**EARTH SYSTEMS FINAL EXAM STUDY GUIDE KEY**

1. DABC
2. A = Crust B = Upper Mantle C = Lower Mantle D = Outer Core

E = Inner Core

1. Lithosphere
2. Latitude
3. Differences in elevation
4. 100 units
5. E 🡪 A contour lines are further apart which translates to a gentle slope. D 🡪B has contour lines are closer together relates to a steep slope making it harder to climb.
6. Sun and Earth’s interior
7. Weather describes short term conditions for an area, Climate describes weather for an area over a long period of time
8. Of the amount of direct light from the sun. angle of insolation
9. Body of air with horizontally uniform temperature and humidity
10. Hot and Dry
11. Cold air displaces warm air, moisture content (dew point) changes, wind shifts, development of clouds, showers and thunderstorms
12. A = 1 B = 4 C = 3 D = 2
13. Build-up of CO2 in the atmosphere which acts like a blanket that traps the heat
14. Hail, flash floods, strong gale force winds
15. Water, oxygen, carbon dioxide
16. Water flowing down a steep slope
17. Erosion of rocks by acidic substances that chemically alter the substance
18. Gravity
19. Sample 1: A Horizon (topsoil)

Sample 2: B Horizon (subsoil)

Sample 3: C Horizon (parent material)

1. Sinkholes, caves, underground streams
2. Constant freezing and thawing of water that breaks rock apart or into smaller pieces
3. Ice wedging, pressure release, plant root growth, abrasion (Wind, Water, Ice)
4. Saturation zone
5. How the rocks are formed
6. Metamorphic rock
7. Intrusive
8. Small crystals or air pockets from trapped air
9. Weathering of preexisting rock which is transported and deposition, compaction and cementation of sediments (lithification)
10. Composition
11. Elements
12. Color
13. Composition, color, hardness, streak, cleavage, luster
14. Hardness
15. Luster
16. Hardness
17. Fracture
18. Igneous
19. Compaction and Cementation
20. Sedimentary
21. How earthquakes and volcanic eruptions occur
22. Crust and Uppermost Mantle
23. Climate, chemical composition of the exposed rock, surface area of the exposed rock
24. The parent horizon
25. Delta
26. Aquifer
27. Erosion
28. Faster than an S wave
29. Pyroclastic Material
30. Composite Cones
31. Fracture in the Earth where movement has occurred
32. In any direction
33. Surface waves
34. The seismic stations measure the arrival of the P wave which is the first wave to arrive and the lag-time till the S wave or secondary wave arrives. Using a P-S Wave graph you can determine the distance to the epicenter
35. Similar rock or fossil remains on different continents around the world
36. Seafloor spreading which creates a new crust
37. Magma composition
38. Ring of Fire
39. The point on the surface of the Earth above the focus of the Earthquake
40. Sedimentary
41. Gap in the rock record
42. Are the same as they have been throughout Earth’s history
43. sedimentary
44. L represents igneous intrusion
45. Mold
46. Carbon 12 and Carbon 14
47. 2.5 atoms
48. Once living organisms, bones of the animal
49. Undisturbed sequence of rock is deposited in layers where the youngest layers are on top of the lower layers
50. Nitrogen
51. Troposphere
52. Relative humidity
53. Dew Point
54. Air Pressure