

2011 SCOP Novice

Round 4

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TOSSUPS

1. **This entity contains the brightest globular cluster in the local group, known as Mayall II, and appears to have a double nucleus. Its interactions with neighboring galaxies such as the Triangulum appear to have warped its disk. It is the largest member of the (*) Local Group, and is predicted to collide with the Milky Way in 3 to 5 billion years. M31 is the Messier classification of, for 10 points, what closest spiral galaxy to us?**

Answer: Andromeda or M31 before mention or NGC 224

2. **This story's protagonist is appalled to discover that he no longer likes milk, and he frightens his mother when he tries to save a picture of a woman in furs. In this story, Grete play her violin for some boarders, though they are scared away by her brother, who dies when an (*) apple lodges in his back. Beginning with Gregor Samsa's overnight transformation into a giant "vermin," for 10 points, identify this Franz Kafka tale.**

Answer: The Metamorphosis (accept Die Verwandlung; do not accept Metamorphoses)

3. **In this situation, maximum profit occurs when marginal cost is set equal to marginal revenue, rather than price. A "natural" one of these can occur if economies of scale create a high barrier to (*) entering the market. Higher prices often result from the complete lack of competition within, for 10 points, what economic situation which exists when only one seller of goods exists in an industry?**

Answer: monopoly

4. **In the cyclic type of this musical composition, a cantus firmus is shared between its five movements. One of these written by Palestrina for Pope Marcellus is said to have saved polyphony, while one in B Minor was written by J. S. Bach. Its movements usually include the (*) Kyrie [keer-ee-ay], Gloria, and Credo [kray-doh], and many works in this genre use Gregorian chant. For 10 points, give this type of choral composition which sets religious liturgy to music.**

Answer: masses

5. This site's lighting at night is switched to gold whenever a jurisdiction abolishes the death penalty. The Colossus of Nero was located near this building, whose hypogeum is an underground network of tunnels and cages used to house (*) slaves. Its construction began under Vespasian, and it was sometimes partially filled with water for mock naval battles. For 10 points, name this large arena in Rome that featured gladiator combat.

Answer: Roman Colosseum (accept Flavian Amphitheater)

6. Adherents of this religion are called Khalsas [kall-sah's] after baptism, and obey the Rehat Maryada [re-HAT mar-YAH-dah]. Kesh is the name given to uncut hair that is usually covered by Dastaar, a turban worn by members of this religion, who take the names (*) Singh or Kaur. Ten gurus have led this religion, which follows teachings from the Adi Granth [ah-dee GRAHNTH]. For 10 points, name this Indian religion, originally led by Guru Nanak Dev, whose five K's include the kirpan.

Answer: Sikhism (accept Sikhs)

7. The Bab el Mandeb strait is at the south end of this body of water, which is southwest of the Hejaz Mountains. Eritrea's Dahlak Archipelago is in this sea, which includes the Gulf of Tadjoura, and the Straits of Tiran [tee-RAHN] link this sea to the Gulf of (*) Aqaba [ah-KAH-bah] east of the Sinai Peninsula. Connected to the Mediterranean by the Suez Canal, for 10 points, name this sea between Egypt and Saudi Arabia, allegedly parted by Moses.

Answer: Red Sea

8. Michael Faraday first isolated this substance from gaslight residue, and its uniform bond length of 140 picometers can be explained by resonance. The locations of substituents on this molecule can be described the prefixes "ortho-," "para-," and "meta-," and it can be made from (*) cyclohexene. Derivatives of this compound include aniline, phenol, and methylated toluene. Described by August Kekulé, for 10 points, name this simplest aromatic molecule with formula C_6H_6 .

Answer: benzene (prompt on C6H6 before the end)

9. This author argued against the Mexican-American War and suggested that, "That government is best which governs least." This author described a massive battle between black and red ants and wrote a chapter about the "Economy" of building a cabin while living (*) self-reliantly by the title pond on Ralph Waldo Emerson's property. For 10 points, identify this transcendentalist American author of *Civil Disobedience* and *Walden*.

Answer: Henry David Thoreau

10. The Wheatstone bridge can be used to find an unknown instance of this quantity, whose inverse is measured in siemens. The power dissipated across a conductor is equivalent to the current squared times this quantity, to which reactance must be added to find its AC equivalent, (*) impedance. Voltage equals current multiplied by this quantity according to Ohm's law. For 10 points, name this quantity measuring opposition to the flow of current.

