Princeton University Buzzerfest Resurrection: Episode IV, A New Hope
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Tossups

1. It's generally higher for solids than for gasses, and there are two types: the adiabatic, which is a function of the first Grueneisan parameter, and the isothermal, which is the sum of two Lame' constants. FTP, name this property which as a ratio to density determines the speed of sound in a material, which is also the opposite of compressibility, and which, with Young's modulus and the shear modulus, determines stresses and strains.

## ANSWER: bulk modulus

2. He worked under his father, Treasury secretary under James Madison, and for the legal department of the Second Bank of the United States during its fight with Andrew Jackson, a fellow Democrat. Appointed to complete an unexpired term in the Senate from Pennsylvania in 1831, he also served stints as minister to Russia and Great Britain. For ten points name this lawyer, diplomat, and politician, who served as Vice President under James Polk, and whose name is best remembered today as the name of a small city in Oregon and a huge city in Texas.

## ANSWER: George Mifflin Dallas

3. Although in theory the president of this country is chosen by a majlis, the only president so far has been Zayid bin Sultan, who in 1971 merged his own sheikdom with Ras-al-Khaimah, Ajman, Sharjah, Fujairah, Umm-al-Qaiwain, and longtime rival Dubai. FTP, name this Arab state, whose union, the successor to the British "Trucial States," was rejected by Qatar and Bahrain, making the dominant member Abu Dhabi.

## ANSWER: The United Arab Emirates

4. They sent an informal letter to Far-Manguinhos requesting that the latter not purchase a quantity of efavirenz from India. Far-Manguinhos admits that they plan to start producing the non-generic form of efavirenz, this company's Stocrin, in June if it doesn't lower its prices. FTP, name this pharmaceutical firm, which recently threatened to file suit against Brazil's state-owned drug company for violating its patents on an AIDS drug.

## ANSWER: Merck \& Co. Inc.

5. Born in what is now known as Lyon, he was assassinated just as he was beginning a campaign against the Parthians. Little wonder - he was said to have killed his father-in-law Fulvius Plautianus, his wife Fulvia, and his brother Geta. The offspring of a Syrian woman named Julia Domna and a North African-born future emperor Septimus Serverus, he ruled jointly with his father until Severus died in 211. For ten points, name this Roman emperor whose reign was notable for bloodthirsty tyranny, his 212 edict granting citizenship to all free inhabitants of the empire, and the construction of a set of large baths in Rome.

## ANSWER: Marcus Aurelius Severus Antoninus Augustus Caracallus (or Caracalla)

(Also accept equivalents: "Septimus Bassianius" and "Marcus Aurelius Antoninus Caesar.")
6. Although there exist many types of this philosophical doctrine, all of its proponents agree on the fundamental supremacy of mind over matter. Kant proposed the transcendental form, stating that true reality is not intelligible due to the limitations of the human understanding. Other forms include moral, objective, and absolute. FTP, name this -ism adopted by George Berkeley (read: "Barkley"), and most notably, Plato.

## ANSWER: Idealism

7. Toxic wastes pollute Sugar Creek and Sacred Miracle Cave; unemployment is rampant; and the population is declining. Midland City, Indiana is in bad shape indeed. Against this backdrop, a symposium on "in the Age of McLuhan" is being held, though its keynote speaker, science fiction author Kilgore Trout, has never heard of McLuhan. For ten points, name this novel, which centers around the disintegration of the Hoover family, written by Kurt Vonnegut and made into a 1999 film starring Bruce Willis, Barbara Hershy, and Nick Nolte.

## ANSWER: Breakfast of Champions

8. "Anyone who isn't thoroughly confused isn't thinking clearly." "They say that women talk too much. If you have worked in congress you know that the filibuster was invented by men." Sharp sayings like these got her in trouble when the ire she raised in Congress caused her to resign as ambassador to Italy. After her 1987 death, it was revealed she was a user of LSD, but a more respectable achievement was her election in 1941 as first female congressperson from Connecticut. FTP, name this wife of the founder of Time magazine.

## ANSWER: Clare Booth Luce

9. Scientists sequencing its 2.8 -megabases-long genome will help resolve the scare caused when four cases of a vancomycin-resistant strain were found in the Northeast in June 1997. It usually lives harmlessly on the skin, but can infect sebaceous and hair roots, causing folliculitus, impetigo, and boils. FTP, name this gram-positive bacterium, typified by and responsible for the golden discharge associated with acne.

