

NEW TRIER VARSITY 2009

ROUND 5



1. This object is located on the trans side of the vesicular-tubular cluster, whose interface with it may be described by the “homing in” hypothesis. On its opposite side, the targeting of its trans network is thought to involve mannose-6-phosphate and other molecular tags. Molecules found in this organelle’s lumens include glycosidases and kinases, and its tasks include the phosphorylation or cleavage of certain molecules, which are then transported to other organelles, or out of the cell via vesicles. Composed of a group of membranous sacs called cisternae, identify this organelle involved in protein transport and packaging, named after an Italian scientist.

ANSWER: **Golgi** apparatus [or **Golgi** body; or **Golgi** complex; etc.]

2. One movement of this composition is a mazurka in D Minor with the strings accompanied by a lone triangle, portraying a Bedouin woman seducing the main character. In addition to movements such as “Anitra’s Dance,” this collection is famous for movements depicting the death of the title character’s mother, Ase (AW-sah), and the sunrise opening the next act, while the most famous movement sees the title character escape from troll guards in a castle. Containing movements such as “Morning Mood” and “In the Hall of the Mountain King,” name this collection of incidental music by Edvard Grieg for a Henrik Ibsen play.

ANSWER: *Incidental Music to **Peer Gynt**, **Opus 23*** [accept either underlined part; accept **Peer Gynt Suite(s)**; accept either underlined part of **Peer Gynt Suite #1**, **Opus 46**; do not accept “Peer Gynt Suite #2, Opus 55”]

3. The titular character of this work learns of a fortune from her uncle John who went to America through a cousin that wants to marry her because she would make a good missionary wife. John Reed throws a book at the title character in this work, leading to her being punished by being sent to “the red room”, where her uncle died. The title character is then sent to a school run by Mr. Brocklehurst, and later we see her lover lose his vision in a fire started by his former wife, Bertha Mason. Name this love story where the titular governess falls in love with her employer, Edmund Rochester, by Charlotte Brontë.

ANSWER: **Jane Eyre**

4. This process violates parity conservation in cobalt-sixty, as discovered by the winners of the 1957 Nobel prize in physics. The distribution of energy from this process was the inspiration for Pauli postulating the neutrino. Fermi’s theory about this process includes his “golden rule”, though Fermi did not know that the mechanism for this process is the weak interaction. This event is used to activate a phosphor in tritium illumination, wherein the tritium becomes stable helium. Name this process in which a neutron turns into a proton, an antineutrino, and an electron.

ANSWER: **beta**-minus **decay** [or negative **beta decay**; accept **electron emission** before the last sentence]

5. This declaration awarded land to soldiers who had fought in a just-ended war, and established a system of trading licenses, holders of which would be exempt from some of its prohibitions. It also stated that “the several Nations...of Indians...should not be molested”. A response to Pontiac’s rebellion, its purpose was to reserve land for Native Americans. Name this decree of George III, prohibiting American colonists from settling west of the Appalachians, and named for its year of promulgation at the end of the French and Indian War.

ANSWER: Royal **Proclamation of 1763**

6. In one novel by this author, Move 121, described by the narrator Uragami, is played against Honnimbo Shūsai. The death of Mrs. Ota and a water bowl given as a gift play important roles in a love triangle in another work by this author, whose title refers to a clothing pattern. This author wrote a work that deals with Shingo's disapproval of his children's marriages. A work written eleven years before *Thousand Cranes* follows Komako's troubled relationship with Shimamura, who she says doesn't understand her role as a geisha at a hot springs resort, the titular location. Name this author of *The Sound of the Mountain* and *Snow Country*.

ANSWER: Yasunari **Kawabata**

7. Events from early in this man's reign include his authorship of the pamphlet *Defense of the Seven Sacraments* and a very expensive meeting with Francis I of France. His most famous action was promulgated via 1534's Act of Supremacy and placed himself as the leader of his country's church. People executed for opposing his separation of the Church of England from Rome included his former Lord Chancellor, Thomas More, and the Bishop of Rochester, John Fisher. Name this English monarch and father of Queen Elizabeth I, famous for having and executing many wives.

