

International Academic Bowl

HS Sample Packet

(All tossups and bonuses courtesy of Yale University's 2014-15 BHSAT set)

1. **One composer from this modern nation developed a simplified style of polyphonic choral music that allowed the words to be heard clearly. Another composer from this nation wrote violin concertos with nicknames like “Pleasure and “The Storm At Sea” and depicted a crying village boy and a barking dog in other concertos. The composer of the (*) *Pope Marcellus Mass* came from this nation. A composer from this nation wrote a violin concerto that ends using fast repeated notes to represent a violent summer storm. Concerto and opera were invented in this nation, home to the composer of *The Four Seasons*. For 10 points, name this nation home to Palestrina and Vivaldi.**

ANSWER: **Italy** [or **Italia**]

1. This Impressionist’s painting *Impression, Sunrise* gave the name to the whole movement. For 10 points each:
[10] Name this 19th-century French painter of series depicting *Haystacks*, *Poplars*, and *Water Lilies*.

ANSWER: [Oscar-]Claude **Monet**

[10] Monet’s series of paintings of this French religious building shows it at many different times of day to demonstrate the play of light on it.

ANSWER: **Rouen Cathedral** [accept descriptions like “the **Cathedral** in **Rouen**”; it’s in France, so of course it’s called “Notre-Dame”—prompt on just that; similarly, prompt on just “cathedral”]

[10] Throughout his life, Monet did many paintings of this structure in his garden in Giverny, often along with some water-lilies. His later paintings of this structure demonstrate his massive cataracts.

ANSWER: a Japanese foot**bridge** [or **pont**]

2. **Under this dynasty, Zhang Zeduan created the painting *Along the River During the Qingming Festival*, and Bi Sheng made the first moveable type. This dynasty was the first to create a standing navy, which was destroyed at the Battle of Yamen. It was the first in the world to use paper money. Under Zhu Xi, Neo-Confucianism became prominent under this dynasty. Sima Guang opposed Wang (*) Anshi’s reforms of this dynasty. It moved to Hangzhou after the Jurchens took its capital, Kaifeng, in its “Southern” period. Gunpowder was invented during this dynasty. For 10 points, name this Chinese dynasty that ruled from 960 until it was taken by the Mongols in 1279.**

ANSWER: **Song** Dynasty

2. Answer some questions about war in Ancient Greece, for 10 points each.

[10] This nearly thirty-year-long war between Athens and Sparta was vividly recounted by Thucydides. The Athenian general Pericles died of plague early in this war.

ANSWER: the **Peloponnesian** War

[10] One of the major phases of the Peloponnesian War was the disastrous Alcibiades-led Athenian expedition to take Syracuse, which is on *this* island.

ANSWER: **Sicily**

[10] At this 405 BC battle of the Peloponnesian War, the Athenian navy was destroyed by Lysander’s Spartan fleet, cutting off all imports and communication.

ANSWER: Battle of **Aegospotami**

3. In one work by this author, the narrator claims that “fourteen” means “infinite;” later in that story, Theseus says, “Would you believe it Ariadne? The Minotaur scarcely defended itself.” Another of this author’s characters refuses to show compassion to poet David Jerusalem at Tarnowitz. Besides writing “Deutsches Requiem,” this author penned a story in which Stephen (*) Albert notes that another character may come as a friend or as an enemy before he is shot to reveal the location of an artillery park. His killer is the descendant of Tsui Pen, a Chinese magistrate who combined a novel and a labyrinth. For 10 points, identify this Argentine author of “The Garden of Forking Paths.”

ANSWER: Jorge [Francisco Isidoro] Luis **Borges** [“BOAR-hays”]

3. He originated a style of satire often contrasted with Juvenal’s. For 10 points each:

[10] Name this Roman poet and friend of Maecenas. He also wrote several *Epistles*.

ANSWER: **Horace** [or Quintus **Horatius** Flaccus]

[10] Horace wrote four books of poems in this genre, which was pioneered by Pindar. Near the end of his life, Keats wrote six of these, including one “to a Nightingale” and one “on a Grecian Urn.”

ANSWER: **odes** [or **carmina**]

[10] Horace also wrote this “Epistle to the Pisos,” which gives guidelines for how to write good poems and drama. It is the origin of the phrases *in medias res* and “even Homer nods.”

