Peace.

Answer: Count Pierre BEZUKHOV

4. The probabilistic variety of these tests can be converted to deterministic tests if the Extended Riemann Hypothesis is true. The first probabilistic test, discovered by Solovay and Strassen in 1976 is reasonably fast because quadratic reciprocity allows efficient evaluation of Jacobi symbols. However, it is difficult to program, so the Miller-Rabin test is in wider use. Fermat formulated his own test but the existence of Carmichael numbers is its fatal flaw. FTP, name this class of tests in number theory, the simplest of which is trial division, which attempts to determine if a number n has factors other than 1 and n .

Answer: PRIMALITY testing (do NOT accept integer factorization)

5. The largest island of this archipelago is Nuku Hiva with 127 square miles of surface area. Cities on Nuku Hiva include Taipvai, Hatiheu, and Taiohae, the administrative and economic center of the archipelago. In Taiohae, one may find the French and territorial administrators as well as an Air Tahiti office. The subtropical climate allows fruits such as breadfruit, kava, and taro to thrive and serve as the main sustenance for many inhabitants. FTP, name this large island group of French Polynesia, the place that "the General", "Boston Rob", Neleh, and Vecepia called home while on Survivor 4.

Answer: MARQUESAS Islands

6. He's garnered much less attention during the past seven years, which he's spent trying to help his war-torn homeland of Sudan. He even moved back to Sudan in 1997, where he received an offer to become the Minister of Sport and coach the national team, but declined because he would have had to convert to Islam. He still holds the record for most shots blocked per minute in the NBA, but he's probably been more noticed for his recent antics: defeating William "The Refrigerator" Perry in Celebrity Boxing, and agreeing to make an appearance with the minor-league Indianapolis Ice, despite never having ice-skated before. For ten points, who is this 7-foot-7 former NBA player for the Bullets and Warriors?

Answer: Manute _BOL_

7. This event was sparked by a July attack on Thomas Matthews' plantation by Doeg Indians to whom he owed money. After settlers mistakenly retaliated against the Susquehannogs, the "Long Assembly" declared war on "bad" Indians, allowing trade with good Indians and favoring friends of the Governor. One man in particular objected to the perceived corruption, bringing troops against the House of Burgesses. FTP, name this 1676 uprising in Jamestown against Governor William Berkeley.

Answer: _BACON'S_ Rebellion (or _VIRGINIA_ Rebellion)

8. It reacts with alkenes at the double bond, and can be so used to break alkenes into two aldehydes or ketones. When in solid form, which is dark blue or violet, it is highly unstable and explosive, so much so that it cannot be safely transported and must instead be produced as needed. It has been advanced as an environmentally superior alternative to chlorine for disinfecting water. This oxidant is also a major contributor to smog. FTP, identify this compound best known for its vulnerability to chlorine radicals and its ability to absorb ultraviolet radiation.

Answer: _OZONE_

9. In 1865, Edward Whymper was the first to successfully climb this mountain, which had long eluded multiple attempts to conquer it. This 4,478-meter peak is located near the resort town of Zermatt. Its steep ridges make it a technical challenge to climb, and give it its distinctive shape. A scale model of this mountain houses a basketball court within. FTP, identify this mountain located along the border between Switzerland and Italy.

Answer: _MATTERHORN_

10. The title character of this work does not actually exist; rather, he comes into being when Czar Nicholas I misreads a military dispatch. In order to avoid telling the czar he has erred, his courtiers must invent an entire life story for the man, which, in the version we know, consists of his birth, a romance, his wedding, a troika ride, and finally, to account for his nonexistence, his death and burial. Appropriately, the film based on the story never made it to the screen, so we know it today from the music composed for the film. For ten points, name this Prokofiev orchestral suite named after its titular lieutenant.

Answer: Lieutenant _KIJIE_ Suite

11. The governor of Oklahoma declares martial law in response to rampant Ku Klux Klan activity. "Yes, We Have No Bananas" first appears and becomes a hit. American troops return home from an occupation of Germany that lasted for several years. Lee De Forest demonstrates a machine that can produce a motion picture with sound. Yankee Stadium opens, and the Yankees celebrate their new home by defeating the Giants 4 games to 2 in the World Series. FTP, identify this year that also saw the death in San Francisco of President Warren G. Harding.