Answer: electrical resistance

HALF TIME

11. Gold accents adorn a grove of orange trees to the right of this painting, where a nymph stands, holding a pink robe. Zephyr approaches from the left in a shower of roses, blowing the title figure to (*) shore. The central figure is nude and attempts to cover herself with flowing blonde hair as she stands on a shell. For 10 points, identify this painting by Botticelli, depicting the title Roman love goddess arising from the sea.

Answer: The Birth of Venus

12. In this work's frame story, Shahryar [SHAH-ree-ahr] kills one wife a day to prevent them from cheating on him, and Duniyazad [DOON-yah-zahd] asks her sister to tell one last tale. Stories in this work include one about a tailor's son who releases djins ["jeans"] from a ring and a (*) lamp and another about a man who discovers the password "Open Sesame!" Including "Aladdin" and "Ali Baba and the Forty Thieves," for 10 points, name this collection of tales told by Scheherazade [sheh-HAYR-ah-zahd].

Answer: The Thousand and One Nights (accept The Arabian Nights)

13. According to the Green-Tao Theorem, the sequence of these numbers contains arbitrarily long arithmetic sequences. Each of these numbers larger than 3 is congruent to either 1 or 5, modulo 6. Whether even numbers larger than 2 can be written as a (*) sum of two of these is the subject of Goldbach's Conjecture. The Sieve of Eratosthenes [air-uh-TOSS-thuh-nee-z] can find, for 10 points, what kind of number whose only divisors are itself and 1?

Answer: prime numbers

14. During this battle, roughly 700 of the defenders moved to Punkatasset Hill from a ridge outside town for reconnaissance. After the British searched the farm of Colonel James Barrett and other homes, the Americans met the British at (*) North Bridge. Taking place the afternoon of April 19th, 1775, for 10 points, name this battle, which followed the Battle of Lexington to begin the American Revolutionary War.

Answer: Battle of Concord

15. Taylor Hicks participated in an April Fool's Day performance of this song, which has been inserted into *Groundhog Day* and covered in the style of Bob Dylan. The "Glee" prom featured this song, which includes the lyric (*) "seeing everything, the time is goin'." A dilemma regarding non-assigned seating takes place shortly after 7 AM on the title day of, for 10 points, what "most disliked" YouTube video by Rebecca Black?

Answer: Friday [Moderator note: feel free to tell whomever gets this right "you got this."]

16. Phloem [flow-um] is used to carry the products of this reaction, and carbon fixation in the Calvin cycle is the last step of this process. Most organisms that perform this process are cyanobacteria, and (*) chloroplasts are the site of this process in plants. For 10 points, name this process which converts carbon dioxide and water to sugar by using light energy.

Answer: photosynthesis

17. This literary character plays with Snowdrop and Kitty in one work, in which she learns the definitions of “slithy” [SLY-thee] and “brillig” [BRILL-ig] from Humpty-Dumpty. In another work, she encounters the morose Mock Turtle in a land governed by playing cards after following the (*) White Rabbit. Inspired by Lewis Carroll’s friend, Miss Liddell, for 10 points, name this little girl who went *Through the Looking Glass* and had *Adventures in Wonderland*.

Answer: Alice (accept Alice’s Adventures in Wonderland, Alice Liddell or Alice Hargreaves; do not accept or prompt on “Alice in Wonderland,” as this title only applies to the Disney film)

18. In 1920, this location saw a horse-drawn carriage explode, killing 38 people. This location, once home to a buttonwood tree, stretches from South to Broadway. September 17th, 2011 saw the beginning of leaderless (*) protests against “the 1%,” 700 of those protesters were arrested on the Brooklyn Bridge. Home to the NYSE and the financial district of New York, for 10 points, name this street, often contrasted with “Main Street.”

Answer: Wall Street

19. This man was offered a crown by the Humble Petition and Advice; the earlier, John Lambert-written Instrument of Government had installed him in power. He formed the Barebones Parliament after dismissing the Rump Parliament in 1653. He led cavalry at (*) Marston Moor and Naseby, defeating the Royalists with his professional New Model Army. For 10 points, name this successor to Charles I, the Lord Protector of England.

