

2011 SCOP Novice

Round 8

Ben Chametzky • Nick Conder • Brad Fischer • Jonah Greenthal • Webster Guan • Mike Laudermitth
Danielle Long • Nolan Maloney • Saieesh Rao • Kristin A. Strey • Tristan Willey • Mike Wong

TOSSUPS

1. **In the many-worlds interpretation, this scientist's namesake equation holds in all locations and at all times; that equation describes the evolution of quantum states over time and can be written as "E psi ["sigh"] equals H-hat psi." He developed a concept involving a (*) box containing a poison that can be released by radioactive decay. For 10 points, name this "father of quantum mechanics" whose namesake thought experiment involves a cat.**

Answer: Erwin (Rudolf Josef Alexander) Schrödinger

2. **This work's title character meets six deposed kings, and his lover is traded to Don Issachar and the Grand Inquisitor. A philosopher in this work is hanged and dissected before meeting up again with Martin and (*) Cacambo. The protagonist is expelled from Thunder-Ten-Tronckh for kissing Cunegonde in this novel. Dr. Pangloss repeats that "all is for the best in this best of all possible worlds" in, for 10 points, this satirical work by Voltaire.**

Answer: Candide, or Optimism (accept Candide, ou l'Optimisme)

3. **One member of this group of gods gave birth to the Horae and was once a bride of Zeus. This group included Oceanus, Phoebe, and Leto, who were descended from Uranus and Gaia. This group's sun god was Helios, and another member of this group held the world on his (*) back and was called Atlas. This group was led by Chronos and Rhea. Overthrown by Zeus, for 10 points, name this group of Greek gods who preceded the Olympians.**

Answer: Titans

4. **The Anaconda Mining Company began in this state, whose city of Kalispell lies north of Flathead Lake. Granite Peak is the highest point in this state, home to the source of the Missouri River. This state's western border is formed by the (*) Bitterroot Mountains, and it includes the cities of Missoula, Butte, and Billings. For 10 points, name this western US state with capital at Helena.**

Answer: Montana

5. **A rewrite of this Jack Norworth work concerns Nelly Kelly, though the original describes Katie Casey, who "had the fever and had it bad." This song has been followed by "Twist and Shout" in Cincinnati, and it was popularized at Wrigley Field by (*) Harry Caray ["carry"], where it is now sung by celebrities. For 10 points, name this song sung during the seventh inning stretch that says it's "one, two, three strikes you're out at" the title event.**

Answer: Take Me Out to the Ball Game

6. **The raindrop function is discontinuous at inputs that are members of this set, which is extended with the use of Dedekind cuts and forms the smallest field with characteristic zero. This countable subset of the (*) real numbers contains numbers whose decimal expansions terminate or repeat. Symbolized Q, give this set of numbers whose members can be expressed as an integer divided by a nonzero integer.**

Answer: rational numbers (accept Q before mentioned)

7. **Though it's not Iraq, the Ba'ath party was founded in this nation, whose army conducted the 1982 Hama massacre against the Muslim Brotherhood. This country lost the Golan Heights during the Six Day War to its neighbor, Israel. Its cities of Deraa and Latakia have been under siege by its own (*) army during the Arab Spring. Led by alleged terrorist sponsor Bashar al-Assad, for 10 points, name this country with capital at Damascus.**

Answer: Syria (accept Syrian Arab Republic)

8. **Two fixtures for hanging chandeliers appear on the ceiling in this painting, but no chandeliers are seen. Two pictures hang above an open doorway, where a man in black stands. The left side of this painting is obscured by a large canvas. The central figure stands near a (*) dwarf, whose foot is on a sleeping dog. The artist himself appears in what painting, depicting the Infanta Margarita of Spain, by Diego Velazquez?**

Answer: Las Meniñas (accept The Maids of Honor)

9. **In this author's works, Edward Prendick is shipwrecked near an island where a scientist creates human-animal hybrids and an unnamed protagonist finds himself in the world inhabited by Morlocks and Eloi. In addition to *The* (*) *Island of Doctor Moreau* and *The Time Machine*, this author wrote about Martians invading Earth only to be destroyed by common bacterial diseases. For 10 points, name this British author of *The War of the Worlds*.**