Answer: _1923_

12. They are rod-shaped or spherical cells that can form clusters or filamentous chains. Colonies of them can demonstrate primitive forms of multicellular behavior, forming plasmodesmata connections. Many types are capable of nitrogen fixation. Their outermost layer consists of a gelatinous material that is often toxic. Beneath this material can be found a cell wall made of peptidoglycan polymers. They also contain pigments such as phycoerythrins and chlorophyll A. FTP, identify these major members of the kingdom Monera that derive their name from their distinctive blue-green color.

Answer: _CYANOBACTERIA_ (or members of the phylum _CYANOPHYTA_)

13. In his time, a group of rebels seized and retained control of Damascus. As a show of wealth, he commissioned five hundred shields made of hammered gold -- not of silver, for it is said that silver was worth little in his days. He made an alliance with the Egyptians and took as a wife one of the Pharaoh's daughters. He constructed a great palace that stood for over three hundred years. Despite all these high and mighty acts, he still found time to speak with commoners, including resolving a dispute between a couple of prostitutes over some dead kid. FTP, identify this king of Israel and son of David.

Answer: _SOLOMON_

14. The man who plays half of this show's titular duo described his character as "venal, self-centered...and greedy," with "no interest in fatherhood." "Getting to Know You" and "Book of the Dead" are two episodes that will never be seen, since this show was cancelled after only 5 episodes. FTP, name this CBS sitcom starring Traylor Howard and Alfred Molina about a Pulitzer Prize-winning author and his long-lost daughter.

Answer: _BRAM AND ALICE_

15. This word can be an acronym, referring to a procedure invented by Allan Cormak and Godfrey Hounsfield. The biologist Har Gobind Khorana might associate it with the amino acid histidine. It is associated with the Egyptian Lady of Bubastis, better known as the goddess Bast. A player for the Dallas Cowboys once alleged that Terry Bradshaw could not spell it. It is also a UNIX command that combines files. FTP, identify this three-letter word associated with cartoon characters such as Felix and Garfield.

Answer: _CAT_

16. In the Slutsky equation, this quantity is multiplied by the fraction of total expenditures devoted to the good to form one of the terms. While it is difficult to measure directly, some approximate values include 1.0 for rental housing, 3.0 for automobiles, 2.7 for transatlantic air travel, and 0.0 for marijuana. A value of greater than 1 indicates a luxury good, between 0 and 1 is a necessity, and a negative value indicates that the good is inferior. For ten points, what is this economic quantity, calculated by dividing the percent change in quantity demanded by the percent change in income?

Answer: _INCOME ELASTICITY_ of demand (prompt on just "elasticity"; do NOT accept "price elasticity")

17. Born September 20, 1976 in Hartford, Connecticut, she began appearing as a model at the age of 13. Although her mother tried to discourage her from going into the family business, she started appearing on television soon after her graduation from Boston University in 1998. She appeared to be happily married on November 29, 1999, but the marriage was destroyed when it was revealed that she had already been married after being drugged in Las Vegas.

Afterwards, she and her new husband took control of her league, and she captured its Women's Championship herself. For ten points, name this wrestler, allegedly married to Triple-H (although single in real life), the daughter of the head of the WWE, Vince McMahon.

Answer: _STEPHANIE MCMAHON_-Helmsley

18. This author has written a saga of three generations of sharecroppers from post-WWI to April 25, 1974. A 1995 novel depicts a bureaucrat who becomes obsessed with the name of an unknown woman which he tries to track down, only to find chaos. His most recent novel is The Cave, about a potter who resists his family's attempts to move him to the city. Another work published in 1995 is the story of an epidemic that hits an unnamed town, Blindness: A Novel. FTP, name this Portuguese winner of the 1998 Nobel Prize for Literature.