## ANSWER: Staphylococcus aureus

10. It stretched from Monte Cairo and along the Gari and Garigliano rivers in the south, succeeded the Bernhardt Line, and was supported by the Hitler Line. When the first attacks in December 1943 failed, Eisenhower decided to outflank it, launching the amphibious offensive at Anzio on 22 January 1944. FTP, name this defensive line, established by Luftwaffe Field Marshal Albert Kesselring, which bogged down the Allies at Monte Cassino.

## ANSWER: The Gustav line

11. She has managed to anger both Howard Stern and Bill O'Reilly, who both wrote about her misbehavior in their books. Born in Deerfield, Michigan, she spent most of her childhood in Hollywood where her father was a successful entertainer. After early appearances on programs such as the Donna Reed Show and McHale's Navy, she was awarded her own sitcom in 1966. FTP, name this actress, star of TV's "That Girl" and wife of Phil Donahue.

## ANSWER: Marlo Thomas

12. "Mi amas vin" means "I love you." In an Orwellian twist, a word can become its opposite with the addition of a prefix. A successor to Volapük, it was spoken by Nobel prize winners J.J. Thompson, Daniel Bovet, who learned it as a first language, and Reinhard Selten. FTP, name this artificial language developed by L. L. Zamenhof, whose name means "one who hopes."

## ANSWER: Esperanto

13. The cash register was confiscated as proceeds from an illegal operation, namely, that it had no license to serve liquor. Police supposedly believed its owners were Mafia-connected, though many doubt the veracity of that explanation. Whatever the reason, when officers from the First Division moved in on July 6, 1969, they were not expecting the fight they got when they moved to shut down the establishment at 57 Christopher Street. As one cop indelicately put it: "I almost got decapitated...They were throwing more than lace hankies." For ten points, name this Greenwich Village club, the site of a famous riot that many consider the birth of the gay rights movement.

## ANSWER: Stonewall Inn

14. Superficially analogous to the Metatron, belief in it was common in ancient Greece. Plato calls it halfway between human and divine in Symposium. From the Greek for "replete with knowledge," it interrupted its most famous holder when he spoke but, while advising, did not dictate or control his actions. FTP, name this entity, the "new god" in the eyes of the Athenian court for whose introduction Socrates was executed.

## ANSWER: daimonion

15. Its nth term is the golden ratio to the $n$ power, plus the negative of the reciprocal of the golden ratio, raised to the $n$ power. Named for and investigated by a mathematician who served as an artillery officer during the Franco-Prussian war, the sum of its nth term and corresponding nth Fibonacci term is always $n$ times five. FTP, name this series, which is defined by many of the same rules as the Fibonacci series, which begins ( $2,1,3,4,7, \ldots$ )

ANSWER: the Lucas series or Lucas numbers
16. By his $20^{\text {th }}$ birthday, he had already founded an avant-garde magazine called Barandal, and published a poetry collection
called "Forest Moon." He befriended Pablo Neruda during a visit to observe the Spanish Civil War, but turned against Neruda's Marxism soon afterwards. Also a diplomat, he resigned his ambassadorship to India in 1968, protesting the shooting of demonstrating students during the Mexico City Olympics. For ten points, name this Mexican writer, famous for the poetry collection "Sun Stone" and the essay "The Labyrinth of Solitude," as well as winning a Nobel for Literature in 1990.

## ANSWER: Octavio Paz

17. Efforts during the Middle Ages to convert its residents to Islam "dje were less successful than on its nearby rival Tumbatu. The Portuguese arrived in 1498 and it became a Portuguese vassal kingdom until Portugal's ultimate failure to secure Mombassa caused them to abandon it in favor of Arabs from Oman, who instituted a sultanate whose power was slowly constricted by the British, until independence in 1960 . For ten points, identify this famed trading post island, later joining with the mainland territory of Tanganyika to form Tanzania.

## ANSWER:Zanzibar

18. Written in response to the Who, the original, rumored to be in the possession of Jimmy Page, is 27 minutes long and has never been released. Falling between the calm "Sexy Sadie" and meditative "Long, Long, Long," the plaintive shout "I've got blisters on my fingers!" comes from drummer Ringo Starr, but it was less meaningful lyrics, actually British slang for a playground slide, that would be seized on by Charles Manson. FTP, name this in-itself innocuous jam by the Beatles.

## ANSWER: Helter Skelter

19. Add a pinch of it to chocolate to reduce the calorie count by up to nine percent. While it's biologically active, the LD-50 is enormously high. Its cation, an alkaline earth, readily dehalogenates other substances and its anion readily decomposes to carbon dioxide, providing its main laboratory use. FTP, name this five-atom salt, a major constituent of molluscs, whose commercial uses include antacids and chalk.