Answer: Oliver Cromwell

20. Utu is this type of god in Sumerian mythology. One goddess of this type hid in a cave after her brother threw a flayed horse at her, and was born from the left eye of Izanagi. In addition to Amaterasu, a god of this type sailed around the (*) world each day in Egyptian mythology, and was at times known as Hathor, Horus, or Atum-Ra. For 10 points, name these gods, who represent the large yellow star in the day sky.

Answer: sun deities (accept sun gods and/or goddesses, solar deities, or any clear equivalents)

BONUSES

1. Identify some female American authors, for 10 points each.

[10] This author of *The Kitchen God's Wife* is more famous for writing about Chinese-American heritage in *The Joy Luck Club*.

Answer: Amy **Tan**

[10] This Louisiana regionalist wrote "Desiree's Baby," and wrote about Edna Pontellier's [pahh-tell-ee-AY's] affairs in *The Awakening*.

Answer: Katherine "Kate" O'Flaherty **Chopin**

[10] Celie writes letters to God and her sister Nettie in *The Color Purple*, a work by this African-American author.

Answer: Alice **Walker**

2. For 10 points each, answer the following about women's rights in American history.

[10] This women's rights leader created a Declaration of Sentiments, and, with Lucretia Mott, called the Seneca Falls Convention.

Answer: Elizabeth Cady **Stanton**

[10] This other woman worked with Stanton in the suffrage and temperance movements. She was arrested for voting illegally in the 1872 presidential election.

Answer: Susan B(rownell) **Anthony**

[10] This constitutional amendment was passed by Congress in 1972, but it wasn't ratified. It would have guaranteed equivalent treatment under the law regardless of gender.

Answer: **Equal Rights Amendment** (accept **ERA**)

3. These organisms are formed from mycelia and are often found growing on decomposing plants. For 10 points each,

[10] Identify these organisms which often have gills on their underside. There are poisonous varieties of them named the death cap and destroying angel.

Answer: **mushrooms**

[10] Mushrooms are members of this kingdom which also includes truffles and molds.

Answer: Kingdom **Fungi** (accept **fungus**)

[10] Fungi reproduce using these haploid structures. Unlike seeds, these contain very little internal nutrients.

Answer: **spores**

4. While still an infant, this figure slew two snakes sent by Hera. For 10 points each,

[10] Name this son of Zeus and Alcmene [alk-MAY-nee], whose great strength helped him complete 12 labors.

Answer: **Heracles** (accept Hercules)

[10] Heracles rescued his second wife, Deianara [day-ah-NAH-rah], by killing Nessus, one of these creatures. This mythological race also included Chiron [KY-rah].

Answer: **centaurs**

[10] After Nessus poisoned Heracles with his blood, Heracles is sometimes said to have ascended to this mountain home of the Greek gods.

Answer: Mount **Olympus**

5. His novels include *Notes from the Underground* and one in which Fyodor is murdered by Ivan, Dmitri, Aleksi, and Smerdyakov [SMARE-d'ya-kov]. For 10 points each,
[10] Name this author of *The Brothers Karamazov* and *The Idiot*.

Answer: Fyodor **Dostoevsky**

[10] This Dostoevsky work follows a broke protagonist, who murders the pawnbroker Alyona Ivanovna and her sister, Lizaveta, before being caught and sent to Siberia.

Answer: **Crime and Punishment**

[10] The protagonist of *Crime and Punishment* is this former student, who confesses to Sonya Marmeladov about the murders he has committed.

Answer: Rodion Romanovich **Raskolnikov**

6. This painting shows a swirling, colorful body of water beyond a railing, and two small figures walk together in the background. For 10 points each,

[10] Name this iconic painting, in which a lone central figure looks out at the viewer, holding its hands to its head and opening its mouth wide in the title action.

Answer: The **Scream** (accept The **Cry** or **Skrik**)

[10] *The Scream* is by this Symbolist artist, whose “Frieze [“freeze”] of Life” paintings include *Death in the Sickroom*.

Answer: Edvard **Munch** [moonk]

[10] Edvard Munch [moonk] is an artist from this Scandanavian country with capital Oslo, also the home of composer Edvard Grieg [greeg].

Answer: Kingdom of **Norway** (accept **Norge**)

7. It was discovered in 1909 by studying seismic waves that were refracted through a high-speed medium. For 10 points each,

[10] Give this very thin region of the Earth, just below the crust, named for its Croatian discoverer.

Answer: **Mohorovicic** [mo-ho-RO-vitch-itch] discontinuity

[10] The Moho is found between the crust and this section of the inner Earth. Its upper and lower sections make up the vast majority of Earth's volume.

