

MEKI CATHOLIC SCHOOL

Grade 12 Geography Unit 1-4 Questions

Name _____ Roll No _____

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Exam 1:

Instructions: Choose the best answer from the given alternatives for each question.

Multiple Choice Questions:

1. Which of the following is NOT considered a type of plate boundary?
 - a) Convergent
 - b) Transform
 - c) Divergent
 - d) Isostatic
2. The theory of continental drift was proposed by:
 - a) Charles Darwin
 - b) Isaac Newton
 - c) Alfred Wegener
 - d) Albert Einstein
3. Which greenhouse gas is most abundant in the atmosphere?
 - a) Methane
 - b) Carbon Dioxide
 - c) Nitrous Oxide
 - d) Water Vapor
4. A key process in the rock cycle where rock layers are pushed sideways is known as:
 - a) Faulting
 - b) Weathering
 - c) Folding
 - d) Erosion
5. Which of the following is the primary concern of sustainable development?
 - a) Maximizing resource consumption
 - b) Balancing economic, social, and environmental needs

- c) Ignoring future generations
 - d) Prioritizing financial gain over all else
6. Which term refers to the long-term average weather patterns in a region?
- a) Weather
 - b) Climate
 - c) Meteorology
 - d) Atmosphere
7. The primary cause of climate change over the last few decades is attributed to:
- a) Natural cycles
 - b) Volcanic eruptions
 - c) Human activities
 - d) Solar output variation
8. Which of the following would be the BEST indicator for a very strong earthquake?
- a) The Richter Scale reading from 3-4
 - b) A low frequency measured by a seismograph
 - c) The Richter Scale reading of 8-9
 - d) The occurrence of a tremor.
9. Which of these is a social dimension of sustainable development?
- a) Maintaining a stable resource base
 - b) Equality of opportunity
 - c) Avoiding overexploitation of non-renewable resources
 - d) All of the above
10. What feature is formed when two parallel faults shift and one block moves upward while the other one moves downward?
- a) Rift valley
 - b) Fold Mountain
 - c) Fault zone
 - d) Block mountain
11. The most common volcanic form characterized by a steep profile, periodic explosive eruptions is:
- a) Shield volcano
 - b) Strato volcano
 - c) Cinder cone
 - d) Craters
12. Which theory proposes that Earth's orbit variations cause climate changes?
- a) Plate Tectonics
 - b) Continental Drift
 - c) Milankovitch Theory
 - d) Plate Tectonics

13. What type of plate movement is associated with the formation of the East African Rift Valley?
 - a) Convergent
 - b) Transform
 - c) Divergent
 - d) Conservative
14. Which type of human induced activity causes both reduction of CO₂ and expansion of land areas?
 - a) Deforestation
 - b) Afforestation
 - c) Overgrazing
 - d) Cultivation of grass land
15. Which of the following is a common mitigation strategy for climate change?
 - a) Increasing the use of coal
 - b) Deforestation
 - c) Reducing greenhouse gas emissions
 - d) Ignoring the effects
16. What term best describes changes in the Earth's climate that occur over an extended period?
 - a) Weather variability
 - b) Climate change
 - c) Seasonal shifts
 - d) Atmospheric events
17. The concept of "sustainable development" aims to balance:
 - a) Environmental protection only
 - b) Economic growth only
 - c) Social and economic growth with environmental protection
 - d) Immediate gains with no regard to future consequences
18. The sudden shaking of the ground caused by a shift in rock masses is called:
 - a) Volcanism
 - b) A Fault
 - c) An Earthquake
 - d) A Tsunami
19. The movement of rock and soil down a slope is referred to as:
 - a) Weathering
 - b) Erosion
 - c) Mass wasting
 - d) Deposition
20. A 'rift valley' is formed due to what type of geological process?
 - a) Folding

- b) Volcanism
- c) Faulting
- d) Earthquakes

21. Which theory explains the movement of continents?

- a) Convection currents
- b) Continental drift
- c) Plate tectonics
- d) Isostatic movement

22. Which of the following is an example of a "constructive" plate boundary?

- a) Subduction zones
- b) Oceanic ridges
- c) Transform faults
- d) Collision zones

23. The concept of "environmental justice" emphasizes:

- a) The right of states to extract natural resources
- b) An equal burden to everyone for environmental issues
- c) Equitable distribution of environmental benefits and burdens
- d) A free market approach

24. What are 'GHGs' when they are referred to as causes of climate change?

- a) Geochemical Heat Generators
- b) Geothermal and Hydrological Gases
- c) Green House Gases
- d) Geohazard and Hydrogeology Gases

25. Which of the following is considered to be a long-term approach to manage climate change?

- a) Adaptation
- b) Mitigation
- c) Disaster relief
- d) Ignoring the problem

26. The theory that explains the shape (eccentricity), Precession and changes in the tilt (obliquity) of the earth is the:

- a) Continental Drift Theory
- b) Plate Tectonic Theory
- c) Milankovitch Cycles
- d) Convection current

27. Which of the following terms refers to a process by which rock layers are pushed sideways?

- a) faulting
- b) Folding

c) Weathering

d) Exfoliation

28. Which region is known as the "Ring of Fire"?

a) The Atlantic Ocean

b) The Indian Ocean

c) The Pacific Ocean

d) The Mediterranean Sea

29. The idea that necessity is the mother of invention is related to which view of population and development?

a) Malthusian

b) Neo-Malthusian

c) Simon's perspective

d) Boserup's Hypothesis

30. What is a 'tsunami'?

a) A giant wave caused by wind

b) A type of volcanic eruption

c) A giant wave caused by underwater seismic events

d) A type of rock formation

31. Which of the following is the best example of human activity contributing to soil erosion?

a) Reforestation

b) Terracing

c) Overgrazing

d) Crop rotation

32. Which of the following is NOT among the ways that plates interact?

a) Diverge

b) Converge

c) Slide

d) Isolate

33. Which of the following is a correct statement about land use change?

a) It is an effective mitigation strategy in climate change

b) It can lead to deforestation and desertification

c) It causes more carbon sequestration in the atmosphere

d) It is unrelated to climate change

34. What are 'fossil fuels'?

a) Animal remains found in rocks

b) Plant remains used in ancient fires

c) Fuels formed from plant and animal remains

d) Human fuel made from bones

35. Which of the following is an example of a "Constructive" plate boundary?
- a) San Andreas Fault
 - b) Mid-Atlantic Ridge
 - c) The Himalayas
 - d) The Andes mountains
36. What do we call a landform that is a triangular piece of land found at the mouth of a river?
- a) Ox-bow lake
 - b) Gorge
 - c) Delta
 - d) Flood plain
37. Which of the following best describes the goal of mitigation strategies for climate change?
- a) Helping people cope with climate change
 - b) Reducing greenhouse gas emissions
 - c) Reducing the effects of climate change in future generations
 - d) All of the above
38. What is the name of the super continent that Wegener proposed existed in the past?
- a) Gondwanaland
 - b) Pangea
 - c) Laurasia
 - d) Eurasia
39. The focus point under the ground where earthquake ruptures occurs is:
- a) Epicenter
 - b) Focus
 - c) Fault line
 - d) Benioff zone
40. Which of these is a good example of exogenic force?
- a) folding
 - b) faulting
 - c) weathering
 - d) earth quakes
41. What type of mountain is formed when blocks between faults move upward?
- a) Volcanic
 - b) Fold
 - c) Block
 - d) Erosional
42. When two continental plates converge to one another, what geological events are likely to happen?

- a) A Volcanic Island arc formation
- b) An Oceanic Ridge formation
- c) A mountain formation
- d) A rift valley formation

43. What is an 'ox-bow' lake?

- a) A very deep lake
- b) A river formed on a mountain slope
- c) A U-shaped lake that was formerly part of a river
- d) A lake with very clear water

44. The ability of a system to withstand and recover from adverse effects or environmental change is known as:

- a) Vulnerability
- b) Resilience
- c) Adaptation
- d) Mitigation

45. The main aim of an "anti-natalist" population policy is:

- a) To reduce birth rates
- b) To increase birth rates
- c) To maintain current birth rate
- d) To encourage immigration

46. What is the primary objective of indigenous conflict resolution practices?

- a) To punish offenders
- b) To impose strict laws
- c) To restore relationships and maintain social harmony
- d) To enforce government rules

47. Which of the following is NOT a type of weathering?

- a) Physical
- b) Chemical
- c) Biological
- d) Tectonic

48. A key characteristic of 'young fold mountains' is that they are:

- a) Old and weathered
- b) Lower in height
- c) Located on mid oceanic ridges
- d) High and steep

49. Which of the following is NOT among the major landforms shaped by running water in an upper course?

- a) Gorge
- b) V-shaped valley

- c) Meander
- d) Waterfalls

50. Which theory describes the rapid growth of population will lead to massive shortage of food supply?

- a) Boserup Hypothesis
- b) Marxian Perspective
- c) Malthusian Theory
- d) Simons Theory

51. Which of the following is the definition of adaptation in climate change?

- a) Reducing greenhouse gas emissions
- b) Using technology to stop climate change
- c) Adjustments in ecological, social or economic systems
- d) To stop the use of fossil fuels

