

2015 SCOP Novice 6

Round 10

Waleed Ali • Alston Boyd • Brad Fischer • Clare Keenan • Alec Krueger • Mike Laudermith
Elissa Pape • Anna Phillips • Allison Salach • Andrew Salij • Kristin A. Strey • Tyler Vaughan
Morgan Venkus • Mike Withey • Michael H. Wong

Tossups

1. **After receiving one of these objects from Madagascar, Charles Darwin correctly predicted the existence of a moth with foot-long mouth parts. The parts of this structure can be divided into four whorls, including the corolla and (*) calyx. The female portion of this structure contains a style and stigma that may be fertilized by cross-pollination thanks to animals like bees. Fruits and seeds are produced by, for 10 points, what reproductive organ of plants, that is often surrounded by colorful petals?**

Answer: flower

2. **A 1922 publication of this song was printed with the phrase "special permission through courtesy of the Clayton F. Summy Corporation," which was mysteriously blurred in a 2015 court document. (*) Warner Music will no longer collect roughly two million dollars in annual royalties for this work, as the copyright on this song's lyrics is now invalid. For 10 points, name this Patty and Mildred Hill song, usually sung at parties just before candles on a cake are blown out.**

Answer: Happy Birthday To You

3. **The case *Tinker v. Des Moines* ruled that students who protested this event by wearing black armbands could not be punished. A famous photograph captured Mary Ann Vecchio mourning a student who was shot by (*) National Guardsmen while protesting this conflict at Kent State University. Muhammad Ali refused to be drafted to fight in, for 10 points, what controversial war, whose U.S. involvement ended with the fall of Saigon in 1975?**

Answer: Vietnam War (accept Second Indochina War)

4. **In an ancient Chinese story, this event happened when P'an Ku realized he no longer had to hold the sky away from the earth. In Japan, Izanami and Izanagi helped do this by dipping a sword into the almost (*) empty ocean. In a Greek myth, this event happened when Gaia gave birth to the sky, the ocean, and the land. For 10 points, name this mythological event, in which our planet came into being.**

Answer: creation of the world (accept clear descriptions of the world coming into being; accept earth in place of "world;" prompt on "creation" alone)

5. This man's collected poems end by declaring "I hope to see my pilot face to face / When I have crost the bar." This poet depicted an "idle king" who resolves "To strive, to seek, to find, and not to yield." This man wrote a poem about the (*) Battle of Balaclava, in which men charge "half a league, half a league, half a league onward" and says "Into the valley of death / Rode the six hundred." For 10 points, name this British lord who wrote about the doomed "Charge of the Light Brigade."

Answer: Alfred, Lord Tennyson

6. The Feit-Thompson theorem proved that all finite groups with this type of order are solvable. Functions with this property can be written in the form " f of x plus f of negative x equals zero." No (*) perfect numbers have yet been discovered with this property. Functions with this property have rotational symmetry about the origin, and numbers with this property are congruent to one, modulo two. For 10 points, name this property that prevents a number from being divisible by two.

Answer: odd

7. This composer used an atonal seventh chord to open a D-flat major piano piece inspired by a Paul Verlaine poem. He mocked Wagner's *Tristan and Isolde* in the last piece from his *Children's Corner* suite, (*) "Golliwogg's Cakewalk". The third movement of this man's *Suite Bergamasque* was used for the iconic "Fountain" scene in the 2001 movie *Ocean's 11* and imitates moonlight. For 10 points, name this French Impressionist composer of "Clair de lune."

Answer: Claude Debussy

8. After throwing a bomb during this event, one man tried to drown himself in the Miljacka River, but failed due to cyanide-induced vomiting. A wrong turn by Leopold Lojka led to the success of this event, and during this event Duchess Sophie was killed. This attack was carried out by (*) Gavrilo Princip, a member of the Black Hand, who did so in Sarajevo. For 10 points, name this attack that caused the death of an archduke and led to World War I.

Answer: Assassination of Archduke Franz Ferdinand (accept obvious equivalents)

9. This novel's narrator has a brother named DB who is a "prostitute" screenwriter in Hollywood, and he is beat up by Maurice for hiring, but only talking to, an actual prostitute named Sunny. This work's protagonist worries about the (*) ducks in Central Park and about his practical sister, Phoebe; that protagonist condemns phonies after being expelled from Pencey Prep in this book. For 10 points, name this novel about Holden Caulfield, written by JD Salinger.