Answer: **mantle**

[10] These two letters classify the seismic waves that travel through the Earth and were used to discover the Moho.

Answer: **P**-waves and **S**-waves (accept in either order)

8. The Americans were outnumbered, but Edward Packenham was killed and the British were defeated. For 10 points each,

[10] Name this battle that occurred two weeks after its war had ended.

Answer: Battle of **New Orleans**

[10] The Battle of New Orleans was part of this war which also saw the burning of Washington D.C. and the composition of *The Star Spangled Banner*.

Answer: War of **1812**

[10] The War of 1812 was ended by this treaty that was signed in modern day Belgium.

Answer: Treaty of **Ghent**

9. The value for this point in a pure liquid is depressed by the addition of solutes. For 10 points each,

[10] Name this value, the temperature at which a substance makes the phase transition from liquid to solid.

Answer: **freezing point** (also accept **melting point**)

[10] The transition from dry ice to gaseous carbon dioxide is an example of this phase change. The reverse of this phase change is deposition.

Answer: **sublimation**

[10] The entropy of a perfect crystal approaches a minimum at this temperature by the third law of thermodynamics. Bose-Einstein condensates can exist only at temperatures very close to this.

Answer: **absolute zero** (accept **0 K** or **-273** degrees **C**elsius or **-460** degrees **F**ahrenheit)

10. For 10 points each, give the following about Canadian bodies of water.

[10] Nunavut, Manitoba, Ontario, and Quebec all border this large bay in north-central Canada. It is named after an English explorer who was set adrift in it by his mutinous crew near the adjoining James Bay.

Answer: **Hudson** Bay

[10] This gulf of eastern Canada shares its name with a river that links the Great Lakes to the Atlantic Ocean. It flows into the Atlantic via the Belle-Isle and Cabot Straits, respectively north and south of Newfoundland.

Answer: Gulf of **St. Lawrence**

[10] This largest lake entirely within Canada and the Northwest Territories straddles the Arctic Circle. Its namesake animal is often seen along its shores, and Port Radium is its largest port.

Answer: **Great Bear** Lake

11. This work promoted a social contract between a government and its people, noting that the resulting strong central government could prevent a war of “all against all.” For 10 points each,

[10] Name this work, named for a Biblical beast.

Answer: **Leviathan**

[10] *Leviathan* was written by this English philosopher.

Answer: Thomas **Hobbes**

[10] Social contract theory was foreshadowed in the Platonic dialogue *Crito*, in which this Athenian refuses to escape his death sentence because he must abide by the laws of his state.

Answer: **Socrates**

12. Summoned champions in this game include Sivir, Cho'gath, and Annie, who attempt to kill minions and enemy champions en route to destroying the enemy's Nexus. For 10 points each, [10] Name this multiplayer online real-time strategy game, which sees teams of five face off on Summoner's Rift. The *Dominion* map was released in 2011.

Answer: **League of Legends** (prompt on "LoL")

[10] *League of Legends* is directly inspired by this game, which also inspired the Tower Defense genre of Flash games. Valve is currently producing its sequel.

Answer: **Defense of the Ancients** (accept **Defense of the Ancients All-Stars**; prompt on "DotA")

[10] Ninja champions in *League of Legends* do not use this personal resource, which is granted by Intellect in *World of Warcraft* and used by Sorcerers in *Diablo*.

Answer: **Mana** points (prompt on **MP**; do not accept other terms, such as magic points)

13. For 10 points each, answer the following about Christian denominations founded in the 19th century.

[10] Joseph Smith founded this Salt Lake City-based denomination after discovering a set of golden plates. Almost none of its modern sects promote polygamy.

Answer: Church of Jesus Christ of **Latter-Day Saints** (accept **Mormons** or the **Mormon Church**; prompt on LDS)

[10] This denomination was founded by Mary Baker Eddy, who taught that disease is an illusion brought on by sin.

Answer: Church of **Christ, Scientist** (accept **Christian Science** or **Christian Scientists**)

[10] This church is focused on the second coming of Christ, despite the "Great Disappointment" they met in the 1800s after William Miller repeatedly predicted the end of days.

Answer: Seventh-Day **Adventist** Church (accept Seventh-Day **Adventists**; prompt on SDA)

14. The Sturmabteilung [sturm-ahb-TIE-lung], or the SA, was a paramilitary wing of this party. For 10 points each,

[10] Name this political party that ruled Germany under Adolf Hitler.