Answer: Jose _SARAMAGO_

19. The withdrawal from the Pratzen Heights before the battle was not a sign that the army was in retreat, as the other side thought, but a planned maneuver designed to lure the Allied forces into attacking the center. The early attack on Telnitz on the French left was initially successful, but poor coordination between the Austrians and Russians slowed the pace of the advance. The Allies weakened their center to continue the attack, allowing the French to break through and completely destroy the Allied left under Buxhowden. Famously described in *War and Peace*, for ten points, this is what 1805 Napoleonic victory, also known as "The Battle of Three Emperors"?

Answer: AUSTERLITZ

20. The possibility of this particle existing began in 1954, when Yang and Mills proposed a theory for a photon and two charged scalar bosons that could interact, but it required them all to be massless, while the actual mass of this particle is approximately 80 GeV; it required the discovery of the Higgs mechanism in 1964 to explain the mass of this particle, as eventually fully developed by the GWS electroweak theory. First discovered in 1983, a discovery which won Rubbia and van der Meer a Nobel Prize, for ten points, name this gauge boson, which most commonly decays into a charged lepton and a neutrino, responsible for mediating weak interactions such as beta decay.

Answer: W_ boson (accept W-PLUS or W-MINUS, but not W-zero or Z; I did say "charged". prompt on boson before it is mentioned)

21. Mark Henderson earned his 15 minutes of fame for his role in a 3-0 defeat of this franchise. Founded by a Minneapolis lawyer, its first coach was George Wilson. When this team lost several of its players to the Memphis franchise of the World Football League, it missed the playoffs for the first time in several years. In the 1980's, its Killer Bee defense terrorized opposing offenses. The 1980's also saw the glory years of some of its players such as Hall of Famer Dwight Stephenson and wide receivers Mark Clayton and Mark Duper. FTP, identify this NFL team which in its seventh year of existence posted the only perfect season in NFL history.

Answer: MIAMI DOLPHINS (either name acceptable)

22. It has roles as diverse as DNA repair, transcriptional regulation, and regulation of apoptosis. It is highly resistant to heat, and is found in all eukaryotes but not in prokaryotes. This highly conserved protein is relatively small, having only 76 amino acids. It will attach to other proteins which have certain so-called "destabilizing" amino acids at their N-terminus, or proteins which have been damaged or misfolded. Its attachment to proteins causes them to be degraded, and is part of the mechanism by which eukaryotes recycle proteins and destroy damaged proteins. FTP, name this protein which derives its name from its abundance and its presence everywhere in the cell.

Answer: UBIQUITIN

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Bonuses:

1. Answer these questions about the death of the Holy Roman Empire, for ten points each:

1) Most of the power of the Holy Roman Empire was lost in this 1648 treaty which recognized the individual sovereignty of the states in the empire.

Answer: Treaty of _WESTPHALIA_

2) The death of this last Hapsburg Holy Roman Emperor in 1740 created a power struggle over the implementation of his Pragmatic Sanction.

Answer: _CHARLES VI_

3) This last Holy Roman Emperor renounced his title in 1806 after Napoleon's establishment of the Confederation of the Rhine.

Answer: _FRANCIS II_ (accept also _FRANCIS I OF AUSTRIA_)

2. Name the play from its alternate title, FTPE.

1) What You Will

Answer: _TWELFTH NIGHT_

2) The World Well Lost

Answer: _ALL FOR LOVE_

3) The Mistakes of a Night

Answer: _SHE STOOPS TO CONQUER_

3. Answer these questions about phonetic changes (not the friggin' Great Vowel Shift, either) for ten points each:

1) This process is responsible for changing the prefix "in" to "im" in "immovable", "il" in "illegal", and "ir" in "irrevocable", for example.

Answer: _ASSIMILATION_

2) This process describes the change in a vowel when it is paired with a consonant like "n" or "m". Perhaps you know it from how the French sound.

Answer: _NASALIZATION_

3) This is the addition of a transitional consonant sound between two consonants difficult to pronounce together; an example is the additional "p" sound in "warmth".