52. Which of these statements is most true about a glacier?

- a) It is a mass of dry sand formed by wind action
- b) A mass of snow and ice moving slowly across a land surface
- c) A rock formation at the bottom of the sea
- d) A large deposit of sand in a desert area

53. Which of the following is a human cause of desertification?

- a) Earthquakes
- b) Volcanoes
- c) Over grazing
- d) High temperatures

54. What part of the earth does the asthenosphere exist in?

- a) Crust
- b) Upper mantle
- c) Core
- d) Lithosphere

55. Which of these is part of the internal forces shaping the earth?

- a) Weathering
- b) Erosion
- c) Folding
- d) Deposition

56. Which of the following is NOT one of the ways that sea level rise is expected to affect communities?

- a) Coastal flooding
- b) Ground water contamination with saltwater
- c) Enhanced ability to grow crops in coastal areas
- d) Changes in shorelines and loss of habitats

57. Which of the following measures is most effective for reducing greenhouse gas emissions?
- a) Deforestation
 - b) Use of renewable energy
 - c) Increasing the use of fossil fuels
 - d) Ignoring the problem
58. According to scientists, what's the primary source of the increased atmospheric concentration of carbon dioxide?
- a) Volcanic eruptions
 - b) The burning of fossil fuels
 - c) Natural fluctuations in the Earth's atmosphere
 - d) Plant respiration
59. Which of the following is considered to be an external cause of climate change?
- a) Ocean current
 - b) Wind system
 - c) Composition of the atmosphere
 - d) Volcanism
60. Which of these is a way that surface water moves down slope?
- a) Meander erosion
 - b) Sheet erosion
 - c) Faulting
 - d) Folding
61. How is a stalactite formed?
- a) By deposition of sediments carried in river water
 - b) By deposition of limestone on a cave floor
 - c) By deposition of limestone on a cave roof
 - d) By wind erosion
62. What is a "horst"?
- a) A landform created by water action
 - b) A type of mountain formed by folding
 - c) A block mountain that is pushed upward
 - d) A volcanic landform
63. A major difference between the old fold mountains and the young fold mountains is:
- a) Old fold mountains are the oldest
 - b) Young fold mountains are characterized by lower heights
 - c) Young fold mountains are mainly of sedimentary rocks
 - d) Old fold mountains are mainly created along the mid oceanic ridges

64. What are "seismic waves"?
- a) Wind-generated ocean waves
 - b) Shock waves that travel through the Earth during an earthquake
 - c) Volcanic eruptions that cause tremors
 - d) Tectonic plate movements that are slow and gradual
65. What type of volcano is characterized by steep slopes and explosive eruptions?
- a) Cinder cone
 - b) Shield
 - c) Strato
 - d) Volcanic caldera
66. Which type of weathering causes rocks to break down through the expansion of ice in cracks?
- a) Chemical
 - b) Mechanical
 - c) Biological
 - d) Thermal
67. Which type of erosion happens by the action of surface water moving in wide flow over a field?
- a) Rill erosion
 - b) Gully erosion
 - c) Sheet erosion
 - d) River erosion
68. Which of the following is a unique concept about the idea of sustainable development?
- a) Focuses on short term profit
 - b) Considers environmental impact
 - c) Ignores all future consequences
 - d) All of the above
69. What is "exfoliation"?
- a) The movement of rocks down a slope due to gravity
 - b) The chemical reaction of minerals with water
 - c) The breaking off of layers of rock due to temperature changes
 - d) The transport of sediments by wind
70. What is a major goal of sustainable development?
- a) To prioritize economic growth at all costs
 - b) To disregard environmental concerns
 - c) To prioritize poverty reduction and environmental justice
 - d) To deplete natural resources for short-term benefits

71. What does the acronym "UNFCCC" stand for?
- a) United Nations Food and Climate Change
 - b) United Nations Forest and Climate Change Council
 - c) United Nations Framework Convention on Climate Change
 - d) United Nations Federation for Coastal Communities and Climate
72. Which of the following is a primary goal of pro-natalist population policies?
- a) To encourage smaller families
 - b) To reduce the birth rate
 - c) To increase the birth rate
 - d) To focus on family planning
73. Which of these is a direct consequence of over-cultivation?
- a) Increased biodiversity
 - b) Decreased soil fertility
 - c) Decreased water logging
 - d) Increased soil quality
74. What is the term used to describe a narrow band of land along a coastline covered by sediments?
- a) Delta
 - b) Beach
 - c) spit
 - d) Lagoon
75. What is the main difference between a sill and a dike?
- a) A dike is horizontal while a sill is vertical
 - b) A dike is made of a sedimentary rock while sill is an igneous rock
 - c) A dike is vertical while a sill is horizontal
 - d) A dike is formed only under continental crust while a sill is formed only under oceanic crust.
76. According to IPCC, climate change is usually referred to as a:
- a) Normal weather pattern
 - b) Change in the state of the climate system
 - c) Unimportant effect on human life
 - d) A short-term trend
77. Which of the following is NOT a benefit of Globalization?
- a) Increased international trade
 - b) Cultural homogeneity
 - c) Cultural Diversity
 - d) More transfer of information
78. Which of the following has the greatest influence on the speed of running water to erode the land?
- a) Volume of water

- b) Slope of the land
- c) Temperature of the water
- d) Vegetation cover

79. Which of the following is a major consequence of over grazing?

- a) Improved soil fertility
- b) Increased plant species diversity
- c) Reduced biodiversity
- d) Reduced soil erosion

80. Which term describes a situation where there is not enough access to renewable resources?

- a) Resource surplus
- b) Resource scarcity
- c) Resource abundance
- d) Resource equilibrium

81. What is a key idea in the concept of "carrying capacity"?

- a) That resources are unlimited
- b) That a population should grow without limit
- c) That there is a limit to the population an environment can sustain
- d) That technology can solve any resource issue

82. Which is an important aspect of ethical resource use?

- a) Short-term economic gains over all other considerations
- b) Focus on preserving the environment for future use.
- c) Focus on resource consumption
- d) Unlimited exploitation of resources

83. Which of the following is a key challenge of climate change?

- a) Increasing water levels on the surface
- b) Rising average global surface temperatures
- c) Decreasing ocean acidity
- d) Rising levels of food production

84. The idea of a 'circular economy' primarily involves:

- a) Making goods more cheaply
- b) Reducing consumption and reuse
- c) Exporting more waste
- d) Disposing waste in landfills

85. What is a major aspect of 'environmental education'?

- a) Memorizing definitions
- b) Encouraging political activism
- c) Engaging in action and critical thinking
- d) Focusing on government regulations

86. What is 'interdisciplinary' approach in terms of environmental issues?
- a) Only focusing on scientific data
 - b) Including all views with the exclusion of science
 - c) Combining knowledge and methods from multiple fields
 - d) Emphasizing traditional beliefs
87. Which of the following best describes a "watershed"?
- a) A large body of salt water
 - b) A land area drained by a river and its tributaries
 - c) An aquifer that stores water
 - d) A place for storing water
88. What is a "trade imbalance"?
- a) The amount of rainfall in a country.
 - b) An imbalance between a country's imports and exports
 - c) The difference between land mass and water body
 - d) The difference between income and expenditure
89. Which one is NOT among the main sources of water pollution?
- a) Industrial waste
 - b) Agricultural runoff
 - c) Ocean salinity
 - d) Sewage and wastewater
90. What are "aerosols" in terms of climate?
- a) Gases that trap heat in the atmosphere
 - b) Liquid or solid particles that enter the atmosphere
 - c) Water vapor that create clouds
 - d) Greenhouse gas emission
91. What is an important aspect of addressing the 'impacts of climate change'?
- a) Trying to stop all human activity that contributes to the issue
 - b) Relying solely on technological solutions
 - c) Developing ways to adapt and reduce the effects
 - d) Ignoring the problem
92. Which theory believes that the ultimate resource is people and their ability to innovate?
- a) Malthus' theory
 - b) Neo Malthusianism
 - c) Marxian Perspective
 - d) Simon's theory
93. The main driver of ocean "dead zones" is?
- a) Overfishing
 - b) Warming waters

c) Nutrient pollution

d) Plastic pollution

94. Which of the following is considered an indicator of good natural resource governance?

a) Unclear resource rights

b) Limited public participation

c) Transparent decision-making

d) Marginalization of certain groups

95. What is a key feature of the "Malthusian" perspective on population growth?

a) That population growth always leads to innovation

b) That population growth will always outpace food production

c) That technology can overcome food limitations

d) That population growth is not a concern

96. Which of the following is considered a "pull" factor of migration?

a) War and Conflict

b) Limited opportunity at home

c) Better job prospects at destination

d) Lack of resources

97. What is "desertification"?

a) The increase in the amount of land covered by forests

b) The process by which fertile land becomes more fertile

c) The increase in the level of the sea

d) The process by which fertile land becomes desert

98. What is a "Gini coefficient" mainly used for?

a) To measure rainfall patterns

b) To measure temperature changes

c) To measure income inequality

d) To measure land degradation

99. What is the core feature of indigenous knowledge system?

a) Its dependency on modern technology.