Answer: **Nazi** Party (accept **Nazis**, **National Socialist** German Workers' Party, **Nationalsozialistische** Deutsche Arbeiterpartei, or **NSDAP**)

[10] This event on November 9-10, 1938 saw SA stormtroopers commit a pogrom against Jewish homes, businesses, and synagogues in Nazi Germany.

Answer: **Kristallnacht** (accept **Night of** the **Broken Glass**, **Reichskristallnacht**, **Pogromnacht**, or **Novemberpogrome**)

[10] Kristallnacht was sparked by the death of this German diplomat, who was shot in Paris by a Polish Jewish student upset over the impending deportation of his family.

Answer: Ernst **vom Rath**

15. Answer some questions about mythology in literature, for 10 points each.

[10] This inventor who worked for Minos lends his name to the protagonist of *A Portrait of the Artist as a Young Man*.

Answer: Daedalus (accept Stephen Dedalus)

[10] This Roman name for Odysseus was given to a stream-of-consciousness book that sees Leopold Bloom interact with Stephen Dedalus.

Answer: Ulysses

[10] *A Portrait of the Artist as a Young Man* and *Ulysses* are by this Irish author of the short story collection *Dubliners*.

Answer: James Joyce

16. For sets *A* and *B*, this phrase refers to the set consisting of elements that are in both *A* and *B*. For 10 points each,

[10] Give this term from set theory, contrasted with union and commonly graphed as the overlapping region of a Venn diagram.

Answer: set intersection (accept word forms)

[10] The union of two sets minus their intersection is known as this quantity: the elements in one set or the other but not both.

Answer: symmetric difference (do not prompt on partial answer)

[10] If two sets are mutually exclusive, their intersection is this set, whose complement is the universe.

Answer: empty set (accept null set)

17. Only about 10% of the original force finished this journey, which included an escape from Jiangxi [jee-ANG-shee] province. For 10 points each,

[10] Name this massive military retreat across roughly 4000 miles of China.

Answer: The Long March

[10] This leader first consolidated his power during the Long March. He later became notorious for the famine of the "Great Leap Forward" and the political excesses of the Cultural Revolution.

Answer: Chairman Mao Zedong

[10] Mao's nemesis was this Generalissimo who notably flooded his own people to slow the Japanese and fled to Taiwan after Nationalist defeat in the Chinese Civil War.

Answer: Chiang Kai-Shek OR Jiang Jieshi

18. One character in this work is cursed to sail the seas; every seven years, he is offered the chance to find a faithful wife. For 10 points each,

[10] Name this 1843 opera, in which Senta throws herself into the ocean to break the curse of the title boat.

Answer: The Flying Dutchman (accept Der fliegende Holländer)

[10] This German composer of the *Ring Cycle* intended *The Flying Dutchman* to be performed without intermission.

Answer: Richard Wagner [VAHG-ner]

[10] "Here Comes the Bride" comes from this other Wagner opera, in which Elsa marries the title Arthurian knight.

Answer: Lohengrin

19. Name some famous American orators, for 10 points each.

[10] Once famous as an orator, this author is now better known for “The Jumping Frog,” *Pudd’nhead Wilson*, and *A Connecticut Yankee in King Arthur’s Court*.

Answer: Mark **Twain** (accept Samuel Langhorn **Clemens**)

[10] This former slave’s autobiographies include *A Narrative of his life* and *My Bondage and My Freedom*. He gave speeches like “The Church and Prejudice” and “Self-Made Men.”

Answer: Frederick **Douglass**

[10] This Great Awakening preacher gave the “Sinners in the Hands of an Angry God” sermon.

Answer: Jonathan **Edwards**

20. This quantity usually decreases as altitude increases. For 10 points each:

[10] Name this quantity that at sea level is approximately 101.3 kilopascals, the force of air per unit area on the Earth’s surface.

Answer: atmospheric **pressure** (accept air **pressure** or barometric **pressure**)

[10] Atmospheric pressure is measured by barometers, which were first built using this liquid that at normal atmospheric pressure forms a column with a height of about 760 millimeters.

Answer: **mercury** (accept **Hg**)

[10] Mercury barometers were pioneered by this Italian scientist, who lends his name to a unit of pressure.

Answer: Evangelista **Torricelli** (prompt on **torr**)