Answer: _EPENTHESIS_

4. Answer the following about the physicist's best friend, approximations, for ten points each:

1) A highly prevalent concept is that any particle at a minimum of potential energy will undergo this kind of motion if disturbed, assuming the disturbance is sufficiently small.

Answer: _SIMPLE HARMONIC_ motion (or _SHM_)

2) One useful approximation in mechanics, both classical and quantum, is this approximation for a changing Hamiltonian when the assumption is that the time scale of the change in the Hamiltonian is much longer than the inherent periodic time scale of the system.

Answer: the _ADIABATIC_ approximation

3) A useful technique for finding potentials in electromagnetism is this expansion, where the potential of an arbitrary charge distribution is expressed as the sum of a monopole term, a dipole term, a quadrupole term, and so forth.

Answer: _MULTIPOLE_ expansion

5. Answer the following questions about belligerent trees FTSNOP.

1) FTP, in Shakespeare's Macbeth, the three Witches prophesy that Macbeth shall never be vanquished until the arrival of what wood at Dunsinane?

Answer: Great _BIRNAN_ (or _BIRNAM_) Wood

2) For 5 points, a horde of hostile animated Christmas trees threatens the remote village of Thriff in one game of this series of adventure games by Infocom.

Answer: _ZORK_ (also accept _BEYOND ZORK_)

3) FTP, in Tolkien's Lord of the Rings, the Ents have a lengthy debate on the question of what to do with Saruman. What is the name of the Ent who makes up his mind much more rapidly than Treebeard and the other Ents?

Answer: _BREGALAD_ (or _QUICKBEAM_)

4) For 5 points, in this computer game, Albert Einstein is said to have devised the Mirage Tank, a tank which can disguise itself as a tree until it is ready to strike.

Answer: _RED ALERT 2_

6. Identify the following Americans FTPE. The authors of this question wanted you to only get credit for pronouncing their last names exactly as they did, but we at Caltech are nicer than that.

1) This graduate of Southern Mississippi is the NFL's only three-time Most Valuable Player.

Answer: Brett _FAVRE_ (correctly pronounced "Farve")

2) Early in his career, this scholar published a sociological study entitled _The Philadelphia Negro_.

Answer: W. E. B. _DUBOIS_ (correctly pronounced "doo BOYCE")

3) After publishing a book which sold few copies, this writer remarked, "I have now a library of nearly nine hundred volumes, over seven hundred of which I wrote myself."

Answer: Henry David _THOREAU_ (correctly pronounced "THOR oh";)

7. Identify the following music notes FTSNOP. It is not necessary to identify the octave of the note.

1) For 5 points, what is the eighth note of the melody of the first movement of Beethoven's Fifth Symphony?

Answer: _D_

2) FTP, if three notes of a diminished seventh chord are D, F, and B, what is the fourth note?

Answer: _A FLAT_ or _G SHARP_

3) For 5 points, recent Intel commercials have a 4-note jingle associated with it. What is the second note of this jingle?

Answer: _F SHARP_ or _G FLAT_

4) FTP, suppose that middle A is defined as a tone of 440 Hertz. A tone of 698.4 Hertz would represent which note?

Answer: _F_

8. Identify these American popular uprisings that were put down by military force FTPE.

1) In this uprising, farmers rose up in anger over high taxes that were paying for Revolutionary War debts.

Answer: _SHAY'S_ Rebellion

2) Douglas MacArthur forcefully routed this group from abandoned federal buildings near Washington.

Answer: _BONUS ARMY_

3) In 1894, this group of the unemployed marched from Ohio to Washington, demanding monetary reforms to ease their hardship.

Answer: _COXEY'S ARMY_

9. Give the name of the following chemical reactions FTSNOP.

1) For 5 points, the reaction of benzene with an alkyl halide to produce an alkylated benzene; this reaction is harder to control than the related acylation reaction.

Answer: _FRIEDEL-CRAFTS_ alkylation

2) For another 5 points, the reaction of a primary alkyl halide with an alkoxide ion to form an ether.