ANSWER: **Ars Poetica** [or *The Art of Poetry*]

4. These organelles are moved around by SRPs. The structure of these organelles was determined using X-ray crystallography by Venki Ramakrishnan. They have an “exit tunnel” and A, P, and E sites. Cloverleaf-shaped molecules attach to this organelle in a process that works from the five-(*) prime end to the three-prime end. In eukaryotes, the 70S type of this organelle is found inside mitochondria and chloroplasts and is formed in the nucleolus, while the 80S type is attached to the rough endoplasmic reticulum. For 10 points, mRNA carries the genetic information to what organelle, the site of translation and protein synthesis?

ANSWER: **ribosomes**

4. This molecule is metabolized into formic acid, which has as many carbons as this molecule does. For 10 points each:

[10] Name this simplest alkane. It has a tetrahedral molecular geometry.

ANSWER: **methane** [or **CH₄**]

[10] This theory helps determine the molecular geometry of molecules, including methane. The basic premise of this theory is that electrons want to be as far away from each other as possible.

ANSWER: **VSEPR** [“vesper”] [or **valence shell electron pair repulsion**; or **Gillespie-Nyholm** theory]

[10] Sulfur hexafluoride assumes this somewhat unusual molecular geometry.

ANSWER: **octahedral**

5. This mathematician introduced a function that, for a prime p to the power k gives “ p to the k -minus-one times the quantity p minus one.” He introduced notation like “sigma” for sums, “sin,” “cos,” “tan,” and “ f of x .” He introduced a function that returns the number of integers less than or equal to n that are coprime to it, his (*) totient function, “phi.” He identified the fact that “ e to the i -pi equals negative one.” He founded graph theory by solving the Seven Bridges of Königsburg problem. For 10 points, name this eighteenth-century Swiss mathematician who names the number e .

ANSWER: Leonhard **Euler** [“oiler”]

5. Answer some questions about the scientific revolution, for 10 points each.

[10] This Italian physicist massively improved the telescope and used it to discover four of Jupiter's moons. He was placed under house arrest for refuting the Church's ideas in *Dialogue Concerning the Two Chief World Systems*.

ANSWER: **Galileo Galilei** [accept either name]

[10] This Dutchman invented the pendulum clock and the word "centrifugal force." He also developed a wave theory of light, and explained how Saturn's rings were formed.

ANSWER: Christiaan **Huygens**

[10] Another Dutch scientist, Antonie van Leeuwenhoek ["LAY-ven-hurk"] made the first usable one of these devices. Robert Hooke, who coined the biological use of the word "cell," was another pioneer of their use.

ANSWER: **microscopes**

6. In a game named for this character, the evil Wizpig takes over Timber's Island. In the fourth Super Smash Brothers game, players often chant "Hoo-ha" when this character executes a down-throw to up-air combo.

This animal character is the male protagonist of the second game in a Super Nintendo platformer trilogy, where this character must rescue the protagonist of the first game by fighting alongside his girlfriend (*)

Dixie. In Smash Brothers, this character's up-B attack is a jetback, his neutral-B is a peanut pop-gun, and his down-B is a banana-peel. For 10 points, name this character who wears a red Nintendo baseball cap, a monkey who first appeared as a sidekick in *Donkey Kong Country*.

ANSWER: **Diddy** Kong [do not accept or prompt on "Donkey Kong"]

6. In one song this musician declares "Look up in the sky it's a bird, it's a plane, Nah it's just me" For 10 points each

[10] Name this musician who collaborated with Kesha on "Timber." He is often mocked for the lyrics in his songs.

ANSWER: **Pitbull** [accept Armando Christian **Perez**]

[10] Another baffling choice of lyrics comes in Pitbull's "Give me everything" when he asks the listener to go to this location and "Take a picture of me with a Kodak".

ANSWER: **Times Square**

[10] Pitbull collaborated with this singer of "Genie in a Bottle," on a song that declares "Ask for advice, get money twice," "Feel This Moment." She knows that "You're beautiful, no matter what they say."

