KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2025

Marks Scored:

Level : B.Sc.
Year : II

Course : ENVS 205
Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date 02 MAR 2025

SECTION "A"
[20Q. × 0.5 = 10 marks]

Choose and mark [X] in the most appropriate answers from the given choices.

1. The zone beneath the Lithosphere (~100 to 400 km in depth) is
[ ] Inner Mantle [ ] Asthenosphere [ ] Core [ ] Deep Mantle

2. A rock body or layer fine-grained silt or clay layer that will absorb water but not release it fast enough or in amounts sufficient to supply a spring is known as
[ ] Aquiclude [ ] Aquifer [ ] Aquatic [ ] Aquino

3. The theory proposed by _____ in 1912 on based on his observation of drifting sheets of ice was about Continental Drift.
[ ] Alfred Wegner [ ] Alfa Wegnerie
[ ] Alphabet Warrior [ ] Wegner Simpson

4. The general idea of large scale continental displacements was first described by Frank B Taylor in
[ ] 1980 [ ] 1988 [ ] 1908 [ ] 1918

5. The theory of Principle of Superposition and Principle of Original Horizontality have given by
[ ] Nicholas Steno [ ] Jennifer [ ] Robert [ ] Taytor

6. Which one is the least abundant mineral group in the Earth's crust amongst the following?
[ ] Carbonates [ ] oxides [ ] Silicates [ ] Sulphides

7. The availability of igneous rocks by area of continent is about
[ ] 25% [ ] 50% [ ] 75% [ ] 85%

8. The sediments that have been subjected to short duration and distance in water or wind action are
[ ] mix-sorted [ ] Poorly sorted [ ] fairly-sorted [ ] well-sorted

9. Low-angle reverse faults are
[ ] Thrust faults [ ] Oblique fault [ ] Normal faults [ ] stike fault

10. What is MCT?
[ ] Main Central Thrust [ ] Main Centric Thrust
[ ] Marginal Current Thrust [ ] Mega Cold Thrust

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11. The zone situated in between MFT and MBT is
[ ] Lesser Himalaya zone [ ] Higher Himalaya zone
[ ] Tethys Zone [ ] Sub-Himalaya Zone

12. Ripple marks are found in bedding plane of _____ water deposition.
[ ] shallow [ ] deep [ ] huge [ ] dirty

13. Extremely slow-motion slope slide is known as
[ ] Debris slide [ ] Rock Avalanche [ ] Creep [ ] Rock fall

14. The feature by which the river deposition around the bend bank is known as
[ ] Point bar [ ] Vertical bar [ ] Longitudinal Bar [ ] Lateral bar

15. Peridotite are ultramafic intrusive rock, typically formed at
[ ] 400 o to 700 o C [ ] 950o to 1200o C
[ ] 1400 o to 1700 o C [ ] 1800 o to 2000 o C

16. Composite Volcanoes has long duration of volcanic intermittent eruptions that may up to over long time span: 1,000's of yrs
[ ] 100's yrs [ ] 10,0000's yrs [ ] 10,00000's yrs [ ] 1000's yrs

17. A volcanic eruption originating along an elongate cracks rather than a central vent is
[ ] Fissure Eruptions [ ] Central Eruption
[ ] Dissolve Eruption [ ] Dome Eruptions

18. The distribution of groundwater on the Earth is
[ ] 1.05% [ ] 5.01% [ ] 0.51% [ ] 51.0%

19. To change of rock from one form to another
[ ] Saltation [ ] Metamorphism [ ] Sublimation [ ] Dissertations

20. Action of coinciding and oppositely directed forces acting parallel to each other across a surface
[ ] Shear [ ] Shore [ ] Share [ ] Slide

SECTION "B"
[20 Q. × 0.5 = 10 Marks]

Mark "T" for true and "F" for false

21. Uranium-bearing (Uranium-238) rocks are the sources of the radon gas that contaminates many homes. [ ]

22. The appearance of the broken surface of a mineral in a direction that is parallel to cleavage is generally expressed by the term fracture. [ ]

23. Stock is a massive, discordant intrusive body covering less than 100 km2 [ ]

24. Rocks remain essentially liquid during metamorphism. [ ]

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25. A dome is a sequence of folded rocks in which all the beds dip away from a central point. [ ]

26. The Himalayan Mountains are still rising at the rate of 10 cm per year and being horizontally compressed at the rate of 2 to 3 cm per year. [ ]

27. Down-lift can also result in the entrenchment of meandering streams, forming "incised meanders" [ ]

28. Shield Volcanoes has Gentle sides: ~2-10 degrees [ ]

29. Richter scale is defined as amount of energy received 100 km from epicenter [ ]

30. GPS indicates that some parts presently rising at 10 mm/year. Everest 1-3 mm/year [ ]

31. "Creep is the forward rotation out of the slope of mass of soil or rock about a point or axis below the centre of gravity of the displaced mass. [ ]

32. Composite Volcano: Relatively large: ~10-15 km wide. [ ]

33. Chemical weathering stability is generally the normal to Bowen's reaction series. [ ]

34. Geysers are formed where a complicated plumbing system allows steam pressure to be built up, causing intermittent eruptions. [ ]

35. Crustal abundance of gold (percent by weight) is 0.0000002. [ ]

36. Meandering rivers gradually change their course by lateral migration. [ ]

37. Rock types, such as sandstone, generally contain more than 10 ppm U-238. [ ]

38. Pahoehoe is a very high viscosity basaltic lava characterized by a ropy texture. [ ]

39. Dunes are higher velocity bed-forms. [ ]

40. Directed stress will orient minerals in two ways: Lineation and Foliation. [ ]

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SECTION "C"
[3Q. × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. What is an aquifer? Describe the different types of aquifers and their functions. Point out the sources of contamination.

2. What is a landslide? What are the main steps that can be taken to prevent landslides?

3. Discuss the importance of seismic waves. How are they useful in locating the epicenter and understanding the Earth's interior? Provide an example with an illustration.

4. What is plate tectonics? What are the major types of plate boundaries? Describe briefly.

SECTION "D"

5. Write note on (***ANY FOUR***) [4Q. × 4 = 16 marks]
   a. Sedimentary rocks
   b. Landslide classification
   c. Groundwater discharge calculation
   d. Higher Himalaya Zone
   e. Weathering

6. Differentiate between (***ANY FOUR***) [4 Q. × 3 = 12 marks]
   a. Sediments and Sedimentary rocks
   b. MCT and STDS
   c. Groundwater table and Pressure surface
   d. Focus and epicenter
   e. Normal fault and Blind fault

7. Discuss in the following terms (***ANY THREE***) [3 Q. × 2 = 6 marks]
   a. Metamorphic facies
   b. Porosity
   c. Geothermal energy
   d. Magma