b) Its rootedness to a particular place and set of experiences

c) Its focus on individualistic solutions

d) Its focus on global solutions

100. In order to alleviate poverty, what does sustainable development aim for?

a) Promoting only economic growth

b) Prioritizing environmental protection at all costs

c) Balancing economic, social, and environmental needs

d) Ignoring social equity

Answer Key

1. **d) Isostatic**
2. **c) Alfred Wegener**
3. **b) Carbon Dioxide**
4. **c) Folding**
5. **b) Balancing economic, social, and environmental needs**
6. **b) Climate**
7. **c) Human activities**
8. **c) The Richter Scale reading of 8-9**
9. **b) Equality of opportunity**
10. **d) Block mountain**
11. **b) Strato volcano**
12. **c) Milankovitch Theory**
13. **c) Divergent**
14. **b) Afforestation**
15. **c) Reducing greenhouse gas emissions**
16. **b) Climate change**
17. **c) Social and economic growth with environmental protection**
18. **c) An Earthquake**
19. **c) Mass wasting**
20. **c) Faulting**
21. **c) Plate tectonics**
22. **b) Oceanic ridges**
23. **c) Equitable distribution of environmental benefits and burdens**
24. **c) Green House Gases**
25. **b) Mitigation**
26. **c) Milankovitch Cycles**
27. **b) Folding**
28. **c) The Pacific Ocean**
29. **d) Boserup's Hypothesis**
30. **c) A giant wave caused by underwater seismic events**
31. **c) Overgrazing**
32. **d) Isolate**
33. **b) It can lead to deforestation and desertification**
34. **c) Fuels formed from plant and animal remains**
35. **b) Mid-Atlantic Ridge**
36. **c) Delta**
37. **b) Reducing greenhouse gas emissions**

38. **b) Pangea**
39. **b) Focus**
40. **c) weathering**
41. **c) Block**
42. **c) A mountain formation**
43. **c) A U-shaped lake that was formerly part of a river**
44. **b) Resilience**
45. **a) To reduce birth rates**
46. **c) To restore relationships and maintain social harmony**
47. **d) Tectonic**
48. **d) High and steep**
49. **c) Meander**
50. **c) Malthusian Theory**
51. **c) Adjustments in ecological, social or economic systems**
52. **b) A mass of snow and ice moving slowly across a land surface**
53. **c) Over grazing**
54. **b) Upper mantle**
55. **c) Folding**
56. **c) Enhanced ability to grow crops in coastal areas**
57. **b) Use of renewable energy**
58. **b) The burning of fossil fuels**
59. **c) Composition of the atmosphere**
60. **b) Sheet erosion**
61. **c) By deposition of limestone on a cave roof**
62. **c) A block mountain that is pushed upward**
63. **a) Old fold mountains are the oldest**
64. **b) Shock waves that travel through the Earth during an earthquake**
65. **c) Strato**
66. **b) Mechanical**
67. **c) Sheet erosion**
68. **b) Considers environmental impact**
69. **c) The breaking off of layers of rock due to temperature changes**
70. **c) To prioritize poverty reduction and environmental justice**
71. **c) United Nations Framework Convention on Climate Change**
72. **c) To increase the birth rate**
73. **b) Decreased soil fertility**
74. **b) Beach**
75. **c) A dike is vertical while a sill is horizontal**
76. **b) Change in the state of the climate system**
77. **b) Cultural homogeneity**

78. b) Slope of the land
79. c) Reduced biodiversity
80. b) Resource scarcity
81. c) That there is a limit to the population an environment can sustain
82. b) Focus on preserving the environment for future use.
83. b) Rising average global surface temperatures
84. b) Reducing consumption and reuse
85. c) Engaging in action and critical thinking
86. c) Combining knowledge and methods from multiple fields
87. b) A land area drained by a river and its tributaries
88. b) An imbalance between a country's imports and exports
89. c) Ocean salinity
90. b) Liquid or solid particles that enter the atmosphere
91. c) Developing ways to adapt and reduce the effects
92. d) Simon's theory
93. c) Nutrient pollution
94. c) Transparent decision-making
95. b) That population growth will always outpace food production
96. c) Better job prospects at destination
97. d) The process by which fertile land becomes desert
98. c) To measure income inequality
99. b) Its rootedness to a particular place and set of experiences
100. c) Balancing economic, social, and environmental needs

Instructions: Choose the BEST answer from the given alternatives for each question.

1. A region experiences frequent earthquakes and volcanic activity, but not along any visible plate boundary. Which of the following might explain this phenomenon?
 - a) Isostatic rebound
 - b) A mantle plume
 - c) Subduction zone reversal
 - d) Fault plane shifting

2. Which of the following would be LEAST likely to contribute to the acceptance of Wegener's continental drift theory?
 - a) Paleoclimatic Evidence
 - b) Mesosaurus Fossil Records
 - c) Rock types and structural similarities
 - d) The theory of plate tectonics
3. If the average global temperature increases beyond a certain point, it will trigger positive feedback loops. What does this mean?
 - a) Warming will lead to cooling
 - b) Warming will amplify itself
 - c) There will be no more climate change
 - d) Cooling will lead to warming
4. The Andes Mountains are the result of which type of plate tectonic interaction?
 - a) Oceanic-oceanic convergent
 - b) Continental-continental convergent
 - c) Oceanic-continental convergent
 - d) Transform
5. Which of the following best explains the 'tragedy of the commons' as related to sustainable development?
 - a) Environmental destruction caused by government policies.
 - b) The depletion of shared resources due to individual self-interest.
 - c) The loss of biodiversity due to climate change
 - d) A lack of awareness regarding resource use
6. Which is an important long term strategy for reducing the overall global temperature?
 - a) Using hydro-electric energy
 - b) Decreasing carbon dioxide levels in the atmosphere
 - c) Shifting to organic agriculture
 - d) Using renewable energy
7. Which statement most accurately describes the relationship between weather and climate?
 - a) Climate is the daily state of the atmosphere, weather is the long term patterns.
 - b) Climate is long term average weather pattern while weather is the short term state of the atmosphere
 - c) Climate and weather are exactly the same thing.
 - d) Weather is what you expect and climate is what you get.
8. What is the relationship between the focus and the epicenter of an earthquake?
 - a) They are the same point.

- b) The focus is on the surface and the epicenter is below the ground
 - c) The epicenter is on the surface directly above the focus
 - d) The epicenter is always further from the focus
9. Which of the following are considered indicators of good governance in natural resource management?
- a) Unclear laws and discriminatory policies
 - b) High level of transparency, participation, and equity
 - c) Low accountability and focus on short term goals
 - d) Exclusion of stakeholders in the management process
10. Which of the following is the main cause of increasing resource scarcity?
- a) Lack of understanding about environment
 - b) Changes in global atmospheric conditions
 - c) Increased consumption and reduced supplies
 - d) The formation of new mineral resources
11. A volcanic region is experiencing frequent non-explosive eruptions. What type of volcano is most likely causing this?
- a) Strato volcano
 - b) Cinder cone
 - c) Shield volcano
 - d) Volcanic caldera
12. Why was Alfred Wegener's theory of continental drift initially rejected?
- a) He was not a geologist
 - b) His evidence was purely hypothetical
 - c) He could not provide a convincing mechanism for continental movement
 - d) His research focused only in the southern hemisphere
13. Which cycle, besides carbon cycle, is a major element of climate change?
- a) Nitrogen cycle
 - b) water cycle
 - c) phosphorous cycle
 - d) silica cycle
14. How are 'fissure' eruptions different from volcanic eruptions?
- a) Fissure eruptions are more explosive
 - b) Fissure eruptions are more common
 - c) Fissure eruptions release small volumes of lava while volcanic eruptions large volumes.
 - d) Fissure eruptions form plateaus, while volcanic eruptions form conical hills.
15. The Kyoto Protocol set mandatory targets for developed nations to:
- a) Increase their greenhouse gas emissions
 - b) Reduce greenhouse gas emissions