Answer: The Catcher in the Rye

10. This scientist erroneously proposed a triple helical structure for DNA. This man discovered the secondary protein structures of alpha helices and beta sheets, and identified defects in (*) hemoglobin as the cause of sickle cell anemia. Fluorine has a value of 4.0 on this man's scale of electronegativity. For 10 points, name this Caltech scientist who won Nobel prizes in both chemistry and peace.

Answer: Linus Carl Pauling

11. **This team used the first overall pick in 1987 on “The Admiral”, David Robinson. This team’s summer league team won the 2015 Las Vegas under assistant coach Becky Hammon. In the offseason, they signed David West and Lamarcus Aldridge to join their roster that includes (*) Tony Parker, Kawhi Leonard, and Tim Duncan. For 10 points, name this Gregg Popovich-coached team that beat the Miami Heat in the 2014 NBA Finals.**

Answer: San Antonio Spurs (accept either underlined portion)

12. **Symbols in this faith include the KRC and ARC triangles, and Operating Thetan can be achieved after becoming Clear in this religion through the use of E-meters and auditing. “The Wall of Fire” in this religion is the hydrogen bombing of millions of people by galactic dictator (*) Xenu; that story was told by this religion’s founder, science fiction author L Ron Hubbard. For 10 points, name this religion, whose adherents include John Travolta and Tom Cruise.**

Answer: Church of Scientology

13. **In this state, the Paxton Boys attacked Conestoga before marching on Germantown, and Light-Horse Harry Lee commanded troops while putting down the Whiskey Rebellion in this state. At one time, this state’s Supreme Executive Council was led by (*) Benjamin Franklin. Slavery was abolished in this state in 1780, a move supported by its Quaker populace. The Declaration of Independence was signed in, for 10 points, what state’s city of Philadelphia?**

Answer: Commonwealth of Pennsylvania

14. **This work’s protagonist sees a “violet-purple” glow near London, which turns out to be made by a “red weed” that is wiped out at the end of this novel. The protagonist of this novel encounters creatures with “v-shaped mouths” and large eyes, who kill Ogilvy with a (*) “Heat-Ray” and use tripod fighting machines to collect humans in this novel. Earth’s bacteria destroy the Martian invaders in, for 10 points, what novel by HG Wells?**

Answer: The War of the Worlds

15. **Francesco Carlini used these devices to determine the density of the Earth, and their Q factors equal mass times omega over the damping force. Their periods are nearly 2 pi times the square root of their lengths over (*) gravitational acceleration, but that approximation only holds at small angles. For 10 points, name these simple harmonic oscillators, masses suspended on strings that power grandfather clocks.**

Answer: pendulums (prompt on “simple harmonic oscillator” or “SHO” before it is read)

16. **This civilization’s language, Nahuatl, was recorded in the Florentine Codex. The “Massacre in the Great Temple” occurred in this civilization’s capital, and this civilization’s (*) Jaguar Warriors wielded swords with obsidian blades. This civilization made use of *chinampas* on Lake Texcoco, which was also home to Tenochtitlan. For 10 points, name this Mesoamerican civilization who were led by Montezuma.**

Answer: Aztecs

17. A building in this city owned by Qatar is a pyramid nicknamed “the Shard,” and this city is home to a large glass “Gherkin.” A whispering gallery in this city was designed by Christopher Wren, and Monet painted the Houses of (*) Parliament in this city, which is home to the Albert Hall and a memorial to Horatio Nelson in Trafalgar Square. The Tower Bridge crosses the River Thames [temz] in, for 10 points, what capital city of England?

Answer: London, England, United Kingdom

18. Examples of these animals have been found with bite marks from *Anomalocaris* and all types of this animal possessed compound eyes with calcite lenses. The nearest living relatives of these creatures are (*) horseshoe crabs. These creatures became the most common animals on Earth during the Cambrian explosion, but went extinct at the end of the Permian period. For 10 points, name this diverse group of fossil animals named for their three-lobed bodies.

Answer: trilobites (accept Trilobita)

19. This province’s city of Gatineau [ga-tih-NOH] is part of its National Capital Region. This province forms the majority of the Labrador Peninsula. Its largest city, on an island in the confluence of the (*) Ottawa and St. Lawrence Rivers, hosted the opening ceremonies of the 1976 Summer Olympics in the Stade [stahd] Olympique. For ten points, name this French-speaking Canadian province, home to Montreal.

