ONTARIO EARTH AND SPACE SCIENCE, GRADE 12, UNIVERSITY PREPARATION (SES4U) · FINAL EXAM · 50 QUESTIONS

Final Exam — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **Retrograde motion of Mars is best explained by Earth overtaking Mars in its**

- A Atmosphere
- B Orbit around the Sun
- C Magnetic field
- D Rotation

Understand It with Pulse | Flag a mistake

2 **The gas giants are Jupiter, Saturn, Uranus, and**

- A Mercury
- B Neptune
- C Venus
- D Mars

Understand It with Pulse | Flag a mistake

3 **Original horizontality states sedimentary layers are deposited in horizontal layers and then may be**

- A Heated
- B Melted
- C Eroded only
- D Tilted or folded

Understand It with Pulse | Flag a mistake

4 **Igneous rocks form from cooling and solidification of**

A Water

B Sediment

C Ice

D Magma or lava

Understand It with Pulse | Flag a mistake

5 **Kepler third law relates a planets orbital period to its**

A Average distance from the Sun

B Temperature

C Mass

D Number of moons

Understand It with Pulse | Flag a mistake

6 **Terrestrial planets are mainly composed of rock and metal, while gas giants are mainly composed of**

- A Hydrogen and helium
- B Iron only
- C Rock only
- D Ice only

Understand It with Pulse | Flag a mistake

7 **Relative dating determines whether one rock layer is older or younger than another, without giving a numerical**

- A Age
- B Name
- C Colour
- D Location

Understand It with Pulse | Flag a mistake

8 **Granite is a common intrusive igneous rock rich in quartz and**

- A Clay
- B Calcite only
- C Feldspar
- D Olivine only

Understand It with Pulse | Flag a mistake

9 **Parallax is used to measure distances to nearby stars by observing their apparent shift from opposite sides of Earth**

- A Moon
- B Orbit
- C Rotation
- D Atmosphere

Understand It with Pulse | Flag a mistake

10 **Saturn rings are made mainly of**

A Water ice particles

B Gas

C Rock only

D Metal sheets

Understand It with Pulse | Flag a mistake

11 **After two half lives, the fraction of parent isotope remaining is**

A One half

B One quarter

C One eighth

D Zero

Understand It with Pulse | Flag a mistake

12 **Limestone is a sedimentary rock made mainly of calcium**

A Oxide

B Silicate

C Carbonate

D Sulfate

Understand It with Pulse | Flag a mistake

13 **Most stars lie on the main sequence, where they fuse hydrogen into**

A Oxygen

B Carbon

C Iron

D Helium

Understand It with Pulse | Flag a mistake

14 **The Kuiper belt is a region beyond Neptune containing icy bodies, including**

A Mars

B Pluto

C Titan

D Asteroids only

Understand It with Pulse | Flag a mistake

15 **A sample has parent to daughter ratio 1 to 3. The number of half lives elapsed is**

ANSWER _____

Understand It with Pulse | Flag a mistake

16 **Slate is metamorphic rock formed from**

A Basalt

B Sandstone

C Shale

D Limestone

Understand It with Pulse | Flag a mistake

17 **A black hole is a region where gravity is so strong that not even light can**

A Reflect

B Enter

C Slow down

D Escape

Understand It with Pulse | Flag a mistake

18 **Earth magnetic field is generated mainly in its liquid outer**

A Crust

B Mantle

C Core

D Atmosphere

Understand It with Pulse | Flag a mistake

19 **The Precambrian accounts for most of Earth history, about 88 percent of its**

A Surface

B Age

C Mass

D Volume

Understand It with Pulse | Flag a mistake

20 **At a convergent boundary, plates move together and one plate may be forced down in**

- A Sliding
- B Spreading
- C Rifting
- D Subduction

Understand It with Pulse | Flag a mistake

21 **The observable universe is limited by the age of the universe and the speed of**

- A Rotation
- B Light
- C Expansion
- D Sound

Understand It with Pulse | Flag a mistake

22 **A spring tide occurs when the Sun, Moon, and Earth are**

A At right angles

B Farthest apart

C Aligned

D Opposite in seasons

Understand It with Pulse | Flag a mistake

23 **A mass extinction at the end of the Cretaceous is associated with a large asteroid impact and the loss of non avian**

A Dinosaurs

B Mammals

C Plants only

D Fish

Understand It with Pulse | Flag a mistake

24 **The Himalayas formed by collision of continental plates at a convergent**

- A Divergent
- B Transform
- C Boundary
- D Rift

Understand It with Pulse | Flag a mistake

25 **A constellation is a pattern of stars as seen from Earth, but its stars are generally not**

- A Visible
- B In the same galaxy
- C Bright
- D Close together in space

Understand It with Pulse | Flag a mistake

26 **Titan, a moon of Saturn, is notable for its thick atmosphere and lakes of liquid**