- c) Share technology with developing nations
 - d) Build more nuclear plants
16. What is the most accurate description of 'intergenerational equity' within the context of sustainable development?
- a) Ensuring equal opportunity for all current citizens
 - b) Ensuring that the present generation will not deplete all the resources
 - c) That each generation has the right to develop at its own pace
 - d) Balancing the needs of the present with the needs of future generations
17. What do we mean by 'endogenic' forces in terms of geological activity?
- a) external forces acting on the earth's surface
 - b) forces originating from the earth's core
 - c) force from the atmosphere and the outer space
 - d) forces originating from the sun
18. If two oceanic plates collide, what kind of geological feature will mostly form?
- a) Fold Mountain
 - b) Oceanic Ridge
 - c) Volcanic Island Arc
 - d) Transform Fault
19. Which of the following is the best example of a mitigation strategy regarding global climate change?
- a) Moving to new regions to escape rising sea levels
 - b) Developing drought-resistant crops
 - c) Improving flood defenses
 - d) Developing technology to capture greenhouse gases from the source
20. What is the most accurate description of denudation?
- a) A specific process of the building up of a land surface
 - b) The combined effect of weathering and erosion
 - c) The process of soil becoming more fertile
 - d) The act of protecting forests from deforestation
21. A city experiences increasingly warmer summers and milder winters. What phenomenon is being described?
- a) Weather variability
 - b) Climate change
 - c) Global cooling
 - d) A shift in weather systems
22. Which international agreement on climate change was adopted in 1997, and entered into force in 2005?
- a) The Kyoto Protocol
 - b) The Paris Agreement

c) The Copenhagen Agreement

d) The Montreal Protocol

23. The most significant shortcoming of the Malthusian theory is:

a) Its emphasis on technology

b) Its lack of consideration of natural disasters

c) Its simplistic view of food production capacity

d) Its focus on human behavior

24. In a region where drought has caused severe famine and civil unrest, what kind of conflict is likely to be observed?

a) Resource-based conflict

b) International conflict

c) Political conflict

d) Industrial conflict

25. What is the difference between 'weathering' and 'erosion'?

a) Weathering involves movement while erosion involves a breakdown of rock

b) Weathering is only caused by natural forces while erosion is caused only by human forces.

c) Weathering is the breakdown of rock while erosion is the transport of weathered material

d) Weathering is the chemical change of a rock while erosion is a mechanical destruction

26. Which of the following is NOT an aspect of sustainable development?

a) Intergenerational equity

b) Social justice

c) Environmental integrity

d) Resource exploitation

27. Which of these is a direct cause of an earthquake?

a) Overgrazing

b) Fault lines

c) Volcanic eruption

d) Weathering

28. Which of these does not promote 'sustainable agriculture'?

a) Crop rotation

b) Use of artificial fertilizers

c) Organic farming practices

d) Water harvesting

29. Which of these most closely defines "biosafety"?

a) A method to control spread of diseases

b) A concern for ethical use of biological technologies

- c) A system that preserves natural resources
 - d) A way of protecting animal habitats
30. Why does water play an important role in 'chemical weathering'?
- a) It provides mechanical forces
 - b) It causes expansion of rocks
 - c) It acts as a solvent and transport agent
 - d) It causes erosion of rock surfaces
31. What does 'global warming' mainly involve?
- a) Rising sea level
 - b) Melting Glaciers
 - c) Increasing the average global surface temperatures
 - d) Loss of wildlife habitats
32. The 'precautionary principle' in environmental policy primarily suggests that:
- a) All environmental problems can be solved by technology
 - b) Action should be taken to prevent environmental damage, even if the evidence is not conclusive
 - c) Economic growth should come before environmental preservation
 - d) Environmental policy should be based only on solid scientific evidence
33. What process is used to make large-scale changes of a soil's structure and composition?
- a) Denudation
 - b) Weathering
 - c) Mass wasting
 - d) Soil formation
34. The primary source of nitrous oxide increase in the atmosphere comes from:
- a) Burning of fossil fuels
 - b) Agricultural activities
 - c) Volcanic eruptions
 - d) Deforestation
35. A region has high levels of poverty, social inequality and a lack of access to clean water and sanitation. What type of environmental problem are they facing?
- a) Purely a physical environment problem
 - b) A social problem only
 - c) A combination of economic and environmental problems
 - d) A problem of poor leadership
36. What kind of information can GIS software provide that maps made by hand cannot?
- a) It can generate different projections with accuracy
 - b) It can provide accurate spatial analysis of geographical features.

- c) It can include subjective or artistic representations
- d) It can give the map a unique individual representation

37. What is the primary aim of population control policies?

- a) To regulate population size.
- b) To ensure a uniform distribution of population
- c) To increase birth rates in developing countries
- d) To promote the social status of women

38. What best defines 'food security'?

- a) A nation exporting large quantities of food
- b) Having enough to eat sometimes.
- c) Consistent access to sufficient, safe, and nutritious food
- d) Having access to variety of food at home

39. What is a "lagoon"?

- a) A body of water that contains large salt deposits
- b) A body of water with high mineral concentration
- c) A body of water formed by underground springs
- d) A body of salt water separated from the sea by sand banks

40. What is the main characteristic of a 'cinder cone' volcano?

- a) Large in diameter but with gentle slopes
- b) Conical hill of small volcanic debris
- c) Extremely explosive and dangerous
- d) Usually formed underwater

41. What does a 'stratosphere' contain to protect life on earth?

- a) Nitrogen gas
- b) Oxygen gas
- c) Ozone Layer
- d) Argon gas

42. Which process refers to the release of molten rock to the surface of the Earth?

- a) Folding
- b) Volcanism
- c) Faulting
- d) Mass wasting

43. What are the main causes of a 'hydrological drought'?

- a) Reduction in rainfall.
- b) Reduction in water resources
- c) High level of temperature
- d) Change in the structure of the soil.

44. Which of the following is a fundamental idea of 'free market environmentalism'?

- a) Strict government regulations

- b) Property rights and market forces
 - c) Reliance on international organizations
 - d) Promoting green consumerism
45. Which of these is a key aspect of the 'social dimension' of sustainable development?
- a) Ensuring long-term economic gains
 - b) Promoting equity and inclusion
 - c) Conserving natural resources for future generations
 - d) Encouraging technology development
46. What does 'urban sprawl' refer to?
- a) High concentration of population in one area
 - b) Well-organized urban plan
 - c) The expansion of a city into surrounding rural areas
 - d) A decline in urban populations.
47. In terms of global scale, what is the main idea behind "carrying capacity"?
- a) That the earth can infinitely support humanity
 - b) There is an upper limit to the number of humans and animals that the Earth can sustain
 - c) Humans will have to leave the earth for the coming generations
 - d) Humans will control natural resources according to the laws of supply and demand
48. What do we mean by a "transform" fault boundary in plate tectonic?
- a) Where two plates collide
 - b) Where two plates separate
 - c) Where two plates slide past each other horizontally
 - d) Where one plate is forced under another plate
49. Which of the following processes is NOT a way that soils are naturally created?
- a) Weathering of rocks
 - b) Decomposition of organic matter
 - c) Topsoil being carried away by wind
 - d) Action of earthworms and other organisms
50. Which of the following is not part of the three dimensional approach of sustainable development?
- a) Economic
 - b) Social
 - c) Environmental
 - d) Financial
51. How do greenhouse gases contribute to climate change?
- a) By blocking out the sun's radiation

- b) By absorbing and trapping heat in the Earth's atmosphere
 - c) By reflecting heat into space
 - d) By decreasing the amount of atmospheric oxygen
52. What is a key attribute of 'scientific research'?
- a) Subjectivity
 - b) A systematic and objective approach
 - c) Data collection from random sources
 - d) Hypothesis testing without considering the result.
53. A 'primary' source of data in a research study means that:
- a) Data is obtained from secondary sources
 - b) Data are collected by someone for their specific purpose
 - c) The data is more accurate than the secondary source
 - d) Data are collected by previous researchers
54. A region has high levels of water stress due to prolonged drought. What type of migration is MOST likely to happen?
- a) Rural-to-urban migration
 - b) Forced migration
 - c) International migration
 - d) Urban-to-rural migration
55. Which measure is most often used to illustrate income or wealth inequality in a region?
- a) Net national income
 - b) Per capita income
 - c) Gini coefficient
 - d) Standard of living
56. What are some main indicators of an effective "preventive check" as described in the Malthusian theory?
- a) Higher rate of population growth
 - b) Less children but better livelihood for the families
 - c) Higher mortality among poorer people.
 - d) A higher rate of birth for those who have better resources
57. Which of these is NOT a feature of "good" research questions?
- a) They should be stated in a question form.
 - b) They should be very broad.
 - c) They should be precise
 - d) They should be operational
58. What is 'path-finding' in relation to the application of GIS?
- a) A form of data representation
 - b) A type of network analysis in GIS

- c) An approach for analysing quantitative data
- d) A method for measuring areas

59. Why is it difficult to classify countries into development categories?

- a) Because there are less data to make classifications
- b) Countries progress in development unevenly, according to sectors, and social
- c) All countries have similar pattern of development
- d) Countries like to remain in developing categories.

60. In the 2013, IPCC assessment report, what does the term "extremely likely" mean regarding the cause of climate change?

- a) 75 percent chance
- b) 95 percent chance
- c) 50 percent chance
- d) A weak chance of human influence

61. Which method used to control climate change focuses on removing atmospheric carbon dioxide?

- a) Adaptation strategies
- b) Mitigation strategies
- c) Geoengineering strategies
- d) Technological fix

62. Which of these is most common in a low-lying coastlines?

- a) Mountainous regions
- b) Volcanic regions
- c) Coastal flooding
- d) Land slides

63. In terms of the Milankovitch cycles, what does 'obliquity' refer to?

- a) The shape of Earth's orbit
- b) The wobble of the Earth on its axis
- c) The tilt of the Earth on its axis
- d) The distance from earth to the sun

64. Why is research on the issue of 'poverty' often seen as highly complex?

- a) Because poverty is only economic in nature.
- b) Poverty is a purely geographical phenomena
- c) Because it is often linked to a wide range of social, economic and political factors
- d) Because there is not much data to research on this issue.