Answer: H(erbert) G(eorge) Wells

10. **The stability of one form of this molecule is enhanced by a poly-(A) tail. Introns are removed from this molecule via spliceosomes [sply-see-oh-some]. This molecule is used by retroviruses as genetic material and it is the template for reverse transcription. Varieties of this molecule include (*) ribosomal, messenger, and transfer, but all consist of single strands and contain the base uracil instead of thymine. For 10 points, name this nucleic acid that directly participates in the synthesis of proteins.**

Answer: Ribonucleic Acid or RNA (accept Messenger RNA before "retroviruses" is read)

HALF TIME

11. **On radar, a three body scatter spike is seen as evidence of the formation sites of these objects. Graupels are the small form of this substance. Updrafts cause these objects to collect droplets; the super cooled water then touches the condensation nuclei and (*) freezes, producing these entities. Often compared in size to golf balls and peas, for 10 points, name this solid type of precipitation that falls as irregular balls of ice.**

Answer: hail

12. **Historical buildings in this city have recently been destroyed by Wahhabists who fear idolatry. The Cave of Hira is outside this city, which is also the site of the Well of Zamzam. Masjid al-Haram, the Grand (*) Mosque, is in this city which contains the Ka'aba, a black stone that is faced during prayer. The hajj is a pilgrimage to, for 10 points, this Islamic holy city in Saudi Arabia, the birthplace of Muhammad.**

Answer: Mecca, Saudi Arabia

13. **Beauty Smith is one owner of this literary character, whose early life is spent with Gray Beaver. This character saves Judge Scott's life after being adopted by the Judge's son, Weedon. This character is the son of One Eye and (*) Kiche, and is terrorized by Lip-Lip in his early years as he adjusts to life as a domestic dog. Created by Jack London, for 10 points, name this dog, whose namesake novel contrasts with *The Call of the Wild*.**

Answer: White Fang

14. **This instrument portrays a troubadour outside an old castle in Maurice Ravel's orchestration of *Pictures at an Exhibition*. Sigurd Rascher commissioned Glazunov for a concerto for this instrument, which is the primary instrument of Ornette Coleman and Cannonball (*) Adderley, as well as the performers of *Ornithology* and *A Love Supreme*, Charlie "Bird" Parker and John Coltrane. Popular in jazz, for 10 points, name this woodwind instrument.**

Answer: saxophone (be lenient; accept any subtype, such as alto or tenor)

15. **This city's Palestine Hotel in Firdos Square provided quarters for journalists, who covered a photo op involving an M88 vehicle in the square. Combat here began with "shock and awe" bombing, and less than three weeks after this city fell, the (*) "Mission Accomplished" speech was given on the *USS Abraham Lincoln* by President Bush. Invaded by coalition forces in April 2003 in hopes of capturing Saddam Hussein, for 10 points, name this capital of Iraq.**

Answer: Battle of Baghdad (accept Fall of Baghdad, or anything else that describes combat in Baghdad)

16. **The continuous form of this process uses the Fenske equation, while an indented column is used in the fractional form of this process, which cannot be used on an azeotrope. In this process, (*) vapors from a separation flask are passed through a water-cooled condenser jacket. Conducted on crude oil and alcohol, for 10 points, name this process that separates mixtures of liquids with different boiling points.**

Answer: distillation

17. **This author of *Salome* had an affair with Lord Douglas that prompted his long poem, *The Ballad of Reading Gaol* ["redding jail"]. Mrs. Erlynne sacrifices her reputation in this author's *Lady Windermere's Fan*. This author's only novel sees Basil Hallward create a mysterious portrait, and his best-known play concerns (*) Jack Worthing and Algernon Moncrief. For 10 points, name this Irish playwright of *The Picture of Dorian Gray* and *The Importance of Being Earnest*.**

Answer: Oscar Wilde

18. With Roger Sherman Baldwin, this man argued for the Africans in the Amistad Case. The House Speaker threw support behind this man in the Election of 1824; afterward, he appointed that Speaker, Henry Clay, to be Secretary of State in the (*) "corrupt bargain." He was Secretary of State under James Monroe, and he lost his reelection campaign to Andrew Jackson. For 10 points, name this sixth president, the son of the U.S.'s second president.

Answer: John Quincy Adams (prompt Adams; do not prompt or accept John Adams)

19. During World War II, this man argued that higher taxation and compulsory saving should finance the war effort, and he predicted the negative effects of the Treaty of Versailles. This author of *The Economic Consequences of the Peace* advocated the (*) anti-depression tactic of "pump priming" via governmental deficit spending. For 10 points, name this British economist who wrote *The General Theory of Employment, Interest and Money*.

