

UNIVERSITY OF RUHUNA

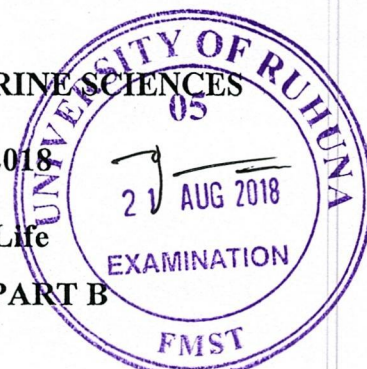
BACHELOR OF SCIENCE HONOURS IN MARINE AND FRESHWATER
SCIENCES DEGREE

BACHELOR OF SCIENCE HONOURS IN FISHERIES AND MARINE SCIENCES
DEGREE

Level I Semester I Examination – August/September 2018

OCG 1121 – Earth History, Origin, and Evolution of Life

Answer all question in PART A and one (01) question from PART B



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Time: 1 hour

PART A

Underline the most appropriate answer

1. *Big Bang* occurred billion years before present.
a) 13.8 b) 4.5 c) 13.5 d) 4.2
2. Galaxies and stars formed billion years before present
a) 13.8, b) 4.5 c) 3.5 d) 4.2
3. Age of the oldest rock found on the Earth is billion years
a) 13.8 b) 4.5 c) 3.5 d) 4.2
4. Number of stars in an average galaxy is,
a) 100×10^6 b) 200×10^6 c) 100×10^9 d) 200×10^9
5. Number of galaxies in the observable universe is,
a) 2×10^{12} b) 3×10^{12} c) 2×10^9 b) 2×10^6
6. Number of kilometers of a light year is,
a) 9.46×10^{12} b) 9.7×10^{12} c) 9.46×10^9 d) 9.46×10^6
7. Density of the Earth Core is g/cm^3 .
a) 2.7 b) 11.6 c) 4.5 d) 5.5
8. Profounder of the Continental Drift Theory is,
a) Jolly b) Wegner c) Holmes d) Prat
9. The number of Planets in the Solar system are,
a) 10 b) 9 c) 7 d) 8
10. The planet closest to the sun is,
a) Saturn b) Earth c) Mercury d) Venus
11. The biggest planet of the solar system is,
a) Jupiter b) Uranus c) Mars d) Earth

12. The Nova hypothesis on the origin of Earth was propounded by
a) Kant b) Jeifreys c) Hoyle d) Chamberlin
13. Nuclear reaction of a proto sun starts at °C.
a) 10×10^6 b) 5×10^6 c) 10×10^9 d) 5×10^{12}
14. The most abundant element of the earth's crust is,
a) Oxygen b) Silicon c) Iron d) Aluminum
15. The number of major tectonic plates that the earth crust is made up of is,
a) 7 b) 5 c) 10 d) 20
16. The number of minor plates the earth crust is made up of is,
a) 7 b) 5 c) 10 d) 20
17. What is the average thickness of continental crust?
a) 25-40 km b) 5 -30 km c) 5-15 km d) 10-20 km
18. What is the average thickness of oceanic crust?
a) 25-40km b) 20 -30 km c) 5-15 km d) 10-20 km
19. Which of the following fossils does not support the continental drift theory,
a) Glossopteris b) Mesosaurus c) Lystrosaurus d) Troodon
20. Indian plate collided with the Eurasian plate in the *Epoch*.
a) Oligocene b) Miocene c) Eocene d) Paleocene
21. At the end of which period that Dinosaurs became extinct?
a) Cretaceous b) Jurassic c) Triassic d) Silurian
22. What hotspot initiated the separation of Madagascar from India?
a) Reunion b) Marion c) Hawaiian d) Both b & c
23. Which of the following landmasses does not belong to the Eastern Gondwanaland?
a) Antarctica b) India c) Australia d) Africa
24. Which of the following landmasses is not a part of Laurussia?
a) Greenland b) Scandinavia c) India d) Iceland
25. Which of the following is not an *Eon* of the Geological Time Scale?
a) Hadean b) Archean c) Proterozoic d) Jurassic
26. Which of the following is not a *Period* in the *Mesozoic Era* of the Geological Time Scale?
a) Triassic b) Jurassic c) Cretaceous d) Quaternary

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27. In which *Era* did dinosaurs roam the earth?
a) Paleozoic b) Mesozoic c) Cenozoic d) None of above
28. Crust and upper part of the mantle combine to form a layer known as,
a) Atmosphere b) troposphere c) exosphere d) lithosphere
29. Which of the following is a territorial planet?
a) Mercury b) Saturn c) Neptune d) Jupiter
30. Compared to Continental Plates, Oceanic Plates are,
a) Denser b) thicker c) denser d) lighter
31. What discovery led scientists to accept Wegener's continental drift hypothesis?
a) Seismographs b) Pangaea c) Sea-flooring spreading d) Magma
32. The deep interior of the earth can be mapped using,
a. Seismic waves b) Sonar c) Radar d) Ocean waves
33. A large supercontinent that existed 225 million years ago was,
a) Gondwanaland b) Laurasia c) Glossopteris d) Pangea
34. The Atlantic Ocean is widening at a rate of 3 cm per year. How far will it spread in a million year?
a) 300 km b) 30 km c) 30 miles d) 3 km
35. The Tectonic setting of the Mariana trench is,
a. Divergent plate boundary
b. Convergent plate boundary
c. Transform fault
d. Strike-slip type plate boundary
36. The type of plate boundary exists between Africa and South America is,
a. Divergent plate boundary
b. Convergent plate boundary
c. Transform fault
d. None of above
37. Tectonic plates' movement towards each other is known as,
a. Convergent Plate Movement
b. Divergent Plate Movement
c. Transform Plate Movement
d. Boundary Plate Movement
38. The Indo-Australian Plate collided with the Eurasian Plate to form,
a. Karakorum Range
b. Hindu Kush Range
c. Himalayan Range
d. Mount Everest Range

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39. The fault line formed due to Transform Plate Movement of the North American and the Pacific Plate is known as,
- Las Vegas Fault
 - Los Angeles Fault
 - San Andreas Fault
 - San Francisco Fault
40. An early hypothesis that eventually led to the Theory of Plate Tectonics was,
- The Elastic Rebound Theory of G.K. Gilbert in the early 1900's
 - Theory of the Earth" by James Hutton, 1788.
 - Seafloor Spreading by Harry Hess, 1962.
 - All of these

(60 Marks)

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PART B

Answer **any one** of the following questions

1.

a. What are the evidences to support that the Himalaya was once a sea floor?

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b. Why Pluto is no longer considered as a planet by the International Astronomical Union (IAU)?

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c. Describe the scientific evidence to supports the continuous expansion of the universe.

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d. Describe why Japan frequently experiences earthquakes.

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(40 Marks)

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2.

a. What are the different types of meteorites based on their composition?

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b. Briefly describe two theories on the formation of the Moon.

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c. Briefly describe an example where different velocities of seismic waves are used to forecast earthquakes and to mitigate damages created by them.

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d. Briefly describe why and when dinosaurs became extinct.

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(40 Marks)