65. What are "aerosols" in the context of climate change?

- a) Gases emitted from volcanoes
- b) Liquid or solid particles in the atmosphere

- c) Types of vegetation found in the atmosphere
 - d) Changes in ocean temperatures
66. In which region does the spread of Ebola virus most likely happen?
- a) Areas with strong infrastructure
 - b) Areas with less health infrastructure
 - c) Urbanized areas
 - d) Areas with less vegetation
67. Which of the following describes 'pro-natal' population policies?
- a) Policies that aim to limit population growth
 - b) Policies that aim to reduce population size
 - c) Policies that encourages population growth
 - d) Policies that prioritize family planning
68. Which of the following is a typical activity associated with an "informal" environmental education strategy?
- a) A lecture on environmental law
 - b) A discussion at a public park about reducing consumption
 - c) A course on environmental studies at a college.
 - d) A school curriculum focusing on environmental studies
69. The study of 'isostasy' mainly focuses on:
- a) Movement of the earth by tectonic activities.
 - b) Vertical movements of the earth's crust
 - c) Horizontal movements of earth by continental drift
 - d) Forces acting in the core of the earth.
70. Which is the major reason that desertification is a complex environmental process?
- a) The rate of soil degradation is easy to quantify
 - b) It involves only climate change factor
 - c) Its interactions with many environmental and socio-economic factors
 - d) The natural resilience of dry land ecosystems
71. Which of these best describes a 'shield volcano'?
- a) Conical hill composed of cinder sized pyroclastics
 - b) Broad with gentle sloping sides
 - c) Highly explosive with a vent opening
 - d) Formed by compression of rock layers
72. Which one of these is NOT a characteristic of good governance of natural resources?
- a) Public participation
 - b) Discrimination
 - c) Equitable sharing of benefits
 - d) Transparent decision making

73. Why is "time" an important aspect of drought definitions?
- a) Drought has no relation with a time span
 - b) Drought is always a short term process
 - c) Drought refers to periods of deficiency from the normal or expected
 - d) It does not relate to any specific time
74. Which is the major reason that a water table may be formed?
- a) Water may not percolate further down due to the existence of impermeable layers of rocks.
 - b) Water evaporates before it sinks into the ground
 - c) Water is always found on the surface
 - d) Water cannot pass through a surface because of the high temperature
75. Which type of analysis is mainly concerned with how the features are related to each other?
- a) Buffer analysis
 - b) Overlay analysis
 - c) Network analysis
 - d) Spatial query
76. What does "albedo" measure?
- a) The amount of rainfall in an area
 - b) The amount of wind affecting a region
 - c) The reflectivity of a surface
 - d) The temperature of a surface
77. Which of these is NOT a key feature of "indigenous knowledge"?
- a) It is developed through experimentation
 - b) It is always transmitted verbally or by imitation.
 - c) It is linked to specific places
 - d) It is generally widely shared
78. What is 'tacit knowledge'?
- a) Knowledge acquired through formal training
 - b) Knowledge gained through personal experiences
 - c) Knowledge gained from literature review
 - d) Knowledge which is easy to transmit through textbooks.
79. What does 'pathfinding' mean in GIS data analysis?
- a) Creating buffer zones around features
 - b) Selecting features based on location
 - c) Finding the shortest route between locations
 - d) Overlaying different map layers
80. What is 'interdisciplinary' approach in terms of research?
- a) Researchers specializing only in their area of expertise.
 - b) Researchers sharing knowledge from multiple fields

- c) Researchers working only with qualitative data
 - d) A method of research which is simple and easy
81. What can be concluded about poverty from the view of the Marxian theory?
- a) That it is caused by overpopulation
 - b) That it is caused by a lack of infrastructure
 - c) That it is a consequence of the unequal distribution of resources
 - d) That it is caused by poor natural resources
82. Which are the three main types of soil erosion?
- a) Chemical, mechanical and biological
 - b) Sheet, Rill and Gully
 - c) Physical, geological and ecological
 - d) Water, wind, and glacier
83. What do we mean by "per capita income"?
- a) The total income of all the citizens of a country
 - b) The average income of a person in a given country
 - c) The total income from export of a country
 - d) The value of goods and services produced in a year
84. Which of these is NOT among the main objectives of sustainable development?
- a) Protecting the environment for future generations
 - b) Increasing material consumption
 - c) Ensuring equal access to resources
 - d) Economic growth while maintaining social justice
85. Which one is a likely effect of a sea level rise?
- a) Reduced coastal flooding
 - b) Increased sea water salinity
 - c) Inundation of coastal areas
 - d) Expansion of coastal ecosystems
86. How does the concept of "environmental racism" relates to environmental justice?
- a) It supports fair environmental policies
 - b) It addresses the ways in which certain groups of people are unfairly affected by environmental harm
 - c) It ignores the voices of local communities
 - d) It promotes equal access to resources
87. What is the primary goal of 'family planning' as a population policy tool?
- a) To increase the birth rate
 - b) To improve health outcomes by providing family planning services
 - c) To impose a specific family size
 - d) To encourage marriage at younger age

88. What does 'structural scarcity' in the context of resource scarcity refer to?
- a) Lack of resources due to natural disasters
 - b) Reduced resources due to population growth
 - c) Unequal access to resources
 - d) Limited resources in a given area
89. What is an "extinct" volcano?
- a) One that is currently erupting
 - b) One that has erupted in the past, but is likely to erupt in the future
 - c) One that has erupted in the past, and is not likely to erupt again
 - d) One that is covered with thick layers of vegetation
90. What are the two main subdivisions of "Plate tectonics theory"?
- a) Earthquakes and Volcanoes
 - b) Lithosphere and Asthenosphere
 - c) Continental Crust and Oceanic Crust
 - d) Plate boundaries and plate movements
91. Which of the following is an example of 'mitigation' activity with regard to climate change?
- a) Building seawalls to protect coastlines from rising water
 - b) Developing drought-resistant crops
 - c) Reducing greenhouse gas emissions
 - d) Relocating populations affected by climate change
92. Which type of evidence did Wegener NOT use to support his theory of continental drift?
- a) Similarities in rock types and structures
 - b) Similarity in coastline between continents
 - c) Evidence of fossil distribution on continents
 - d) Mapping of mid ocean ridge
93. Which of these is a type of "plutonic igneous" rock formed beneath the earth's crust?
- a) Sill
 - b) Dike
 - c) Volcano
 - d) Batholith
94. What does "sustainability" refer to as a concept for development?
- a) Using up all resources available now without concern for the future
 - b) Only economic growth and development is important in this context
 - c) Meeting the needs of the present without compromising the ability of future generations to meet their own needs.
 - d) Stopping development until natural resources have recovered from human use.

95. What does the 'Green Legacy' of Ethiopia mainly aims at?
- a) Promoting green energy resources only
 - b) Developing modern infrastructure in cities
 - c) Reducing deforestation through tree planting
 - d) Promoting agricultural activities in arid areas
96. Which of the following is considered to be a "natural" cause of climate change?
- a) Deforestation
 - b) Industrialization
 - c) Changes in Earth's orbit
 - d) Burning of fossil fuels
97. The term "desertification" is most precisely defined when it occurs in:
- a) Humid zones
 - b) Drylands
 - c) Mountainous regions
 - d) Coastal regions
98. What does the term "aridity" primarily refer to?
- a) The ability of people to live in very harsh environments
 - b) The interaction between rainfall, temperature, and evaporation
 - c) The presence of dry sand and lack of vegetation
 - d) The ability of plants to survive without water
99. What is the main goal of "emergency livelihood support" during famine?
- a) To prevent mass starvation and death
 - b) To stop the migration of rural population
 - c) To improve production capacity in the affected areas.
 - d) To help only adults to improve their lives
100. What is "aquifer" mostly described as?
- a) A geological structure with high level of salt
 - b) A geological formation that contains ground water
 - c) A manmade structure used to collect rainwater
 - d) A type of deep river in the earth

Multiple Choice Questions with Explanations:

1. **b) A mantle plume.** Mantle plumes are upwellings of unusually hot rock from the Earth's mantle that can cause volcanic activity and earthquakes away from traditional plate boundaries. The others are either related to plate boundaries, or unrelated.
2. **d) The theory of plate tectonics.** The theory of plate tectonics, which came later, provided the mechanism (the movement of plates) for why continental drift occurred. The rest were evidences for the continental drift.