Answer: John Maynard Keynes ["canes"]

20. This nation, which defeated Count Tilly at the 1631 Battle of Brietenfeld, was led by Axel Oxenstierna in victory over Wallenstein at Lutzen. Later, this nation was defeated by Russia at the 1709 Battle of Poltava, largely because King Charles XII was injured. The loser of the (*) Great Northern War against Russia, it fought in the Thirty Years' War under Gustavus Adolphus. For 10 points, name this Scandinavian country whose capital is Stockholm.

Answer: Kingdom of Sweden

BONUSES

1. Henry Fleming is hit over the head with a rifle after meeting a “tattered soldier.” For 10 points each,

[10] Name this novel in which Fleming leads Union troops into battle after losing his friend, Jim Conklin.

Answer: The **Red Badge of Courage**

[10] *The Red Badge of Courage* is by this author of *Maggie, A Girl of the Streets*.

Answer: Stephen **Crane**

[10] In this short story by Crane, the oiler, captain, cook, and correspondent try to reach land safely in the title dinghy.

Answer: The **Open Boat**

2. For 10 points each, give the following rivers that share their name with a U.S. state.

[10] This longest tributary of the Mississippi River was canoed by Lewis and Clark when scouting the Louisiana Purchase for President Thomas Jefferson.

Answer: **Missouri** River

[10] This southeastern river passes through Knoxville, Chattanooga, and Huntsville, and enters the Mississippi River in Kentucky rather than its namesake state.

Answer: **Tennessee** River

[10] Large ships can sail up this tributary of the Mississippi River to Tulsa, Oklahoma. Fort Smith is one major city on its banks.

Answer: **Arkansas** River

3. His paintings made great use of bright colors, and he may have used a camera obscura in his work. For 10 points each.

[10] Name this artist who painted *The Astronomer* and *Girl with a Pearl Earring*.

Answer: Johannes ‘Jan’ **Vermeer**

[10] This work by Vermeer shows his sunlit hometown under a bank of white clouds, as seen from the bank of the Lange Geer [lahn-gah khayr] canal.

Answer: **View of Delft**

[10] Delft is a city in this country, the home of Vermeer. Other natives of this country include Rembrandt and Vincent Van Gogh.

Answer: **Netherlands** (grudgingly accept Holland)

4. This conic section always has an eccentricity of one. For 10 points each,

[10] Name this conic section that is created when a plane is parallel to a generating line of the cone. It is the shape of the graph of a quadratic equation in one variable.

Answer: **parabola**

[10] By definition, each point on a parabola is exactly as far away from the parabola’s focus as it is from this line.

Answer: **directrix**

[10] This point on a conic section has the greatest curvature.

Answer: **vertex**

5. Malcolm and Duncan bring Birnam Wood to Dunsinane Castle. For 10 points each,
[10] Name this play, whose title Scotsman is made Thane of Cawdor before his wife convinces him to kill King Duncan to fulfill a prophecy made by the Weird Sisters.

Answer: The Tragedy of **Macbeth**

[10] Macbeth was written by this Bard of Avon.

Answer: William **Shakespeare**

[10] In this Shakespearean tragedy, Iago uses a handkerchief to trick the title Moor into murdering his wife, Desdemona, and then killing himself.

Answer: The Tragedy of **Othello**, the Moor of Venice

6. The French have tried many things to keep from getting invaded. For 10 points each,
[10] This series of fortifications along the French borders with Italy and Germany was meant to keep the Germans from repeating their invasion in World War I, but the Nazis just went through Belgium instead.

Answer: **Maginot** [mah-zeh-no] Line

[10] Following the Nazi invasion, over 300,000 French and British troops evacuated the continent to England after this battle.

Answer: Battle of **Dunkirk**

[10] Sometimes the best defense is a good offense; this general's Grande Armée fit that bill until a disastrous 1812 invasion of Russia and later losses at Leipzig and Waterloo.

Answer: **Napoleon Bonaparte** (accept **Napoleon I**; prompt on Napoleon)

7. Solar radiation and solar winds make these celestial objects visible. For 10 points each,

[10] Name these collections of ice and dust whose tails point away from the Sun.

Answer: **comets**

[10] This is the visible region of a comet that surrounds the nucleus. Its name comes from the Greek word for “hair”.

Answer: **coma**

[10] This comet, discovered by amateurs, was known as the Great Comet of 1997. It featured a sodium tail and was the first comet with detectable argon.