Answer: _WILLIAMSON_ ether synthesis

3) FTP, the reaction of an ester anion with a non-ionized ester to produce a beta-keto ester.

Answer: CLAISEN condensation (also accept ACETOACETIC ester condensation, though that's not quite accurate)

4) FTP, the reduction of an aromatic ring by an alkali metal in a mixture of liquid ammonia and alcohol.

Answer: BIRCH reduction

10. Identify the following figures from Greek mythology FTSNOP.

1) FTP, before he becomes a king, this man prays to Poseidon to send a bull from the depths of a sea as a sign of his divine right, and promises to sacrifice the bull.

Answer: MINOS

2) FTP, this minor goddess is Queen of the Sea and wife of Poseidon.

Answer: AMPHITRITE

3) The Erinyes, or Furies, who act as agents of merciless vengeance. Name any two of the furies for 5 points each.

Answer: ALECTO, MEGAERA, TISIPHONE

11. Answer these questions about the House Unamerican Activities Committee, FTPE.

1) Name the head of the Committee in 1947, a New Jersey Republican who claimed that FDR had encouraged pro-Soviet films to be made during the war.

Answer: J. Parnell THOMAS

2) Of the nineteen "unfriendly" witnesses subpoenaed under Thomas, only eleven were called to the stand, and only one of them answered any questions while there. Name the man who did so, claiming not to be a Communist, before returning to East Germany.

Answer: Bertolt BRECHT

3) This Georgia Democrat chaired the Committee during its March 1951 hearings, and supported the KKK, calling its intimidation tactics "an old American custom, like illegal whisky-making."

Answer: John S. WOOD

12. Name these poets who had poetical forms named after them, FTPE.

1) The rhyme scheme of the sonnet named after this man is abab bcba cdcd ee. His eponymous stanza is eight lines of iambic pentameter followed by an alexandrine.

Answer: Edmund SPENSER (accept SPENSERIAN)

2) This woman's aeolic meter consists of three eponymous hendecasyllables followed by an adonean. Catullus was the first to adapt its use to Latin.

Answer: SAPPHO (grudgingly accept SAPPHIC)

3) Awkward rhyme and "purposely flat-footed inadequacy" characterize this form, an example of which, written by its namesake is "The people of Spain think Cervantes/ Equal to half-a-dozen Dantes/ An opinion resented most bitterly/ By the people of Italy."

Answer: CLERIHUEW

13. Identify the genetic conditions FTPE.

1) A mutation in the pathway for the degradation of phenylalanine and tyrosine causes this disease, which turns urine black but is largely benign. Its genetic nature was first described by Archibald Garrod in his book, Inborn Errors of Metabolism.

Answer: ALCAPTONURIA

2) A defect in the ganglioside breakdown pathway can lead to this disease, in which neurons become swollen with lipids, and in which a multitude of neurological problems usually cause death by the age of three. This disease is most common in Jews from Eastern Europe.

Answer: TAY-SACHS disease

3) This disease is caused by the knockout of a gene in the purine salvage pathway. Its most notable symptom is the strong tendency for patients to uncontrollably mutilate themselves; patients also develop gout.

Answer: LESCH-NYHAN syndrome

14. Name the music act from its most recent release, FTPE.

1) Stripped

Answer: Christina _AGUILERA_

2) Riot Act

Answer: _PEARL JAM_

3) Shaman

Answer: _SANTANA_

15. The Gold Glove Awards usually feature the same cast of players from year to year, but this year seemed to have more changes than normal. Given the player who won the award in 2001, name the player who took the title away from them this year for 10 points, or for five if you need the league and position.

1) 10 - Omar Vizquel 5 - American League, shortstop

Answer: Alex _RODRIGUEZ_

2) 10 - Ivan Rodriguez 5 - American League, catcher

Answer: Benjie _MOLINA_

3) 10 - Orlando Cabrera 5 - National League, shortstop

Answer: Edgar _RENTERIA_

16. Given characters, name the opera, FTSNOP.

1) For 5 points: Don Jose, Escamillo, and the title gypsy character.