3. **b) Warming will amplify itself.** Positive feedback loops in climate systems mean that a change in one component of the climate system triggers a response that reinforces the initial change, for instance increase temperature means more melting of ice which further reduces reflection of sun rays resulting in more warming.
4. **c) Oceanic-continental convergent.** The Andes are formed by the subduction of the Nazca Plate beneath the South American Plate, where one plate is forced under another in a convergent zone.
5. **b) The depletion of shared resources due to individual self-interest.** The "tragedy of the commons" illustrates that when a resource is shared by many and individuals act solely in their own interest, the resource gets depleted.
6. **b) Decreasing carbon dioxide levels in the atmosphere.** Reducing carbon dioxide is the most effective way to mitigate climate change in the long term.
7. **b) Climate is long-term average weather pattern while weather is the short-term state of the atmosphere.** Climate refers to long term atmospheric condition and weather is what you experience in a given day.
8. **c) The epicenter is on the surface directly above the focus.** The focus is the location within the earth where an earthquake starts. While the epicenter is the location on the surface directly above the focus.
9. **b) High level of transparency, participation, and equity.** Good governance involves transparent decision-making, where all stakeholders are able to participate and where resources are managed for the benefit of the entire community.
10. **c) Increased consumption and reduced supplies.** Resource scarcity is primarily driven by the dual factors of increased consumption (due to population growth and affluence) and reduced supplies due to degradation of resources and changing environment.
11. **c) Shield volcano.** Shield volcanoes are characterized by their broad, gently sloping shape and effusive (non-explosive) eruptions of lava.
12. **c) He could not provide a convincing mechanism for continental movement.** Wegener's theory lacked a mechanism to explain *how* continents moved, which caused the most scientific criticism during the early 20th century.
13. **b) Water cycle.** The water cycle is critical in understanding how the earth regulate temperature and distribution of heat and precipitation.
14. **d) Fissure eruptions form plateaus, while volcanic eruptions form conical hills.** Fissure eruptions release large volumes of lava from cracks, creating plateaus, while volcanic eruptions form hills by accumulation of material on a vent opening.
15. **b) Reduce greenhouse gas emissions.** The Kyoto Protocol had set legally binding targets for developed countries to reduce their greenhouse gas

emissions.

16. **d) Balancing the needs of the present with the needs of future generations.** Intergenerational equity emphasizes that current actions should not compromise the ability of future generations to meet their own needs.
17. **b) forces originating from the earth's core.** Endogenic forces are internal forces that causes changes like folding and faulting on the earth surface.
18. **c) Volcanic Island Arc.** When two oceanic plates converge, one is subducted creating magma that rise up and create islands.
19. **d) Developing technology to capture greenhouse gases from the source.** It directly addresses the source of the problem.
20. **b) The combined effect of weathering and erosion.** Denudation is a term for processes that wear down or denude the earth's surface.
21. **b) Climate change.** Climate change reflects long-term shifts in weather patterns, including increasing temperatures.
22. **a) The Kyoto Protocol.** The Kyoto Protocol was adopted in 1997 and came into force in 2005, setting legally binding reduction targets.
23. **c) Its simplistic view of food production capacity.** Malthus's theory failed to consider technological advances and social changes that increase agricultural productivity.
24. **a) Resource-based conflict.** When there is scarcity and competition for resources, conflict is bound to happen.
25. **c) Weathering is the breakdown of rock while erosion is the transport of weathered material.** Weathering is a destructive process on rocks in one place while erosion is about the transport of that material somewhere else.
26. **d) Resource exploitation.** Sustainability involves careful management, not exploitation, of resources.
27. **b) Fault lines.** Earthquakes are a result of movement along fault lines in the earth's crust.
28. **b) Use of artificial fertilizers.** Artificial fertilizers degrade soil over long period of time and also pollute waterways.
29. **b) A concern for ethical use of biological technologies.** Biosafety primarily addresses the risks associated with biological research and biotechnology.
30. **c) It acts as a solvent and transport agent.** Water can chemically react with rocks and minerals, breaking them down, and also can transport them from one place to another.
31. **c) Increasing the average global surface temperatures.** While other things are involved, rising global average temperature is the primary element of global warming.
32. **b) Action should be taken to prevent environmental damage, even if the evidence is not conclusive.** The precautionary principle states that

preventative action should be taken to avoid possible harm even if the extent of damage is not yet clear.

33. **d) Soil formation.** Denudation is a process of lowering the land by removing surface material through weathering, erosion and mass wasting.
34. **b) Agricultural activities.** Nitrogen fertilizers and animal waste release nitrous oxide into the atmosphere.
35. **c) A combination of economic and environmental problems.** Poverty and social inequality often exacerbate environmental issues.
36. **b) It can provide accurate spatial analysis of geographical features.** GIS can do spatial analysis with more precision and provide several overlay outputs
37. **a) To regulate population size.** Anti-natalist policies are designed to reduce population growth.
38. **c) Consistent access to sufficient, safe, and nutritious food.** This highlights all dimensions of food access.
39. **d) A body of salt water separated from the sea by sand banks.** Lagoons are formed by accumulation of sand bars parallel to the sea shore.
40. **b) Conical hill of small volcanic debris.** Cinder cone volcanoes have a conical shape formed by the accumulation of cinders and other small particles from volcanic eruptions.
41. **c) Ozone Layer.** The ozone layer in the stratosphere absorbs harmful UV radiation.
42. **b) Volcanism.** Volcanism describes the process by which molten rock reaches Earth's surface.
43. **b) Reduction in water resources.** Hydrological drought specifically refers to reductions in water storage and flow.
44. **b) Property rights and market forces.** Free market environmentalism contends that protecting property rights will result in environmental preservation.
45. **b) Promoting equity and inclusion.** Social sustainability concerns equal access, treatment and opportunities for all people
46. **c) The expansion of a city into surrounding rural areas.** Urban sprawl is characterized by the spread of cities outward, often in a disorganized manner.
47. **b) There is an upper limit to the number of humans and animals that the Earth can sustain.** Carrying capacity is the maximum number of individuals an environment can support long term.
48. **c) Where two plates slide past each other horizontally.** Transform boundaries are where plates grind past each other without creating new crust or destroying old crust.
49. **c) Topsoil being carried away by wind.** While soil erosion is a part of soil formation process, topsoil being carried away by wind leads to formation of a

poor soil.

50. **d) Financial.** Financial stability while important is not a specific pillar of sustainable development.
51. **b) By absorbing and trapping heat in the Earth's atmosphere.** Greenhouse gases trap heat and raise the Earth's temperature.
52. **b) A systematic and objective approach.** Scientific research is objective and systematic, using established methods to gain reliable knowledge
53. **b) Data are collected by someone for their specific purpose.** Primary sources are the original data collected by the researcher themselves.
54. **b) Forced migration.** Water scarcity often leads to human migration from drought-affected areas.
55. **c) Gini coefficient.** The Gini coefficient is a statistical measure of income or wealth inequality.
56. **b) Less children but better livelihood for the families.** Malthus suggested that if people are conscious and less children are born, food supply will cope up with the demand
57. **b) They should be very broad.** Research questions need to be specific and focused.
58. **c) Finding the shortest route between locations.** Pathfinding is an application of network analysis.
59. **b) Countries progress in development unevenly, according to sectors, and social**
Countries face different paths of development.
60. **b) 95 percent chance.** IPCC reports use defined terms of likelihood to express probabilities of particular scenarios
61. **c) Geoengineering strategies.** Geoengineering is a controversial idea to tackle the causes and impacts of climate change through large scale projects to remove carbon dioxide from the atmosphere.
62. **c) Coastal flooding.** Sea level rise causes inundation of coastal areas.
63. **c) The tilt of the Earth on its axis.** The obliquity refers to the variation in the tilt of the earth on its axis over time which affects the level of solar energy reaching different part of the earth.
64. **c) Because it is often linked to a wide range of social, economic and political factors.** Poverty often arises from a complex interaction of these different factors.
65. **b) Liquid or solid particles in the atmosphere.** Aerosols can either reflect or absorb sunlight and affect climate.
66. **b) Areas with less health infrastructure.** Areas with less developed infrastructure are often unable to manage large scale health crisis like Ebola.

67. **c) Policies that encourages population growth.** Pro-natalist policies are designed to encourage higher birth rates
68. **b) A discussion at a public park about reducing consumption.** Informal education takes place outside of a traditional classroom.
69. **b) Vertical movements of the earth's crust.** Isostasy is a balance between the crust and mantle that control the vertical movements.
70. **c) Its interactions with many environmental and socio-economic factors.** Desertification is a complex process influenced by natural and human factors.
71. **b) Broad with gentle sloping sides.** Shield volcanoes are known for their broad, gently sloping sides formed by fluid lava flows.
72. **b) Discrimination.** Good governance involves fair and equal access to resources and is free of discrimination.
73. **c) Drought refers to periods of deficiency from the normal or expected.** Drought is only used to denote the degree of deviation from the long-term rainfall condition over a time.
74. **a) Water may not percolate further down due to the existence of impermeable layers of rocks.** Impermeable layers of rocks trap ground water and help in the formation of a water table.
75. **d) Spatial query.** Spatial query involves selecting features based on location.
76. **c) The reflectivity of a surface.** Albedo is the measure of how well a surface reflects sunlight.
77. **b) It is always transmitted verbally or by imitation.** While oral transmission is common, indigenous knowledge can also be embodied in practices, rituals, or written forms.
78. **b) Knowledge gained through personal experiences.** Tacit knowledge is practical or experiential knowledge that is hard to codify.
79. **c) Finding the shortest route between locations.** Pathfinding is a basic function of network analysis in GIS.
80. **b) Researchers sharing knowledge from multiple fields.** Interdisciplinary research brings together experts from various disciplines to solve problems.
81. **c) That it is a consequence of the unequal distribution of resources.** Marxist perspectives consider the mode of production as a cause of poverty.
82. **b) Sheet, Rill and Gully.** These are the main types of soil erosion caused by water flow.
83. **b) The average income of a person in a given country.** Per capita income is calculated by dividing a country's total income by its population.
84. **b) Increasing material consumption.** Sustainable development seeks to meet needs without over-consumption.
85. **c) Inundation of coastal areas.** Rising sea level causes flooding of the coast line.