Answer: Comet **Hale-Bopp**

8. Although he was married to Sigyn [SIH-gihn], Loki fathered three demons with his mistress Angrboda [“anger”-boh-dah]. For 10 points each,

[10] This son of Loki was a wolf and was bound by the gods with Gleipnir [GLYP-neer]. He bit off Tyr’s [teer’s] hand and will be killed by Vidar [VEE-dahr].

Answer: **Fenrir** or **Fenris**

[10] This son of Loki was thrown into the ocean and was caught by Thor on a fishing trip. He is a snake, and is so long he encircles the world of men and bites his own tail.

Answer: **Jormungandr** or the **Midgard Serpent**

[10] This daughter of Loki had a healthy upper body but was a corpse from the waist down. She was thrown into Niflheim [NIH-fill-hym], where she looks after the dead.

Answer: **Hel**

9. This poem's speaker sees a creature perch "upon a bust of Pallas just above [his] chamber door." For 10 points each,

[10] Name this poem by Edgar Allan Poe, in which the title bird repeats "Nevermore" while the narrator remembers the "lost Lenore."

Answer: The **Raven**

[10] Poe describes the wind "chilling and killing" this poem's title figure, who resides in a sepulchre in "a kingdom by the sea."

Answer: **Annabel Lee**

[10] This poem by Poe describes the title objects "keeping time, time, time / in a sort of Runic rhyme" and "jangling and wrangling" as "danger sinks and swells."

Answer: The **Bells**

10. This work is attributed to Valmiki [vahl-mee-kee] and, with the Mahabharata, is one of the great epic poems of India. For 10 points each,

[10] Name this Sanskrit epic, in which Bharata [bah-rah-tah] refuses to be king and the title avatar of Vishnu rescues his wife from Ravana.

Answer: **Ramayana**

[10] This woman is Rama's wife, who is abducted by Ravana. She is an avatar of Lakshmi, and returns to the earth after being accused of infidelity.

Answer: **Sita**

[10] Rama rescues Sita with the help of Hanuman, the king of these primates with prehensile tails. Sun Wukong [soon woo-kong] is one of these animals in *Journey to the West*.

Answer: **monkeys** (do not accept apes)

11. This city-state was led by kings from two lines, the Agiads and Eurypontids, simultaneously. For 10 points each,

[10] Name this Ancient Greek city-state, also led by five ephors [ay-fors] and the Gerousia [yeh-roo-shee-ah] elder council, a militaristic rival to Athens during the Peloponnesian War.

Answer: **Sparta**

[10] Athenian leadership was often possessed by tyrants like Peisistratus [pay-ih-sih-strah-tus], who gained power by seizing this Athenian hill, home of the Parthenon.

Answer: **Acropolis** of Athens

[10] Athenian military leadership took the form of ten strategoi, each elected each year. This notable strategos fought at Marathon and led the Athenian navy at the Battle of Salamis.

Answer: **Themistocles**

12. This person's namesake laws are the foundation of genetics. For 10 points each,
[10] Name this Austrian monk who experimented with pea plants to work out the rules of inheritance.

Answer: Gregor **Mendel**

[10] This diagram uses the parental alleles to form possible outcomes for the offspring. It also gives the probabilities for phenotypes.

Answer: **Punnett square**

[10] A Punnett square with 16 boxes is used to show this type of mating that considers two traits. When two parents featuring heterozygous alleles are mated a phenotype ratio of 9:3:3:1 [9 to 3 to 3 to 1] occurs.

Answer: **dihybrid cross**

13. Lampito and Myrrhine ["mere"-een] agree to Lysistrata's [liss-iss-trah-tah's] scheme to end the Peloponnesian War in one of this man's plays. For 10 points each,

[10] Name this Ancient Greek dramatist, who also described the city of Cloudcuckooland in *The Birds*.

Answer: **Aristophanes** [air-ih-STAH-fuh-neeZ]

[10] This first prize-winning Aristophanes work sees Dionysus travel to Hades to recover Euripides [yew-RIH-pih-deez], the "greatest Athenian tragedian." The title characters of this play are a chorus that chants "Brekekekex-koax-koax."

Answer: *The* **Frogs** (or **Batrachoi**)

[10] After a debate, this author of *The Persians*, *Seven Against Thebes*, and the *Oresteia* [ohr-eh-STY-uh] trilogy is brought back instead of Euripides. Adding insult to injury, this man suggests that Sophocles take his place as Hades' best tragic poet while he's away.