## ANSWER: Calcium carbonate or $\mathrm{CaCO3}$

20. The opening key is ambiguous, as the horn initially sounds in descending fifths A-D-D-A-A-D; this develops into the opening theme. The third movement describes awe at God's creation, while the more pessimistic second suggests that life is nothing but a joke - a "scherzo." All these are considered by the basses in the recapitulation beginning the $4^{\text {th }}$ movement, as they take the $3^{\text {rd }}$ movement's theme and create out of it a drinking song, a cantata and, most famously, the vocal piece from which the work takes its name. FTP, name this symphony, Opus 125 by Ludwig von Beethoven.

ANSWER: Beethoven's $\boldsymbol{\underline { t }} \underline{\text { h }}$ Symphony (or Chorale symphony) ("Beethoven" and "symphony" are both required before they are mentioned)

OT 1. Born a nobleman, he was hit by a cannonball defending the citadel of Pamplona against France in 1521, which fractured his right leg. He was sent away to convalesce after surgery, during which time he studied the lives of the saints. During a sojourn in Manresa in which he lived as a beggar, he began to compose his famous work, which he revised, even during a period of imprisonment for heresy, until his 1537 ordination. For ten points, name this Catholic saint,, whose book "Spiritual Exercises" won him a following that helped him co-found the Society of Jesus.

## ANSWER: Saint Ignatius of Loyola

OT 2. The Moscow government recently accused this group of serving as foreign subversives and denied them access to the city. Other cities have been more receptive though, and this group operates in 103 countries, and its soldiers provide for the homeless, operate alcohol programs, and undertake other acts of charity. FTP, name this organization, founded in 1865 by William Booth.

## ANSWER: The Salvation Army

OT 3. Inspired by visits to Italy that resulted from his position as a Second Lieutenant in the French army, he moved to Milan after the fall of Napoleon and befriended Carbonari patriots. He wrote biographies of Haydn, Mozart, and Rossini, and a history of Italian painting as well as a travel book on Rome, before returning to Paris in 1821. He finally wrote a novel, "Armance," in 1827, but it was his second novel that garnered the most attention. For ten points, identify this French author who, only days before the July Revolution, completed his masterpiece tale of the life of Julien Sorel, "The Red and the Black."

## ANSWER: Stendhal or Marie-Henri Beyle

Bonuses

1. Name the following Roman writers 5-5-10-10.
a. This historian's first major work, the Historiae, chronicles the then recently ended Flavian period, though only the first five books are extant.

## ANSWER: Publius Cornelius Tacitus

b. Known as something of a hedonist, this friend of the emperor Nero is best known for writing the Satyricon.

ANSWER: Gaius Petronius Arbiter or Titus Petronius Niger
c. This prolific author secured fame with his "Lives of the Caesars," short biographies of 11 Roman Emperors.

ANSWER: Gaius Suetonius Tranquillus
d. Though most of his work is no longer extant, this poet's reputation was among the highest of his time - his one complete extant poem, Argonautica, secured his fame.

## ANSWER: Gaius Valerius Flaccus

2. FTPE, name these political parties of Ireland:

It's name means "Soldiers of Destiny," and it has ruled Ireland for more than fifty out of the last seventy-five years. It was also the party of Eamon de Valera.

## ANSWER: Fianna Fail (FEE-in-ah FOIL)

The traditional Irish opposition party, it's name means "Sons of Ireland." This party was the successor to William Cosgrove's Society of Gaels, and was the party of former Taoseach (TAE-shuck) John Bruton.

## ANSWER: Fine Gael (FEE-na GAIL)

Perhaps the best known Irish political party, its name means "Ourselves, alone" and rose out of the 1916 Easter Rising. Name this party of Gerry Adams and Martin McGuinness, the legal wing of the Irish Republican Army.

## ANSWER: Sinn Fein (SHIN FAYN)

3. 5-5-10-10, identify these quantum numbers.
a. This was one of the first quantum numbers identified, in association with the electron, and can be any whole number, from zero to infinity.

## ANSWER: principal or $\underline{n}$

b. This quantum number's physical value is a function of the fine structure constant.

## ANSWER: spin or m-sub-2

c. This quantum number was proposed to explain certain interactions of baryons and mesons; for most particles it is zero, but for the omega-minus particle it is -3 .

ANSWER: strangeness or xenicity or $\underline{S}$
d. This quantum number was predicted for years before a particle bearing it was first observed in 1995. It is analogous to the opposite of strangeness.