Answer: _CARMEN_

2) For 5 points: Marcello, Musetta, Mimi.

Answer: La _BOHEME_

3) For 10 points: Ko-Ko and his three wards, Yum-Yum, Pitti-Sing, and Peep-Bo.

Answer: The _MIKADO_

4) For 10 points: Remus, Ned, Parson Alltalk, and Zodzetrick, a witch doctor

Answer: _TREMONISHA_

17. Answer the following about marijuana in The Simpsons, for ten points each:

1) In a recent episode, this band appears to support Homer's crusade for his medical marijuana.

Answer: _PHISH_

2) Otto is disappointed by his visit to this store, since, despite its name, no actual marijuana is sold there.

Answer: _STONER'S POT PALACE_

3) In arguably one of the worst episodes of all time, Homer accidentally puts the "special vegetables" into this organic juice product.

Answer: _GROOVY GROVE_ Juice

18. Answer the following about civil wars in Rome, ten points each:

1) At this 48 BC battle, Pompey was defeated by Julius Caesar and fled to Egypt, where he was killed.

Answer: _PHARSALUS_

2) Pompey was no stranger to civil war; after he fought for this victorious general in an earlier civil war, he received the title Magnus from him in 81 BC.

Answer: Lucius Cornelius (Felix) _SULLA_

3) Two men precipitated the Social War in their 95 BC consulship by passing the Licinian Law (Lex Licini), which stripped citizenship from many Roman allies. Name either for a final 10 points.

Answer: Quintus Mucius _SCAEVOLA_ or Lucius Licinius _CRASSUS_

19. Identify the Shakespearean character from their last words, 5-5-10-10.

1) For 5, "A horse! A horse! My kingdom for a horse!"

Answer: RICHARD III

2) For 5, "O, I am slain!"

Answer: POLONIUS

3) FTP, "Tongue, lose thy light; moon, take thy flight./ Now die, die, die, die, die."

Answer: PYRAMUS (prompt on "Bottom")

4) FTP, "A guiltless death I die...Commend me to my kind lord. O, farewell!"

Answer: DESDEMONA

20. Answer the following about the works of Rene Magritte for ten points each:

1) Magritte's most famous work, The Treachery of Images, claims that this object is not what it appears to be.

Answer: a PIPE

2) Magritte describes this painting thusly: "In front of a window, as seen from the interior of a room, I placed a picture that represented precisely the portion of landscape blotted out by the picture."

Answer: The HUMAN CONDITION_ I (La Condition Humaine I)

3) In this confusing canvas, a single streetlight shines in front of a darkened house. But above the trees, the sky is a bright blue overhead.

Answer: the EMPIRE OF LIGHT_s (L'Empire des Lumieres)

21. FTPE, identify the sorting algorithm.

1) Generally considered the most inefficient sorting algorithm, this method compares each item in the list with the item next to it, swapping them if required. The process is repeated until it makes a pass all the way through the list without swapping any items.

Answer: bubble_ sort

2) More efficient than bubble sort but with the same complexity, this algorithm works by repeatedly retrieving the smallest unsorted item in the list and then swapping it with the item in the next position to be filled.

Answer: selection_ sort

3) With each pass, this algorithm sorts a number of equally sized sets using insertion sort. The size of the set increases until it consists of the entire list.

Answer: SHELL_ sort

22. Name the poem from lines, FTPE, or the author of the poem for 5. You may only give one answer for each part, so choose wisely.

1) "The apparition of these faces in the crowd;/ Petals on a wet, black bough."

Answer: IN A STATION OF THE METRO_; Ezra POUND_

2) "My candle burns at both ends;/ It will not last the night;/ But ah, my foes, and oh, my friends-/ It gives a lovely light."

Answer: FIRST FIG_; Edna ST. VINCENT MILLAY_

3) "I have eaten/ the plums/ that were in/ the icebox// and which/ you were probably/ saving/ for breakfast// Forgive me/ they were delicious/ so sweet/ and so cold"

Answer: THIS IS JUST TO SAY_; William Carlos WILLIAMS_