Answer: **Aeschylus** [ESS-kih-luss]

14. This type of peace theory maintains that the titular entities do not wage war on each other. For 10 points each,

[10] Name this form of government, in which each voting member of the population has an equal say in how their jurisdiction should be governed.

Answer: **democracy** (accept word forms like **democratic** government)

[10] Democratic peace theory holds that, because civil wars occur less often in democratic states than in non-democratic states, this systematic removal of an ethnic or racial group is infrequent.

Answer: **genocide**

[10] Democratic peace theory was heavily inspired by this German philosopher's *Perpetual Peace*. He also wrote the *Critique of Pure Reason*.

Answer: Immanuel **Kant**

15. Her debut album, *Frank*, reached triple platinum in her native UK on the strength of the single "Stronger Than Me." For 10 points each,

[10] Name this singer, who catapulted to fame with the single "Rehab" off the album *Back to Black* before her death in 2011 at age 27.

Answer: Amy **Winehouse**

[10] In this other single from *Back to Black*, the singer claims "I cheated myself / like I knew I would."

Answer: **You Know I'm No Good**

[10] Dying at age 27 is, sadly, not uncommon for musicians; that fate also befell this guitarist and singer of "Purple Haze," "The Wind Cries Mary," and "Foxy Lady."

Answer: James Marshall "Jimi" **Hendrix** (or Johnny Allen Hendrix)

16. This term was coined by Teddy Roosevelt, who referenced a character in John Bunyan's *Pilgrim's Progress*. For 10 points each,

[10] Name this term for early 20th century investigative reporters, such as *McClure Magazine's* Lincoln Steffens, who exposed corruption and shady business dealings.

Answer: **Muckrakers** (accept word forms)

[10] Possibly the most famous muckraker was Ida Tarbell, whose *The History of the Standard Oil Company* described the ways that this oil tycoon abused his monopolistic power.

Answer: John Davison **Rockefeller**

[10] The Standard Oil monopoly was primarily built via this method of business expansion, the buying-out of firms competing in the same industry.

Answer: **Horizontal integration** (accept word forms for integration)

17. For 10 points each, name these composers of seasonal works of music.

[10] This Italian violinist is famous for *The Four Seasons*, a set of violin concertos.

Answer: Antonio **Vivaldi**

[10] This composer is famous for the jazz standard "Summertime," a song from the opera *Porgy and Bess*, on which he collaborated with his brother Ira.

Answer: George **Gershwin**

[10] *Winterreise* is a song cycle by this Austrian composer of many Lieder and a famous unfinished symphony.

Answer: Franz **Schubert**

18. The Mulliken value for this property is determined by averaging the electron affinity and first ionization energy of an atom. For 10 points each,

[10] Name this property, which is a measure of how strongly an atom attracts electrons.

Answer: **electronegativity** (accept word forms)

[10] This most electronegative element with atomic symbol F is also the lightest halogen. Its anion is present in drinking water.

Answer: **fluorine**

[10] Fluorine has a value of 4.0 on this scientist's scale of electronegativity. He demonstrated that sickle-cell anemia results from a defect in hemoglobin, and won two Nobel Prizes.

Answer: Linus **Pauling**

19. For 10 points each, name the following US Presidents born in Virginia.

[10] This victorious general at the Battle of Tippecanoe and Battle of the Thames was President for all of thirty-two days.

Answer: William Henry Harrison

[10] After some Constitutional confusion, this man succeeded Harrison in office.

Answer: John Tyler

[10] Nicknamed "Old Rough and Ready," this man led forces in the Mexican-American War before being elected as a Whig in 1848 and dying in office in 1849.

Answer: Zachary Taylor

20. For 10 points each, name these portions of the electromagnetic spectrum:

[10] This term is given to the wavelengths that can be detected by the human eye.

Answer: visible spectrum or visible light or visible radiation

[10] This portion of the electromagnetic spectrum is used to detect some biological fluids because it causes them to fluoresce. It is slightly more energetic than visible light.

Answer: ultraviolet light (accept ultraviolet radiation, ultraviolet rays, ultraviolet waves, UV light, UV radiation, UV rays, or UV waves)

[10] When americium-241 decays to neptunium-237, it releases a helium nucleus along with these waves.

Answer: gamma rays or gamma radiation or gamma waves (accept gamma decay)