ANSWER: topness or truth
4. Name the following about a German philosopher FTSNOP
a. F5P, this pro-Christian Atheist was the first major philosopher of the west to have access to Indian thought; he was particularly affected by Vedic and Buddhist ideas.

## ANSWER: Arthur Schopenhauer

b. FTP, this 1819 Schopenhauer work holds that all nature, including man, is the expression of an insatiable mental force.

## ANSWER: The World as Will and Idea

c. F15P, in what Schopenhauer work is the will defined as the "thing-in-itself?"

ANSWER: The World as Will and Representation
5. Name the following about the medieval Caliphate FTPE.

Led by Ibn Yasin and Abu Bakr ibn Umar, this dynasty consolidated its hold on Andalusia and most of Morocco and Algeria by 1110 .

## ANSWER:Almoravid Dynasty

b. Though Islamic power was in decline by the time he visited Andalusia around 1330, this famous traveler and historian, a native of Tunisia, chronicled his trips to Spain in his famous travel writings.

## ANSWER: Ibn' Battuta

d. This last Islamic city in Spain was conquered by the Castilians in 1492.

## ANSWER: Grenada

6. Name the following from the Talmud FTSNOP:
a. F5P, redacted in 170CE by Rabbi Judah the Prince, it contains six orders: Zeraim, Moed, Nashim, Nezikim, Kodshim, and Taharot.

## ANSWER: Mishna

b. F15P, Commentaries on the Talmud are often printed in a script named for this French rabbi of the $11^{\text {th }}$ century.

ANSWER: Rashi or Rabbi Solomon ben Isaak or Shlomo Yitzhaki ("Rashi" is an acronym of R.Sh.I.)
c. FTP, the Babylonian Talmud is written in Hebrew and in this vernacular language of Babylonian Jews.

## ANSWER: Aramaic

7. Name the following about cell defense mechanisms FTPE
a. This class of proteins, used in genetic engineering, cuts up foreign DNA into small fragments.

## ANSWER: Restriction enzymes

b. Bacteria undertake this process, the adding of an organic group to their chromosomes, to protect their own genes from restriction enzymes.

## ANSWER: Methylation

c. If a cell realizes it has been infected with a pathogen it can't fight off, it will often undergo this process, also known as programmed cell death, in order to prevent spread of the infection.

## ANSWER: Apoptosis

8. Originally an adminsitrative division of Nubia, along with Wawat, it became its own separate kingdom sometime in the $8^{\text {th }}$ century BCE, and briefly conquered all of Egypt before getting driven back to Nubia by the Assyrians.

For ten points, name this kingdom.

## ANSWER:Kush

b. FTP, this city was the homeland of Karmah culture, and from 750 to 592 BCE was the capital of the Kush kingdom.

## ANSWER: Napata

c. Finally, after the sack of Napata by Greek mercenaries sent by the $26^{\text {th }}$ dynasty of the New Kingdom, the capital of Kush was moved to this city 150 miles upstream from Napata.

## ANSWER: Meroe

9. Given a title character, name the English novel in which he or she is the focus FTPE.
a. Sir Willoughby Patterne of Patterne Hall

## ANSWER: The Egoist

b. Michael Henchard

## ANSWER: The Mayor of Casterbridge

c. Isabel Archer

## ANSWER: Portrait of A Lady

10. Identify the architect from clues on a 5-10-15 basis:
(5) This Roman wrote the invaluable treatise De Architectura in the $1^{\text {st }}$-century B.C.

## ANSWER: Vitruvius

b. (10) This Florentine revitalized the use of classical elements in architecture with such works as the churches of San Lorenzo and Santo Spirito.

ANSWER: Filippo Brunelleschi
(15) This Baroque architect designed the façade of St. Peter's Basilica, which was completed in 1612.

## ANSWER: Carlo Maderno

11. Name the following treaties from US history FTPE.
a. A secondary effect of this 1842 treaty, which settled the border between Maine and Canada, was to put a final end to the slave trade between the US and Africa.

## ANSWER: Webster-Ashburton treaty

b. This treaty affirmed and formalized 1782 articles under which France and Britain recognized the independence of the twelve United States - Delaware was somehow never mentioned.

ANSWER: Paris peace treaty of $\mathbf{1 7 8 3}$
c. This 1850 treaty between the United States and Great Britain provided for the neutrality of a Central American canal.

## ANSWER: Clayton-Bulwer treaty

12. Give the official languages of the following nations, FFPE:

Angola
ANSWER: Portugese
Belize

## ANSWER: English

Madagascar

## ANSWER:Malagasy

Iran

## ANSWER: Farsi or Persian

Brunei

## ANSWER:Malay

Barbados

## ANSWER: English

13. Name the following places where water flows oddly FTPE:

The enormous tides of the Bay of Fundy lead to this New Brunswick phenonemon.