A Ammonia

B Methane

C Water

D Carbon dioxide

Understand It with Pulse | Flag a mistake

27 **Stromatolites are layered structures formed by ancient**

A Cyanobacteria

B Corals

C Fish

D Trees

Understand It with Pulse | Flag a mistake

28 **The focus of an earthquake is the point inside Earth where rupture begins, while the epicentre is directly above it on the**

A Ocean

B Mantle

C Surface

D Core

Understand It with Pulse | Flag a mistake

29 **A lunar eclipse occurs when Earth shadow falls on the**

A Moon

B Sun

C Venus

D Mars

Understand It with Pulse | Flag a mistake

30 **The transit method detects exoplanets by a periodic dip in a stars**

A Brightness

B Colour only

C Temperature

D Mass

Understand It with Pulse | Flag a mistake

31 **Inclusions in a rock are older than the rock that contains them because they existed**

A After

B During melting only

C At the same time

D Before the rock formed

Understand It with Pulse | Flag a mistake

32 **A mineral is naturally occurring, inorganic, solid, with a definite composition and ordered internal**

- A Colour
- B Structure
- C Size
- D Weight

Understand It with Pulse | Flag a mistake

33 **The moons of Jupiter discovered by Galileo showed that not everything orbits**

- A The Sun
- B Mars
- C Saturn
- D Earth

Understand It with Pulse | Flag a mistake

34 **Venus rotates in the opposite direction to most planets, a motion called**

A Revolution

B Prograde rotation

C Retrograde rotation

D Precession

Understand It with Pulse | Flag a mistake

35 **An angular unconformity shows tilted older rock overlain by younger horizontal**

A Layers

B Igneous rock only

C Fossils

D Faults

Understand It with Pulse | Flag a mistake

36 **Obsidian is volcanic glass that cooled so quickly that crystals did not have time to**

A Melt

B Erode

C Form

D Compact

Understand It with Pulse | Flag a mistake

37 **A red giant is a star that has expanded and cooled after exhausting hydrogen in its**

A Planets

B Atmosphere

C Corona

D Core

Understand It with Pulse | Flag a mistake

38 **The Cassini division is a gap in the rings of**

A Saturn

B Jupiter

C Uranus

D Neptune

Understand It with Pulse | Flag a mistake

39 **If a sample has 12.5 percent parent remaining, the number of half lives elapsed is**

A 5

B 3

C 2

D 4

Understand It with Pulse | Flag a mistake

40 **Contact metamorphism occurs near an intrusion where heat is the main agent, while regional metamorphism involves heat and**

A Pressure over a large area

B Weathering

C Water only

D Erosion

Understand It with Pulse | Flag a mistake

41 **Cepheid variable stars are useful because their pulsation period relates to their**

A Temperature only

B Luminosity

C Mass only

D Age

Understand It with Pulse | Flag a mistake

42 **A meteoroid that reaches Earth surface is called a**

A Asteroid

B Comet

C Meteorite

D Meteor

Understand It with Pulse | Flag a mistake

43 **Earth age is estimated at about**

A 13.8 billion years

B 4.6 billion years

C 2.5 billion years

D 500 million years

Understand It with Pulse | Flag a mistake

44 **Freeze thaw weathering breaks rock when water in cracks freezes and**

A Evaporates

B Contracts

C Melts

D Expands

Understand It with Pulse | Flag a mistake

45 **Dark energy is proposed to explain the accelerating expansion of the**

A Universe

B Milky Way only

C Earth orbit

D Solar system

Understand It with Pulse | Flag a mistake

46 **The habitable zone around a star is the region where liquid water could exist on a planets**

A Atmosphere only

B Core

C Surface

D Moon

Understand It with Pulse | Flag a mistake

47 **A fossil mould is an impression left in rock after an organism decays, while a cast is formed when the mould is filled with**

A Ice

B Water

C Air

D Sediment or mineral

Understand It with Pulse | Flag a mistake

48 **A tsunami is most commonly generated by a large undersea**

- A Volcano only
- B Tide
- C Earthquake
- D Storm

Understand It with Pulse | Flag a mistake

49 **The ecliptic is the apparent annual path of the Sun across the**

- A Galaxy
- B Moon
- C Horizon only
- D Sky

Understand It with Pulse | Flag a mistake

50 **Auroras occur near the poles because charged particles are guided by Earth**

A Rotation

B Atmosphere

C Tides

D Magnetic field

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. B
2. B
3. D
4. D
5. A
6. A
7. A
8. C
9. B
10. A
11. B
12. C
13. D
14. B
15. 2
16. C
17. D
18. C
19. B
20. D
21. B
22. C
23. A
24. C
25. D
26. B
27. A
28. C
29. A
30. A
31. D
32. B
33. D
34. C
35. A
36. C
37. D
38. A
39. B
40. A
41. B
42. C
43. B
44. D
45. A
46. C
47. D
48. C
49. D
50. D

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