Answer: Quebec

20. Toru Okada searches for one of these creatures in *The Wind-Up Bird Chronicle*, and one of these animals breaks a pickle dish in *Ethan Frome*. Okonkwo defeats a wrestler named for this animal in *Things Fall Apart*. In *Romeo and Juliet*, Tybalt is called the (*) “prince” of these animals, and Amy Tan wrote about a “Chinese Siamese” one of these animals. For 10 points, name these animals which include a “Cheshire” one in *Alice in Wonderland*.

Answer: cats (accept felis catus or felis silvestris catus; accept logical slang for cats, such as kitty; prompt on “feline”)

Bonuses

1. Sparta has a long history with the rest of Greece. For 10 points each,

[10] Name this leader of the Delian League, the current capital of Greece and a long-time rival of Sparta. Despite being known for its navy, this city still lost the Battle of Aegospotami [EE-juh-SPAH-tah-mee].

Answer: **Athens**

[10] The Battle of Aegospotami ended this series of wars, which was named for a league led by Sparta. This war was temporarily ended with the Peace of Nicias [NIH-kee-as].

Answer: **Peloponnesian** War

[10] Before the Peloponnesian War, Sparta had defended all of Greece, including Athens, by fighting this battle. During this battle, three hundred Spartans legendarily held out against Persian forces.

Answer: Battle of **Thermopylae**

2. This painting is named for its background, which shows a white farmhouse with a strangely ornate window. For 10 points each,

[10] Name this painting, which shows the artist's sister and dentist posing as two Iowa farmers: a grim-faced, apron-wearing woman and a man in overalls holding a pitchfork.

Answer: **American Gothic**

[10] This American Regionalist painter created *American Gothic*.

Answer: Grant DeVolson **Wood**

[10] The title figure of this Grant Wood painting draws back the curtain to reveal a young George Washington admitting to having cut down a cherry tree.

Answer: **Parson Weems' Fable**

3. For three decades, the Free Aceh [AH-chay] Movement campaigned for independence of a province on this island. For ten points each,

[10] Name this island containing the cities of Medan and Palembang. A massive 2004 earthquake off its west coast caused the Boxing Day tsunami.

Answer: **Sumatra**

[10] Sumatra is an island in this country with capital Jakarta. This country is home to the highest population of any Muslim-majority nation, and shares the island of Kalimantan with Malaysia and Brunei.

Answer: Republic of **Indonesia**

[10] Though Malaysia itself has a few islands, its capital, Kuala Lumpur, is on a Southeast Asian mainland peninsula, on which Malaysia borders this country, formerly known as Siam.

Answer: Kingdom of **Thailand**

4. This synthetic fabric was rationed during World War II because of its use in ropes, tires, and parachutes. For 10 points each,

[10] Name this material, introduced at the 1939 New York World's Fair as artificial silk. In the 1940s it became synonymous with women's stockings.

Answer: **Nylon**

[10] Nylon is a synthetic example of this type of chemical, which is built from multiple subunits that repeat as one longer chain.

Answer: **polymer**

[10] This chemical company's research led to the development of Nylon. This company also developed neoprene and Teflon.

Answer: EI **du Pont** de Nemours and Company

5. This poem begins "Ah broken is the golden bowl! the spirit flown forever! Let the bell toll!" For 10 points each,

[10] Name this Edgar Allan Poe poem named for a title woman, who has "death upon her eyes." In another of Poe's poems, this woman is the speaker's lost love, whom he will meet "nevermore."

Answer: **Lenore**

[10] Lenore also appears in this poem, in which the title bird "perches on a bust of Pallas" and repeatedly cries "Nevermore."

Answer: The **Raven**

[10] "The wind came out of the cloud by night, / Chilling and killing" the title woman in this Poe poem, which begins "many and many a year ago, / in a kingdom by the sea."

Answer: **Annabel Lee**

6. This actor played the title villain in *The Man with the Golden Gun* and acted in numerous Hammer films. For 10 points each,

[10] Name this actor who portrayed Saruman in *Lord of the Rings* and Count Dooku in *Star Wars*. He passed away due to heart failure in June 2015.

Answer: Sir Christopher Frank Carandini **Lee**

[10] Lee portrayed the Mummy and Frankenstein's monster, as well as this legendary vampire. Bela Lugosi also played this monster, who titles a namesake book by Bram Stoker.

Answer: Count **Dracula**

[10] This other vampire appeared in a 1922 F.W. Murnau film, in which Count Orlok is really this title creature.

Answer: **Nosferatu**: A Symphony of Horror

7. This man observed a Doppler redshift, suggesting that galaxies are moving away from each other. For 10 points each,

[10] Name this scientist, whose namesake space telescope was launched in 1990.