ANSWER: Christina [Maria] **Aguilera**

7. A speaker with this characteristic asks his friend, "Is my team ploughing," in an A.E. Housman poem. A woman who rails against "degenerate sons and daughters" possesses this characteristic, as do "the weak of will, the strong of arm, [and] the clown." Those narrators of (*) *The Spoon River Anthology* share this trait with the taxable property purchased by a man who is mistaken for Captain Kopeikin. Unlike Chichikov's serfs in a Gogol novel, Madeline does not possess this characteristic when she is locked in the crypt by her brother, Roderick Usher. For 10 points, identify this state of being for everyone in Prince Prospero's castle at the end of Poe's *The Masque of the Red Death*.

ANSWER: being **dead** [or being **deceased**; or **not** being **alive**; accept equivalents; prompt on "being a ghost," etc.)

7. In this novel, Robert Walton meets a scientist who once studied in Ingolstadt. For 10 points each:

[10] Identify this Mary Shelley novel in which Victor creates a monster from bits of corpses.

ANSWER: **Frankenstein**; or, *the Modern Prometheus*

[10] Victor's younger brother, William, dies by *this method* at the hands of Frankenstein's monster. Henry Clerval and Elizabeth Lavenza also die by this method.

ANSWER: **strangulation** [accept clear equivalents; prompt on "murder" or equivalents]

[10] A virtuous servant girl with this first name is mistakenly hanged for William's murder because she has William's locket. Another girl with this name gets ravished by monks and titles a novel by the Marquis de Sade.

ANSWER: **Justine** [or **Justine** Moritz; or **Justine** de Bertole]

HALFTIME:

Lightning Round choices are...

- * C.S. Lewis
- * Russian Tsardom
- * Mars
- * New Testament Figures

C.S. LEWIS

Which C.S. Lewis...

1. Book series includes *The Magician's Nephew* and *The Silver Chair*?

ANSWER: The **Chronicles of Narnia**

2. Character in that series is a lion that represents Jesus Christ?

ANSWER: **Aslan**

3. Book in that series was published first, but chronologically follows *The Magician's Nephew*?

ANSWER: The **Lion, The Witch and the Wardrobe**

4. Royal character titles the fourth chronological book in that series?

ANSWER: Prince **Caspian X** (the tenth)

5. Cousin of the Pevensies joins Edmund and Lucy aboard the Dawn Treader?

ANSWER: **Eustace Scrubb** (accept either name)

6. Theological book argues that Jesus was either a "lunatic," a liar, or the Lord and was based on Lewis' BBC radio talks?

ANSWER: **Mere Christianity**

7. Epistolary work does Demon write to his nephew, Wormwood?

ANSWER: The **Screwtape Letters**

8. Work reverses the title of a John Bunyan novel?

ANSWER: The **Pilgrim's Regress**

RUSSIAN TSARDOM

In the pre-revolutionary history of Russia, name the...

1. Old World continent explored by Peter the Great's Grand Embassy, which sought to westernize Russia.

ANSWER: **Europe**

2. Tsar whose Massacre of Novgorod helped earn him the epithet "the Terrible."

ANSWER: **Ivan** the Terrible (or **Ivan IV**)

3. Term for Russian peasants who were finally freed by Alexander II.

ANSWER: **serfs**

4. The second of the two Russian tsar-era dynasties, which was overthrown in 1917.

ANSWER: **Romanov** dynasty

5. The other dynasty, in power from 862 until the Time of Troubles, whose leaders included Vladimir the Great.

ANSWER: **Rurik**

6. Regent whose 1605 death triggered the Time of Troubles and whose life story is told in a Pushkin play.

ANSWER: Boris (Fyodorovich) **Godunov**

7. Shared name of three pretenders to the throne during the Time of Troubles?

ANSWER: False **Dmitris**

8. 1825 uprising in Saint Petersburg against Nicholas I's claiming of the throne.

ANSWER: **Decembrist** revolt (or uprising, etc.)

MARS

The planet Mars...

1. Was confirmed in 2015 to have what substance in liquid form?

ANSWER: liquid **water** (accept liquid **ice**)

2. Has only two of what bodies, named Phobos and Deimos?

ANSWER: **moons** (or natural **satellites**)

3. Is covered in the oxide of what ferromagnetic element?

ANSWER: **iron** (accept **Fe**)

4. Is home to what tallest volcano in the solar system?

ANSWER: **Olympus Mons**

5. Had, according to Percival Lowell, a series of what features built for irrigation by Martians?

ANSWER: **canals**

6. Should gain what planetary feature in a few million years when Phobos crosses the Roche limit?

ANSWER: **ring** system (Phobos is spiraling towards Mars, and will be broken apart by tidal forces after it comes within the Roche limit.)