ANSWER: **Henry VIII**

8. This process is used by some printers to transfer dye, and is used to purify substances with high vapor pressures such as yellowcake uranium. It also occurs with naphthalene, the key component in moth balls, at room temperature. The enthalpy of this process is the sum of the enthalpies of fusion and vaporization. Most famously occurring with dry ice, it can only occur at temperatures and pressures which are below a substance's triple point. The opposite of deposition, name this phase change, the transition from solid directly to gas.

ANSWER: **sublimation** [accept word forms]

9. One of these entities bore with the god Zephyrus the steeds Xanthus and Bailus, which were the mounts of Achilles. In one story, these creatures tormented King Phineus by stealing his food and defecating on his plate. Their chief employer was Hades, who used them to drag people who were unwilling to die into Tartarus, and in Dante's *Inferno*, they torture the suicides by gnawing on the trees they have turned into. Name these daughters of Iris, bird women with disfigured faces.

ANSWER: **Harpies**

10. The Treaty of Pressburg signed following this battle allowed for the creation of the Confederation of the Rhine, and effectively signaled the end of the Holy Roman Empire. Key attacks by St. Hilaire and Vandamme enabled Napoleon's ultimate defeat of both the Austrian army of Francis I and the Russian army of Alexander I. Following the battle, the humiliated Hapsburgs were forced to pay an indemnity of forty million francs in addition to enduring a French occupation of their capital at Vienna. Name this 1806 battle in Moravia, which led to the consolidation of French control over Central Europe and the dissolution of the Third Coalition.

ANSWER: Battle of **Austerlitz** [or Battle of the **Three Emperors**]

11. In one scene in this work, two characters weave a sword mat together, and the protagonist of this work compares the process to work on "the Loom of Time". In another scene, a man nails a gold doubloon to the mast of a ship in order to motivate the men around him. A non-Dickensian character named Pip appears in this work and is set adrift for many days, leading to his insanity and consequential service as a sort of Shakespearean fool. Including the characters of Dough-Boy, Perth, Fleece, Flask and Stubb, in addition to the heavily tattooed Queequeg, identify this work in which Ishmael sets sail on the Pequod with Captain Ahab, written by Herman Melville.

ANSWER: **Moby-Dick** or *The Whale*

12. In 1992 the Supreme Court stated in *Harris v. Nelson* that this principle is “the fundamental instrument for safeguarding individual freedom against arbitrary and lawless state action”. *Hamdi v. Rumsfeld* recently extended this concept to enemy combatants. According to the American Constitution, this doctrine cannot be suspended “unless when in cases of rebellion or invasion the public safety may require it.” From the Latin for “have the body”, name this legal doctrine which President Lincoln suspended during the Civil War.

ANSWER: Habeas Corpus

13. In this novel, a man sings “I came back from the bridge with tears in my eyes,” and tabloids fabricate a story about Lucretia. One character rides a trolley full of “free-flying little birds” and is sick of being force-fed eggplant by his mother. Hildebranda and Thugut help the main characters exchange telegrams, and those two later consummate their relationship aboard the *New Fidelity* despite being in their seventies. The action in this novel is made possible by the suicide of Jeremiah de Saint-Amour and the death of Dr. Juvenal Urbino. Name this novel by Gabriel García Márquez that details the amorousness of Fermina Daza and Florentino Ariza during an epidemic.

ANSWER: Love in the Time of Cholera [or *El amor en los tiempos del cólera*]

14. Each of these substances has three numbers associated with it, the Miller indices. One law concerning these substances states that twice the distance between their layers times the sine of the angle of incidence of light equals a whole number of wavelengths. Particles within them have associated quantities describing how many nearest neighbors they have, the coordination number; and depending on whether their corners are identical to their centers, these structures can be simple, body-centered, or face-centered. The aforementioned law is named for a father-and-son pair, the Braggs. Comprised of unit cells forming a lattice, name these types of solids that consist of a regular pattern of constituent molecules, exemplified by quartz.