86. **b) It addresses the ways in which certain groups of people are unfairly affected by environmental harm.** Environmental racism is an outcome of injustice and inequity.
87. **b) To improve health outcomes by providing family planning services.** While an aim is to limit population growth, the focus is on access to health resources for planning families.
88. **c) Unequal access to resources.** Structural scarcity is when access to resources is restricted to some groups of a given society.
89. **c) One that has erupted in the past, and is not likely to erupt again.** Extinct volcanoes are those that are not currently erupting and are not expected to erupt again.
90. **b) Lithosphere and Asthenosphere.** The plate tectonics theory is based on the nature of the outer layers of the Earth.
91. **c) Reducing greenhouse gas emissions.** Mitigation means actions that try to reduce the intensity of the problem.
92. **d) Mapping of mid ocean ridge.** Mapping the sea floor was not available to Wegner at his time.
93. **d) Batholith.** A batholith is a large dome of intrusive igneous rocks that forms within the crust.
94. **c) Meeting the needs of the present without compromising the ability of future generations to meet their own needs.** This definition incorporates the environmental, economic, and social needs for both present and future generations.
95. **c) Reducing deforestation through tree planting.** Green legacy is an activity that promotes afforestation.
96. **c) Changes in Earth's orbit.** Earth's orbital variations affect the amount of solar radiation received, which impact climate.
97. **b) Drylands.** Desertification is a specific type of land degradation that happens in arid, semi-arid, and dry sub-humid areas.
98. **c) The interaction between rainfall, temperature, and evaporation.** Aridity is measured by a dryness index, that is influenced by these factors.
99. **a) To prevent mass starvation and death.** Emergency relief is to address critical needs quickly and provide temporary aid.
100. **b) A geological formation that contains ground water.** Aquifers are underground layers of rock or soil that store and transmit groundwater.

Instructions: Choose the best answer from the given alternatives for each question.

Multiple-Choice Questions (Advanced Level):

1. Which scenario best illustrates the concept of isostatic equilibrium?
 - a) The formation of volcanic islands along a subduction zone
 - b) The uplift of landmass after glacial ice melts
 - c) The widening of a mid-ocean ridge due to plate divergence
 - d) The sinking of crust at a collision plate boundary
2. If a region has a history of large, frequent earthquakes and volcanoes with a lack of clearly defined plate boundary. How is this best explained in terms of plate tectonic theory?
 - a) A newly emerging fault line
 - b) A subduction zone of continental plates
 - c) The region overlies a mantle plume
 - d) There is lack of any movement within the region.
3. If a system is experiencing a negative feedback loop related to temperature change. What would likely happen?
 - a) The temperature will rise exponentially
 - b) The temperature will remain constant
 - c) The temperature increase will be diminished
 - d) It will result in an increase in the number of green house gases
4. The formation of the Himalayas is a direct result of:
 - a) Oceanic crust subducting beneath continental crust.
 - b) Two continental plates colliding
 - c) Volcanic activity along a mid-ocean ridge
 - d) Transform faulting across a large area
5. What would be the most critical aspect to consider when evaluating policies designed to promote sustainable consumption?
 - a) The social equity that could address the issue of inequality.
 - b) The environmental cost involved with over utilization of resources
 - c) The economic factors that may favor or disfavour certain groups
 - d) All of the above
6. What policy can be said to be an example of mitigating climate change?
 - a) The use of air conditioners during summer days.
 - b) Increased use of fossil fuels for industries
 - c) Shifting to solar and wind energy
 - d) Planting only mono cultural trees
7. In terms of a weather station, which part of climate should it measure?
 - a) The daily atmospheric conditions
 - b) The annual average of a set of weather conditions

- c) The instantaneous conditions of the atmosphere
 - d) The variability of weather patterns over time
8. If you have just experienced the arrival of a "P" wave followed by "S" wave and then a series of "surface waves". What type of wave is the most devastating?
- a) the P waves
 - b) the S waves
 - c) The Love waves
 - d) The Raleigh waves
9. Which of the following is NOT a good representation of natural resource governance?
- a) Community participation in resource management
 - b) Discriminatory resource allocation
 - c) Equitable sharing of benefits
 - d) Transparent and accountable governance
10. What is the most logical explanation for increasing the rate of desertification?
- a) Natural cycles that bring about the increase in deserts over time
 - b) Human influence on the natural systems and resources
 - c) The fact that drylands are always expanding
 - d) The interaction of natural and environmental factors only.
11. What can be concluded about volcanic eruptions occurring in a place where two tectonic plates are converging?
- a) The eruptions will be less frequent and more explosive
 - b) The eruptions will be more frequent and less explosive
 - c) The eruptions will be less frequent and less explosive
 - d) The eruptions will be more frequent and more explosive
12. What was the main limitation of Wegener's continental drift theory, as understood during his time?
- a) It was too radical
 - b) It only applied to the southern hemisphere
 - c) It lacked a valid mechanism to explain movement
 - d) It was not well presented to the scientists
13. If we say that the earth is like a greenhouse what aspect of the atmosphere is most focused on?
- a) The level of gases in the stratosphere
 - b) The gases that trap heat and raise the temperature
 - c) The distribution of water vapour
 - d) The impact of acid rains
14. A plateau that is created by volcanic activity is MOST likely caused by:
- a) A stratovolcano eruption
 - b) A shield volcano eruption

- c) A fissure eruption
 - d) An explosive eruption that create a caldera
15. What does the principle of “common but differentiated responsibilities” in the UNFCCC refer to?
- a) All nations should act equally on climate change
 - b) Wealthy nations should have more financial responsibility
 - c) All countries should ignore their social conditions while managing climate change
 - d) Developing nations should take the lead in emissions reduction.
16. The most significant challenge to making a decision about sustainability is that:
- a) It requires all sectors to act together
 - b) It may conflict with economic development
 - c) It ignores the need for innovation
 - d) It often needs more resource use than the old methods
17. If we compare tectonic and exogenic forces in shaping of a landscape, which of these statements is most correct?
- a) Tectonic forces increase height of the land, exogenic decrease it
 - b) Tectonic forces and exogenic forces work in a similar way to achieve the same goal
 - c) Exogenic forces help the tectonic forces to reach their goal of building landscapes.
 - d) Both forces shape a landscape, and at a specific times only one of the two forces take precedence.
18. The Mariana trench is formed from which type of plate boundary?
- a) Continental collision
 - b) Transform boundary
 - c) Oceanic divergent
 - d) Oceanic convergent
19. Which statement best explains why adaptation to climate change is considered essential?
- a) Mitigation efforts have proven ineffective, hence we should focus on adaption
 - b) Climate change will occur irrespective of how much effort made to reduce the causes
 - c) Climate change is happening faster than previously predicted, making some impacts unavoidable
 - d) Adaptation is important as it is cheaper than mitigation
20. A study shows the presence of limestone pillars that form upward from the cave floor. What process most likely led to the formation of these landforms?

- a) Erosion by running water
 - b) Deposition of minerals from dripping water
 - c) Mass movement of rocks
 - d) Wind action
21. Which factor, by itself, is insufficient to define 'climate'?
- a) Average annual temperature
 - b) Average annual rainfall
 - c) A specific atmospheric condition in a single year
 - d) Long-term pattern of a set of weather conditions
22. What is the main focus of the 'Marrakesh Accords', that was agreed upon during COP 7?
- a) To set new targets for greenhouse gas emissions
 - b) To create a framework for adaptation
 - c) To lay down rules for carbon trading and emission reductions
 - d) To focus on the scientific research aspect of the climate change
23. What is the biggest difference in approach between Malthusian and Boserup's viewpoints on population growth and food production?
- a) Malthus believe that technology will solve the problem while Boserup focused on natural processes
 - b) Malthus argued for population control while Boserup saw innovation in agriculture
 - c) Malthus's viewpoint is focused on the developed world while Boserup's view is in developing
 - d) Malthus based his theory on empirical observation while Boserup on theoretical framework
24. What is the relationship between poverty and resource conflicts?
- a) Poverty has no effect on causing conflicts.
 - b) Resource conflicts only creates poverty but not the other way around.
 - c) Poverty can be a trigger for conflict, and conflict can exacerbate poverty.
 - d) Conflicts only result from political power struggles.
25. A region exhibits exfoliation, frost action, and plant action. What type of rock breakdown is occurring?
- a) Only mechanical
 - b) Only chemical
 - c) A combination of mechanical and chemical
 - d) Only Biological
26. Which of the following is NOT related to the three pillars of sustainable development?
- a) Ensuring social equity
 - b) Promoting environmental conservation