7. Is home to Gale Crater, where what NASA rover has been active since 2012?

ANSWER: **Curiosity**

8. Is home to what largest canyon in the solar system, named for the NASA probe that discovered it?

ANSWER: Valles **Marineris** (accept **Mariner** Valley)

NEW TESTAMENT FIGURES

Which person from the life of Jesus was...

1. The mortal father of Jesus and husband of Mary?

ANSWER: Saint **Joseph**

2. A disciple who betrayed Jesus for thirty pieces of silver?

ANSWER: **Judas** Iscariot

3. The Roman prefect who sentenced Jesus to crucifixion?

ANSWER: Pontius **Pilate**

4. The convict who was released instead of Jesus prior to the crucifixion?

ANSWER: **Barabbas**

5. A "Doubting" apostle?

ANSWER: **Thomas**

6. A brother of Mary and Martha who was raised from the dead?

ANSWER: **Lazarus**

7. A man from Cyrene who carried Jesus's cross?

ANSWER: **Simon** of Cyrene

8. The first disciple to be martyred, who shares his name with another disciple?

ANSWER: **James**, son of Zebedee (no need to prompt to distinguish them, but do not accept James, son of Alphaeus)

8. **This ruler's desire for musical reform probably spurred the creation of the first musical symbols, "neumes." This ruler promoted education, especially literacy for monks, in documents like the *Admonitio generalis*. His reign included the birth of what became modern lowercase letters. He made (*) Alcuin of York the head of his court's school in Aachen, bringing about his namesake "Renaissance." His biography was written by Einhard. One of his subordinates was killed at the Battle of Roncevaux Pass and became the star of the *Chanson de Roland*. For 10 points, name this grandson of Charles Martel, a Carolingian ruler who was crowned "Emperor of the Romans" in 800.**

ANSWER: **Charlemagne** [or **Karl der Grosse**; or **Carolus Magnus**; or **Charles the Great**; or **Charles I** of France; prompt on just "Charles"]

8. The only “general” one of these events in Great Britain occurred in 1926. For 10 points each:

[10] Name these events in which workers refuse to work.

ANSWER: labor **strikes** [accept other types of **strikes**]

[10] The 1926 general strike came partially as a result of Winston Churchill reintroducing the Gold Standard. At the time, Churchill held *this* office, which is responsible for the economic and financial affairs of Britain.

ANSWER: **Chancellor** of the **Exchequer** [they need to say both underlined parts]

[10] Upon ascending to the prime ministership in 1940, Churchill moved into this building, the traditional headquarters of the British government and the residence of the prime minister. Give the house number and street name.

ANSWER: Number **10 Downing** Street

9. **This physical quantity is unchanged in certain situations, according to the Stretch Rule. This quantity for a uniform rod is four times as large when measured from the end instead of from the center. When measured through the center of a uniform sphere, this quantity is equal to two fifths times the (*) total mass times the radius squared.** The parallel axis theorem can be useful for determining this quantity. It is equal to angular momentum over angular velocity or torque over angular acceleration. For 10 points, name this quantity equal to mass times distance squared, the rotational analog of mass.

ANSWER: mass **moment of inertia** [or **angular mass**; or **rotational inertia**; or **second moment of the area**; prompt on “I”]

9. Answer some questions about randomness, for 10 points each:

[10] The molecular theory of Brownian motion was developed by this German-born physicist, who published a paper on it in 1905, the same “annus mirabilis” that saw him publish a paper on the photoelectric effect.

ANSWER: Albert **Einstein**

[10] Many random number generators actually use of this type of algorithm, which appears random but is actually created by a deterministic procedure like picking a number from a “book” based on the current date and time.

ANSWER: **pseudorandom** process

[10] Monte Carlo algorithms make use of random samples. One common example calculates the value of *this* constant by generating a lot random points and looking at how many fall inside a circle.

ANSWER: **pi** [do not accept or prompt on “3.14159...”]

