Question 1

What is the highest mountain range on Venus called?
A) Olympus Mons B) Ishtar Terra C) Maxwell Montes D) Alpha Regio
Answer: https://biology-forums.com/index.php?topic=584087

Question 2

The surface of the Sun near its edge appears dimmer and cooler than at the center of the disk when viewed in visible light because we see
A) deeper into the Sun near the edge than at disk center and temperature increases with depth.
B) light from the edge that has had to pass through more of the absorbing chromosphere and corona and is thereby reduced in intensity.
C) less deeply into the Sun near the edge than at disk center and temperature decreases with depth.
D) less deeply into the Sun near the edge than at disk center and temperature increases with depth.
Answer: https://biology-forums.com/index.php?topic=584667

Question 3

The eruptions observed on Io are thought to most clearly resemble
A) volcanoes, producing lava flows and columns of erupting silicate ash.
B) geysers, where material is shot upward more or less continuously by the pressure of gas produced below the surface.
C) terrestrial mid-ocean ridges, where upwelling molten rock pushes the crust apart.
D) explosions, where material is thrown upward by a single burst and then falls back to the surface.
Answer: https://biology-forums.com/index.php?topic=584308

Question 4

Why is the main sequence so named?
(a) It contains the greatest number of stars.
(b) It contains the biggest and brightest stars.
(c) It consists almost entirely of hot, bright stars.
Answer: https://biology-forums.com/index.php?topic=586850

Question 5

Which of the following wave effects is NOT electromagnetic in nature?
A) Gamma rays B) Seismic waves C) Microwaves D) Radio waves
Answer: https://biology-forums.com/index.php?topic=583281

Question 6

What is the typical distance between asteroids in the asteroid belt?
A) 6000 km B) 1.2 AU C) 25 km D) 10 million km
Answer: https://biology-forums.com/index.php?topic=584539

Question 7

The following are parameters of stars that astronomers obtained from their measurements. Which of these conclusions is obviously erroneous, based on the positions of these alleged stars on the Hertzsprung-Russell diagram in Fig. 11-8 of Comins and Kaufmann, Discovering the Universe, 7th Ed.? (Ls and Rs are the luminosity and radius of the Sun, respectively.)
A) Luminosity = Ls, Radius = Rs, Temperature = 6000 K; conclusion: main-sequence star
B) Luminosity = 104 Ls, Radius = 100 Rs, Temperature = 5000 K; conclusion: a red giant star
C) Luminosity = Ls, Radius = 1/10 Rs, Temperature = 20,000 K; conclusion: a white dwarf star
D) Luminosity =1/100 Ls, Radius =1/100 Rs, Temperature =20,000 K; conclusion: a white dwarf star
Answer: https://biology-forums.com/index.php?topic=585005

Question 8

The asteroid belt is believed by most astronomers to be composed of
A) rocky debris left over from the formation of the solar system.
B) genuine leather.
C) rather dirty ice-balls similar to the nuclei of comets.
D) the remnants of a gaseous planet disrupted by a massive impact.
Answer: https://biology-forums.com/index.php?topic=584531

Question 9

What is the “safety valve” that operates in normal (nondegenerate) stars?

A) If thermonuclear reactions proceed too quickly, the star will run out of fuel before anything drastic happens.
B) If the stellar gas is suddenly heated, it will expand and cool.
C) If the star gets too big, it will collapse into a black hole.
D) If the pressure gets too high, electrons will combine with protons to relieve the pressure.
Answer: https://biology-forums.com/index.php?topic=585274

Question 10

In what way are many of the extrasolar planetary systems that have been discovered so far fundamentally different from our own solar system?
A) The relative positions of where the planets formed is inverted, with the Jovian-type planets forming close to the stars and the terrestrial-type planets forming farther out.
B) The terrestrial-mass planets significantly outnumber the Jovian-mass planets.
C) The massive Jovian-type planets appear to have formed at large distances, like our own Jovian planets, and then spiralled in close to their stars.
D) There are no Jovian-mass planets.
Answer: https://biology-forums.com/index.php?topic=583710