ANSWER: crystals [or crystalline solids, etc.]

15. In one of this artist’s works, two pairs of women walk in a red meadow with green trees in the background. In addition to *Field of Poppies*, he depicted a series of landmarks at various times of the day, one of which was subtitled “Harmony in Blue”. Besides series of the Thames and of Rouen Cathedral, he painted images of walkways over ponds as well as an Italian port in which the Mediterranean sky is shades of blue, green, orange, and red. *Sunset in Venice* came before perhaps his most famous series of *Haystacks* and *Water Lilies*, but after a work which spawned a French art movement in the 1800s. Name this painter of *Impression: Sunrise*.

ANSWER: Claude Monet

16. One song whose name means this opens with lyrics about sitting on the porch and counting migrating birds, while another song by this name beseeches the listener to “catch me if I get too high/When I come down/I’ll be coming home”. Bernard Slade wrote a play entitled *Same Time, [this]*, and at the conclusion of the seder, participants proclaim “[this] in Jerusalem”. Also a single from *There Is Nothing Left to Lose* by the Foo Fighters, name this time that Lions, Bengals, and Cubs fans are always waiting for.

ANSWER: next year [accept obvious equivalents or “BaShanah HaBa’ah” before “catch me”]

17. These clouds were photographed in the Martian atmosphere by the NASA rover *Opportunity*. On Earth, the scarcity of water vapor where they are usually located gives them their namesake shape. These clouds’ presence can signal the approach of precipitation, but the clouds themselves do not yield any. Their wispy, strand-like appearance lends them the nickname “mare’s tail”, and they signal wind direction via their orientation. Identify these highest of clouds, with a Latin name meaning “curl of hair.”

ANSWER: cirrus clouds [prompt on mare’s tail before it is mentioned; do not accept or prompt on “cirrostratus” or “cirrocumulus”]

18. The first ruler during this period, the son of Seqenenre Tao II, laid siege on Avaris, expelling the Shepherd Kings, while putting down insurrections in recaptured territories. He also expelled the Hyksos and increased his wealth and power with campaigns in Syria and Palestine. It ended five hundred years later when the Tanite rulers of the Third Intermediate Period gained power. One of the major battles was fought against Hittites on the Orontes River at Kadesh. Name this reign that included the 18th, 19th, and 20th dynasties, including two rulers named Seti and eleven named Ramses.

ANSWER: New Kingdom [accept 18th Dynasty before “five hundred years later”, prompt on Egyptian Empire]

19. This belief system includes crossing over the Chinvat Bridge after death, which is why dead believers are often placed on rocks to be eaten by vultures. This religion’s belief in the afterlife can be found in their holy scriptures, which contain the Gathas. Believers are called *asha*, meaning “truth”; and nonbelievers are called *druj*, meaning “lies”. The holy text of this faith is called the Avesta, and speaks of their chief god, a son of Zurvan. That creator battles to overcome the evil spirits known as *daeva*. Name this religion, centering on the eternal struggle between the evil Ahriman and the good Ahura Mazda, started by the Persian prophet Zarathustra.

ANSWER: Zoroastrianism

20. This polity claims all of Mongolia and parts of Tajikistan and Afghanistan in its territory. Due to the shape of this polity, those in the Minnan division often call themselves “the children of the Sweet Potato.” Spanning the Tropic of Cancer, this polity also contains the Pescadores, Green Island and Orchid Island. Its northernmost county is also the namesake of its capital, a city which contains the National Palace Museum and the world’s second tallest building, which has 101 floors. Name this polity, which claims sovereignty over the People’s Republic of China, the exiled government of the Republic of China since 1949, whose capital is Taipei.

ANSWER: Taiwan [accept Republic of China until it is mentioned, but do not prompt on “China”]