10. **Home decorations for this holiday usually include rangoli. Its main celebration occurs on the 15th night of Kartika. The day after this holiday is padwa. Guru Hargobind was released during it, so it is celebrated as the Sikh holiday Bandi Chhor Divas. During this holiday, mithai are offered in a special (*) puja,** and brothers give gifts to their sisters. This holiday marks a new year for merchants. *Dhanteras* is its first day. Eating tons of sweets on this holiday celebrates the defeat of Ravana and the birth of Lakshmi. During this holiday, *diyas* are lit. For 10 points, name this Hindu festival of lights.

ANSWER: **Diwali** [or **Divali**; or **Deepavali**; prompt on “Festival of Lights” **before** it’s mentioned]

10. This is a boring bonus. For 10 points each.

[10] This hundred-eyed giant was literally bored to death after Hermes’ storytelling caused him to close all his eyes. Hera then placed his eyes on the tail of the peacock.

ANSWER: **Argus** Panoptes [or **Argos** Panoptes]

[10] Hermes incapacitated Argus in order to free this lovely lady, who was turned into a cow after her dalliance with a bored Zeus. Hera was not fooled by this girl’s heifer disguise and sent a gadfly to chase her.

ANSWER: **Io**

[10] Because he was bored of hanging out with the dead, this Greek god of the Underworld decided to kidnap Persephone, the goddess of flowers.

ANSWER: **Hades** [do not accept “Pluto”]

11. A philosopher from this school taught Arrian, who wrote down his *Discourses and Handbook*. Another philosopher from this school wrote bloody tragedies like *Hercules Furens*. One philosopher from this school urged readers to take a “cosmic” perspective on things and thought about twelve phases of his life while (*) campaigning on the Rhine frontier. This school included Epictetus and was founded by Zeno of Citium. Nero was taught this philosophy by Seneca, and it is espoused by the *Meditations* of Marcus Aurelius. For 10 points, name this ancient philosophical school that stressed virtue and freedom from emotions.

ANSWER: Stoicism

11. This character unusually does not appear in the *Laws*. For 10 points each:

[10] Name this character, who claims that the soul is immortal in the *Phaedo*.

ANSWER: Socrates

[10] Socrates features in the dialogues of this Greek philosopher, his student. His many dialogues include the *Timaeus* and the *Republic*.

ANSWER: Plato [or Platon; or Aristokles]

[10] In this Platonic dialogue, Socrates recounts Diotima’s speech about love, and a drunk Alcibiades barges in to talk about his attempted seduction of Socrates.

ANSWER: Symposium

12. A character in this work makes “a trumpet of his ass” before he sends the protagonist toward some Jovial Friars. The narrator of this work wrathfully curses a Guelph named Filippo Argenti while crossing a river with Phlegyas. This poem depicts Ali and Muhammad cleaved in two; that suggests that they are schismatics rather than (*) heretics, who lie in fiery sepulchers. The narrator of this work, who is lost in a dark wood “midway along our life’s journey” at its beginning, sees Brutus and Judas tormented in the frozen maw of Satan after Virgil guides him to the ninth circle. For 10 points, name this first section of Dante’s *Divine Comedy*, in which the poet descends into Hell.

ANSWER: Inferno [prompt on “*The Divine Comedy*” until mention; do not prompt or accept *Purgatorio* or *Paradiso*]

12. Answer some questions about wine, for 10 points each.

[10] As translated by Edward Fitzgerald, this volume of Persian quatrains by Omar Khayyam declares that wilderness would be paradise with “a book of verses under the bough, a jug of wine, a loaf of bread—and thou.”

ANSWER: *The Rubaiyat of Omar Khayyam*

[10] In this Chinese classic, Liu Bei quaffs wine to declare brotherhood with Zhang Fei and Guanyu in the Peach Garden Oath. In this novel, Liu Bei becomes king of Shu, which fights against the rival states of Wei and Wu.

ANSWER: Romance of the Three Kingdoms [or Sanguo Yanyi]

[10] Homer frequently uses the dark shade of wine to describe *this* entity. The “[*this*] of Faith” was once “at the full...and lay like a bright girdle unfurled” in a Matthew Arnold poem.