## ANSWER: the Reversing Falls of St. John or Les Chutes Reversibles de St.-John

b. Portions of this southern African river seem to flow uphill; meanwhile, in very dry years, it does not reach the sea, since after originating in Lesotho it passes through both the Kalahari and Namib deserts.

## ANSWER: Orange

c. Sufficient global warming may remove enough weight from the northern end of the North American plate to tip it, causing water from the Great Lakes to flow into this river system.

ANSWER: Mississippi-Missouri
14. Name these types of functions FTPE.
a. These functions, the integral of the sine of pi-t-squared over two on the interval zero to $x$, were first applied to optics, but recently have found use in the analysis of freeway traffic.

## ANSWER: Fresnel functions

b. These functions, the sums of power series, are named for a German astronomer who discovered them while analyzing Kepler's laws, and also can be used to model vibrations in a flat surface.

## ANSWER: Bessel functions

c. This non-continuous function is named for a British electrical engineer, and models an instantaneous change of state from "off" to "on."

## ANSWER: Heaviside function

15. Name the following things that are sort of like stars $5-10-15$ :
a. These stellar remnants, consisting largely of carbon or iron, may, according to a recent galactic survey, form a significant chunk of the universe's "missing mass."

## ANSWER: White dwarf stars

b. Red dwarves are true stars; white dwarfs are former stars; however, these objects never will be stars. While composed of the same elements, they're too small to start fusing hydrogen.

## ANSWER: Brown dwarf "stars"

c. Discovered in 1945, their spectral emissions show exceptionally high amounts of lithium. Current theory says that they
will have fully-formed Jovian planets.

## ANSWER: T Tauri stars

16. Answer the following about a condition in economics 5-10-15:
a. In this type of economy, a few firms, but more than one, control the market. Examples include the airline and long-distance telecommunications industries.

## ANSWER: oligopoly

b. FTP, when one firm attempts to undercut its competitors in an oligopoly, it may lead to this condition, in which all firms temporarily lower prices.

## ANSWER:_price war

c. F15P, this locally nondifferentiable anomaly allows price wars, and stems from the idea that competitors in an oligopoly will allow price increases but not price decreases.

ANSWER: kinked demand curve
17. Something has survived. Name these political dinosaurs FTSNOP.

First, F5P, this US senator won't seek reelection in 2002, when he'll be 100.

## ANSWER: Sen. Strom Thurmond

b. FTP, this perennial presidential candidate and UN proponent died this month at 93 . He became governor of Minnesota in 1938.

## ANSWER: Harold Stassen

c. F15P, this man, chairman of the Ronald Reagan Legacy Project and head of Americans for Tax Reform faced a blow when W. stated that a Reagan memorial proposal was "too soon."

## ANSWER: Grover Norquist

18. Given the piece of pretentious and yet provocative postmodernism, name the purveyor FTPE.

The Goldbug Variations

## ANSWER: Richard Powers

Giles Goat-Boy

## ANSWER: John Barth

Vineland

## ANSWER: Thomas Pynchon

19. Name the following places which are not in the Serengeti, darnit! 5-10-15
a. F5P, Olduvai Gorge is part of this expanding geological system, which also includes the Great Lakes of eastern Africa.

## ANSWER: The Great Rift Valley

b. FTP, this archaeological site near the Rift Valley, consisting of hominid footprints in fresh volcanic ash, was recently reburied to preserve it for future study.

## ANSWER: Laetoli

c. F15P, this preserve inside the collapsed crater of a mountain is named for the Masai onomatopoeia for the ringing of a bell, and is so called because of the blacksmiths that used to work in its center.

## ANSWER: Ngorongoro Crater

20. Given a description of an accoutrement of a Norse god, give its proper name FTPE:
a. The hammer of Thor, which causes lightning when it strikes.

## ANSWER: Mjollnir

Heimdall's horn, which will sound at Ragnarok.

## ANSWER: Gjallerhorn

Odin's magic ring, which produces eight new rings each ninth night.

## ANSWER: Draupnir

OT 1. Given an opera, name its composer and librettist, FFPE:
Rigoletto
ANSWER: Giuseppe Verdi, Francesco Maria Piave
Dido and Aeneas
ANSWER: Henry Purcell, Nahum Tate
The Marriage of Figaro
ANSWER: Wolfgang Amadeus Mozart, Lorenzo da Ponte