Answer: Edwin Powell **Hubble**

[10] Hubble's observation of redshift supports this cosmological model. In this model, the universe rapidly grew from a single point during a namesake "explosion."

Answer: **Big Bang**

[10] First observed by Penzias and Wilson at Bell Labs, this residual radiation fills the universe and is derived from blackbody radiation that arose shortly after the Big Bang.

Answer: Cosmic Microwave Background Radiation (accept **CBR**)

8. This novel's title character meets Helen Burns at Mr. Brocklehurst's Lowood School. For 10 points each,
 [10] Identify this Charlotte Brontë novel, in which Bertha Mason burns down Thornfield Hall, blinding the title character's love interest.

Answer: **Jane Eyre**

[10] This character is blinded trying to save Bertha Mason during the Thornfield Hall fire. Jane Eyre marries this character at the end of the novel.

Answer: **Edward Rochester** (accept either underlined name)

[10] This Jean Rhys novel is a prequel to *Jane Eyre*. It follows the story of Jamaican heiress Antoinette Cosway, whose name is changed to Bertha Mason when Rochester takes her back to England.

Answer: **Wide Sargasso Sea**

9. Plants and algae fulfill this role in the ecosystem. For 10 points each,

[10] Name this term, from the Greek for "self-feeding", that refers to primary producers capable of generating their own nutrient source.

Answer: **autotrophs**

[10] Autotrophs make up the lowest level of this hierarchy, that has different trophic levels and multiple paths connecting producers to consumers.

Answer: **food web**

[10] In ecology, food webs can be depicted as trophic pyramids because of a rule stating that this percent of available energy can be transferred from one level to the next.

Answer: **ten** percent

10. This mountain range stretches from Southeastern Canada to Alabama. For 10 points each,

[10] Name this mountain range which separated the Thirteen Colonies from "Indian Reserve."

Answer: **Appalachian** Mountains

[10] This proclamation set the Appalachian Mountains as the boundary for the Thirteen Colonies. However, despite this proclamation the colonies expanded westward anyway.

Answer: Proclamation of **1763**

[10] The Proclamation of 1763 was issued by the British King who ruled during the American Revolutionary War.

Answer: **George III**

11. In the short story "Everything That Rises Must Converge," Julian takes his mother to a weight loss class at his local branch of this institution. For 10 points each,

[10] Name this institution, where the Village People say it is fun to stay.

Answer: **Young Men's Christian Association** (accept The **Y**)

[10] This American author of "Everything that Rises Must Converge" wrote about Bailey's family being murdered in "A Good Man is Hard to Find."

Answer: Mary Flannery **O'Connor**

[10] Flannery O'Connor was a member of the "Southern" version of this literary genre. Horace Walpole's *The Castle of Otranto* is an early novel in this florid literary genre.

Answer: **Gothic** (accept **Southern Gothic**)

12. Large marching bands use drum majors to assist this person, often called "maestro" by the members of the orchestra. For 10 points each,

[10] Name this leader of a band or orchestra, who directs the tempo and other aspects of the music, sometimes with a baton.

Answer: **conductor** (prompt on director)

[10] This composer of *West Side Story* conducted the New York Philharmonic for a long-running series of educational, televised "Young People's Concerts."

Answer: Leonard **Bernstein**

[10] This Massachusetts-based orchestra plays primarily popular classical music. It was led for nearly fifty years by Arthur Fiedler and then for over a decade by movie music master John Williams.

Answer: **Boston Pops** Orchestra (prompt on "Boston;" do not accept "Boston Symphony Orchestra")

13. In 2013, University of New Hampshire professor Yitang Zhang published a landmark proof regarding the gaps between these numbers. For 10 points each,

[10] Give this term for positive integers that are only divisible by themselves and one.

Answer: **prime** numbers

[10] Zhang's work suggests that we may soon prove the statement "there are an infinite number of twin primes." That statement is believed to be true, but no proof yet exists; therefore, it is this type of mathematical statement.

Answer: twin prime **conjecture**

[10] A pair of prime numbers are called "twins" if they differ by this value. There is only one triplet of prime numbers with equal gaps of this size.

Answer: **two** (note: that triplet is 3, 5, 7; any set of three larger consecutive odd numbers includes a composite number divisible by three)

14. After Martin Seligman administered these to dogs, the dogs developed a condition called "learned helplessness." For 10 points each,

[10] Identify this technique often used to treat bipolar disorder and major depression, in which an electric current is passed through the brain.