ANSWER: the sea [prompt on “ocean;” do not accept any other kind of water body]

13. A biological process that produces this compound relies on an iron-molybdenum cofactor. When alkali metals are dissolved in a solution of this compound, it turns deep blue. This compound is the gas in most syntheses of hydrazine. Silver ions form complexes with this compound in the mirror-forming Tollen’s reagent. A process for forming it is catalyzed by iron oxide, and it is also synthesized by diazotrophs like (*) rhizobia. Its central atom has one lone pair, so it is trigonal pyramidal and a weak base. This compound reacts with oxygen in the Ostwald process to form nitric acid. For 10 points, name this gas formed by nitrogen fixation and the Haber process, with formula NH₃.

ANSWER: ammonia [or NH₃ until mentioned; accept ammonium; accept NH₄⁺]

13. These things can be made out of two nested styrofoam cups. For 10 points each:

[10] Name these devices used in chemistry to measure the heat of a chemical reaction. They come in a “bomb” variety.

ANSWER: **calorimeter** [accept **bomb calorimeter**; accept **coffee-cup calorimeter**]

[10] Calorimeters can be used to measure this quantity, which is the amount of energy it takes to raise one gram of substance by one degree celsius. For water, this quantity is one calorie.

ANSWER: **specific heat** capacity [prompt on “heat capacity”]

[10] According to the Dulong-Petit law, the specific heat of solid at high temperatures is equal to this numerical value times the ideal gas constant.

ANSWER: **three**

14. **Alexander Speirs and John Glassford, who made their fortunes from this good, were part of a group of its namesake “Lords” in Glasgow. John Hawkins brought this good across the Atlantic. A 1730 Inspection Act allowing the destruction of low-quality stocks of this good was prompted by the House of Burgesses. John (*) Rolfe was the first American merchant of this good, developing it around the James River. Sir Walter Raleigh helped popularize it in England. This crop was most dominant in the Tidewater—around the Chesapeake and North Carolina—as opposed to the Deep South’s cotton. For 10 points, name this cash crop of the American colonies used in cigarettes.**

ANSWER: **tobacco** [or *Nicotiana tabacum*; or *N. tabacum*]

14. St. Hilda led one of these institutions in Whitby. For 10 points each:

[10] Name these institutions that Henry VIII dissolved after splitting from the Catholic church. Before that, they held monks and nuns.

ANSWER: **monastery** [accept **abbey**; accept **convent**; accept **nunnery**]

[10] An account of the life of Cuthbert was written in this monastery off the coast of Northumberland, the target of a horrific 793 Viking raid. A namesake illuminated manuscript gospel with a “Chi-Rho” monogram was written here.

ANSWER: **Lindisfarne**

[10] This “venerable” saint spent most of his eighth-century life at a monastery in Monkwearmouth. He wrote an *Ecclesiastical History of the English People*.

ANSWER: **Bede** [or **Baeda**]

REPLACEMENT/TIEBREAKERS:

A work about this action notes that nobody ever benefited from its prolongation. That work states that this thing is based on “deception,” which involves making others think that we are far when we are near, and so on. That work about this action also includes discussions of “the Nine Situations” and was written during the Spring and (*) Autumn Period. A “fascinating trinity” of it was discussed by an author who called the confusion inherent in it its “fog.” It was called “a continuation of politics by other means” by Carl von Clausewitz. For 10 points, name this action, the “art” of which was written about by Sun Tzu.

ANSWER: making war [or zhanzheng; or Krieg; accept *The Art of War*; accept On War; accept *Sunzi bingfa*; accept Vom Kriege; accept any reasonable equivalents that involve fighting of battle; accept strategy]

Answer some questions about the Andaman Islands, for 10 points each.

[10] Description acceptable. The Sentinelese of the Andamans are one of the few societies of the world to have this status. Because the Sentinelese are this kind of people, ascertaining their casualties from the 2004 tsunami was difficult.

ANSWER: uncontacted tribe [or isolated people; or pre-modern people; accept any answer involving a people who lack interaction with the outside world and/or remain isolated from modern lifeways]

[10] The Andamans and other islands along the Bay of Bengal comprise a union territory of this South Asian country. Its other union territories include the National Capital Territory of Delhi.

ANSWER: Republic of India [or Bharat Ganarajya]

[10] This other archipelago lies south of the Andaman Islands and co-names their union territory. Once a colony of the Danish East India Company, this home of the Car and Shompen languages includes the southernmost point in India.

ANSWER: Nicobar Islands [or the Nicobars; or Nikobara Dvipa Samuha]