Question 11

Which of the following astronomical objects can be described as follows: “starlike in appearance, showing very high redshift, energy output of at least 100 galaxies from a small region about 1 ly across”?
A) A red supergiant star
B) The center of our Galaxy
C) A quasar
D) A supernova explosion in a neighboring galaxy
Answer: https://biology-forums.com/index.php?topic=586116

Question 12

If you were camped on the Moon, how long would a lunar "day" last, from sunrise to the next sunrise?
(a) About 14 days.
(b) If the Sun were not already in your sky, it would never rise or set, since the Moon does not rotate.
(c) About 12 hours, since the Moon rotates at the same rate as the Earth.
Answer: https://biology-forums.com/index.php?topic=586662

Question 13

As currently understood, what happens to the density of matter and the density of dark energy as the universe expands?
A) Both increase as the universe expands.
B) The matter density decreases, but the density of dark energy increases.
C) The matter density decreases, but the density of dark energy remains constant.
D) Both decrease as the universe expands.
Answer: https://biology-forums.com/index.php?topic=586349

Question 14

The number of times that a typical comet can pass close to the Sun (i.e., the number of orbits that the comet can complete) before it is completely vaporized or destroyed is about
A) millions. B) 1000. C) once. D) 100.
Answer: https://biology-forums.com/index.php?topic=584600

Question 15

As a new star evolves from cool dust and gas to a hot star, the peak wavelength of its spectrum of emitted electromagnetic radiation will
A) change from the infrared to the visible wavelengths.
B) change from the ultraviolet to the visible range.
C) increase from the visible to infrared wavelengths.
D) remain the same.
Answer: https://biology-forums.com/index.php?topic=583471

Question 16

Which physical process generates the force inside a pre-main-sequence star to stop the star from slowly condensing and shrinking by offsetting the force of gravity, thereby resulting in a stable main-sequence star?
(a) The additional heat generated by the nuclear fusion, starting when the temperature reaches a certain limit, produces an increase in internal gas pressure.
(b) Degeneracy pressure from electrons, caused by the quantum-mechanical Pauli Exclusion Principle when the electrons are forced very close together, generates extra pressure.

(c) No physical process can prevent this condensation until a black hole is produced at the center of the star. Condensation and shrinking of the star continues slowly throughout its lifetime.
Answer: https://biology-forums.com/index.php?topic=586880

Question 17

One prominent feature recently identified within many energetic close binary star systems as a result of their mutual interaction and mass exchange is
A) two oppositely directed high-speed jets of matter leaving the system.
B) planetary formation between the stars, emitting IR radiation from molecular constituents and dust.
C) the beginnings of spiral arms, showing the possible origin of spiral arm galaxies.
D) a cool dust cloud surrounding the whole star system, hiding it from visible view.
Answer: https://biology-forums.com/index.php?topic=585509

Question 18

In our universe, we can consider four different regimes of space in which distances between objects might be changing as a result of the general expansion of the universe. These are (1) distances between different parts of the Earth, (2) distance between planets in our solar system, (3) distances between stars in our Galaxy, and (4) distances between clusters of galaxies. In which of these regimes are the distances changing because of the universal expansion?
A) 4 and 3 B) 4, 3, 2, and 1 C) 4, 3, and 2 D) 4 only
Answer: https://biology-forums.com/index.php?topic=586055

Question 19

Which of the following describes the state of the universe during the inflationary epoch, from approximately 10–35 sec to 10–33 sec after the Big Bang?
A) There were only two distinct forces: gravity and GUT.
B) There were only three distinct forces: gravity, strong, and electroweak.
C) Only quarks existed but they had not yet formed into other elementary particles.
D) Elementary particles such as neutrons and protons existed but they had not yet formed nuclei.
Answer: https://biology-forums.com/index.php?topic=586253

Question 20

Why is the universe expanding?
A) Because the energy from all the stars is heating the universe, making it expand like a gas that is heated
B) Because spacetime itself is expanding, carrying the galaxies (or superclusters of galaxies) with it
C) It's not expanding—it is we who are getting smaller, making the universe seem bigger and bigger.
D) Because an infinitely dense clump of matter exploded, sending the galaxies (or superclusters of galaxies) hurtling out through space
Answer: https://biology-forums.com/index.php?topic=586178