Answer: electric **shocks** (accept **electroconvulsive** therapy or **ECT**; accept **electroshock** therapy)

[10] In this American psychologist's "obedience to authority" experiment at Yale, participants were told to give increasingly intense electric shocks to a group of "learners" to test how long they would follow orders.

Answer: Stanley **Milgram**

[10] In another Milgram experiment, Milgram found that people were more likely to provide aid when they found one of these objects addressed to an individual or an organization than they were if these objects were addressed to "Friends of the Nazi Party."

Answer: **lost letters** experiment (accept descriptions, such as **lost mail**)

15. Ancient Greek myths were not kind to misbehavers. Answer the following about some particularly harsh punishments in the underworld, for 10 points each.

[10] This was the name given to the Greek underworld, as well as to its ruler, a brother of Zeus.

Answer: **Hades**

[10] This king kept the god Hades prisoner in an attempt to avoid death. As punishment, he was forced to roll a boulder up a hill over and over, only to have it roll back down the other side.

Answer: **Sisyphus**

[10] As punishment for serving the gods his son, Pelops, this man is forced to stand neck deep in a lake with a fruit tree above him, but is unable to eat or drink. His name has come to mean “temptation.”

Answer: **Tantalus**

16. No fictitious forces appear in reference frames named for this property. For 10 points each,

[10] Name this tendency of an object to remain in uniform motion until it is acted on by an outside force.

Answer: **inertia** (accept **inertial reference frames**)

[10] This English scientist described inertia in the first of his three laws of motion. He also invented calculus independently of Leibniz.

Answer: Isaac **Newton**

[10] This law formulated by Newton states that the rate of change of an object’s temperature is proportional to the difference between its current temperature and the surrounding temperature.

Answer: Newton’s Law of **Cooling**

17. One branch of the Christian Reformation rebelled against the use of these papers, which were sold by Johann Tetzel. For 10 points each,

[10] Name these papers, which could be purchased to grant temporal relief from minor sins. Martin Luther’s *Ninety-Five Theses* debated the value of these papers.

Answer: **indulgences**

[10] Like Martin Luther, this Frenchman led a religious split from the Catholic church. This man founded a namesake “Reformed” church in Geneva.

Answer: John **Calvin** (accept Jean **Calvin**; accept Jehan **Cauvin**)

[10] John Calvin and Martin Luther founded religions in this major branch of Christianity, which isn’t Orthodoxy or Catholicism.

Answer: **Protestantism**

18. After this event, Max Blanck and Isaac Harris were tried for murder. For 10 points each,

[10] Name this event, in which the Asch building was set ablaze. During this event, many garment workers were unable to escape because the exterior doors were locked.

Answer: **Triangle Shirtwaist** Factory **Fire**

[10] Rose Schneiderman, a member of this ideology, advocated for a “strong, working-class movement,” in the aftermath of the Triangle Shirtwaist fire. This ideology supports workers’ ownership of production.

Answer: **socialism** (accept word forms like **socialists**; do not accept “communism”)

[10] Rose Schneiderman gave her speech in the Metropolitan Opera House in this city. The Triangle Shirtwaist Fire took place in this city’s Greenwich Village.

Answer: **New York** City

19. Two of these creatures, Gargantua and Pantagruel, appear in stories by a French author. For 10 points each, [10] Name these extremely large, humanoid creatures. In one story, a beanstalk takes Jack to the home of one of these huge creatures who goes “Fee-fi-fo-fum.”

Answer: giants

[10] This Frenchman, who used the pseudonym Alcofribas Nasier, wrote *Gargantua and Pantagruel*. His last words were “I go to seek a Great Perhaps.”

Answer: François Rabelais

[10] In this author’s first novel, *Looking for Alaska*, Miles Halter uses Francois Rabelais’s last words as motivation at Culver Creek Preparatory School. He also wrote *Paper Towns*.

Answer: John Green

20. Sri Sri Ravi Shankar has mediated peace talks in this country between FARC rebels and Juan Manuel Santos' government. For 10 points each,

[10] Name this South American country where Pablo Escobar's cartel once earned Medellin the title of "most violent city on Earth."

Answer: Colombia

[10] Escobar's cartel dominated the trade in this illegal drug, processed from leaves grown in Colombian valleys.

Answer: cocaine

[10] In 2012, FARC ended this controversial practice, which it used to create political pressure and generate income. Ingrid Betancourt was notably subjected to this practice.

Answer: kidnapping (accept descriptions like taking hostages)