- c) Maximizing resource exploitation
 - d) Fostering economic growth
27. What kind of information can you get from the Richter Scale?
- a) The location of an earthquake's epicenter
 - b) The intensity of an earthquake
 - c) The time that an earthquake occurred
 - d) The depth of an earthquakes focus
28. Which of these options best captures the link between plate tectonics and volcanic distribution on earth?
- a) Volcanoes occur only in plate boundary
 - b) Volcanoes are spread across the earth
 - c) Volcanoes are mainly formed on oceanic ridges and subduction zones
 - d) Volcanoes are formed by convection currents
29. How does the concept of 'environmental discrimination' relates to environmental justice?
- a) It promotes equal access to clean water
 - b) It helps all the population with an equal share of resources.
 - c) It focuses on the negative impacts of environmental decisions on marginalized groups
 - d) It provides solutions to climate change
30. Which of these processes causes chemical weathering?
- a) Water dissolving minerals in the rock
 - b) Breaking of rock by tree roots
 - c) Expansion of ice in a rock fracture
 - d) Transportation of loose sediment
31. The rise of sea level affects more some regions than others. Which of the following factors affect the vulnerability of a region to sea level rise?
- a) The geographical settings and infrastructure facilities
 - b) The adaptation techniques applied by the citizens
 - c) The level of industrial activities
 - d) All of the above
32. According to the IPCC reports, what will happen to extreme weather events?
- a) They will decrease significantly
 - b) They will remain the same
 - c) They will become more frequent and intense
 - d) They will only occur in particular regions.
33. In relation to 'soil erosion' what do you understand by sheet erosion?
- a) When the top soil are carried away by sheet flow of water
 - b) When small channels are carved in the soil.

- c) When large gullies are formed due to heavy rain.
 - d) When the soil moves down through mass wasting
34. Which of the following natural factors contributes to climate change by varying solar radiation input?
- a) Changes in atmosphere composition
 - b) Changes in earth's orbit
 - c) Changes in land use patterns
 - d) Variation in the earth's topography
35. Which type of plate movement is associated with the formation of the San Andreas Fault?
- a) Convergent
 - b) Divergent
 - c) Transform
 - d) Isostatic
36. What is the most significant contribution of GIS technology in geographical studies?
- a) The ease of map making with its help.
 - b) Its ability to conduct spatial data analysis
 - c) Its ability to represent data through maps
 - d) Its ability to generate hardcopies of maps
37. What are the main ideas behind anti-natalist policies?
- a) To increase the rate of immigration
 - b) To decrease the birth rate
 - c) To encourage people to have more children
 - d) To improve the health facilities for child delivery
38. The main challenge in achieving "food security" is:
- a) Producing more food.
 - b) Making food available to all and accessible.
 - c) Importing foods from other countries
 - d) The use of modern technology in food production.
39. What is a "spit"?
- a) A circular body of water
 - b) A narrow, low lying extension of sand from the coastline.
 - c) A deep underwater ravine in the sea
 - d) A small island off the coast
40. Which best defines "volcanism"?
- a) The gradual uplifting of a mountain
 - b) The sudden and violent movement of earth
 - c) The process of molten rock reaching the surface
 - d) The shifting of tectonic plates.

41. What is the major effect of having thinner ozone layer?
- a) increase in temperature on earth
 - b) higher intensity of ultraviolet radiation reaching the earth's surface
 - c) higher carbon dioxide level in the atmosphere
 - d) increase in global rainfall
42. Which among these landform is mainly formed by lateral erosion of running water?
- a) Ox-bow lake
 - b) Waterfalls
 - c) Gorge
 - d) Rift Valley
43. A region has frequent temperature and precipitation changes which results in decreased soil moisture and food production. What type of drought is being observed?
- a) Hydrological drought
 - b) Agricultural drought
 - c) Meteorological drought
 - d) Socio-economic drought
44. Which one is NOT a guiding principal of good natural resource management?
- a) Recognizing the cultural integrity of the community
 - b) Promoting environmental sustainability
 - c) Focusing solely on economic development
 - d) Transparency and participation
45. Why do many developing countries favor economic growth over environmental protection?
- a) Because they have higher technology
 - b) Because they want to follow industrialised countries
 - c) Because they cannot afford environmental protection
 - d) Because they believe environmental damage will only affect the developed world
46. Which term refers to a situation where people migrate out of an area in search of better livelihood conditions?
- a) Rural to urban migration
 - b) Chain migration
 - c) Out-migration
 - d) Internal migration
47. Which of the following is a correct statement about the 'neo-Malthusian' view of population growth?
- a) Population growth is a result of poverty
 - b) Population growth is needed for economic development

- c) Population growth can be controlled by access to birth control
 - d) Population growth is an essential component of development
48. Which of these is a direct result of the 'Great Famine' that happened in Ireland?
- a) A population decline of nearly 50% of the population
 - b) A boom in their economy
 - c) An increase in production of potato
 - d) No change in their demography and political power
49. In a GIS environment, what does 'buffering' typically create?
- a) A new layer by combining features from two layers.
 - b) An area of influence around a spatial feature.
 - c) A distance matrix.
 - d) A road network.
50. Which of the following is a "primary" data source for a geographical research?
- a) Census data published by government
 - b) A research article published in a journal
 - c) Satellite imageries captured by the researcher themselves
 - d) Newspaper report about a natural disaster
51. What role do indigenous people play in the preservation of local medicinal resources?
- a) They promote large scale farming of medicinal resources
 - b) They use the resources for commercial purposes only.
 - c) They protect the resources by protecting the surrounding nature
 - d) They share the information with everyone and expose the resources.
52. What process leads to the formation of a 'V-shaped valley'?
- a) Deposition of sediments in rivers
 - b) Mass wasting
 - c) Erosion from wind and water
 - d) Glacial action
53. Which of the following statements is true about the formation of 'loess' deposits?
- a) Loess are deposits along a river floodplain
 - b) Loess deposits are sediments of rocks
 - c) Loess deposits are very fertile soils carried and deposited by wind.
 - d) Loess are deposits along the coast line.
54. What is a major challenge to use of renewable energy in a large scale?
- a) The high initial cost of infrastructure
 - b) That they are more expensive than fossil fuels
 - c) That the technologies are not fully developed yet.
 - d) That they will make people become lazy.

55. In general, what is the primary goal of "environmental education"?
- a) To teach the scientific details of environmental issues
 - b) To promote a certain political ideology
 - c) To encourage active and engaged citizenship in managing the environment
 - d) To train more people to join environment based organizations
56. Which of the following is most likely an impact of long-term droughts on the social aspects of a community?
- a) Increase in agricultural production.
 - b) Improvement of their infrastructure.
 - c) Increased political stability.
 - d) Increased incidence of community conflicts and migrations
57. What do you understand by "overgrazing" in terms of desertification?
- a) A healthy amount of livestock in the grasslands.
 - b) Allowing the land to recover after grazing.
 - c) The grazing of animals beyond the capacity of the land to regenerate.
 - d) Allowing free movement of animals on grasslands.
58. Which process is the main cause of 'chemical' weathering?
- a) Changes in temperature
 - b) Mechanical forces
 - c) Action of water, gasses and acids
 - d) Plant action on the rocks
59. Which of these statement is TRUE about the lithosphere?
- a) It is a relatively soft layer on top of the asthenosphere.
 - b) It is a rigid and hard layer including the earth crust
 - c) It is formed of magma and lava
 - d) It is a layer that provides lubrication to the earth's movement
60. What type of rock forms in an environment that undergoes high pressure and high temperatures?
- a) Igneous
 - b) Sedimentary
 - c) Metamorphic
 - d) All types of rocks
61. How do geographers mainly look at global warming?
- a) It's an atmospheric phenomena and it needs atmospheric studies
 - b) It is a problem that has different patterns and spatial distribution
 - c) It is mainly a problem of the developed world
 - d) It is an issue that should be left to scientists only.
62. In the context of GIS data analysis, what does the term 'overlay' mean?
- a) Combining data from multiple layers to create new data
 - b) Displaying only single data on a map layer

- c) Selecting features based on their attribute
 - d) Finding the closest distance to a particular feature
63. What is a key aspect of the 'Paris Agreement' on climate change?
- a) Binding emission reduction targets to all nations
 - b) Voluntary commitments by each country to reduce greenhouse gas emissions
 - c) A binding carbon tax for all developed nations
 - d) Developing new technologies to counter climate change.
64. Which of the following best defines 'transboundary resources'?
- a) Resources found only in a given area
 - b) Resources that exist in a country and are utilized by the same country
 - c) Resources shared between two or more countries
 - d) Resources mainly found in one country
65. Which type of poverty mostly refers to the state of being unable to meet basic needs of life such as food, shelter, etc?
- a) Relative poverty
 - b) Absolute poverty
 - c) Intergenerational poverty
 - d) Cyclical poverty
66. What is meant by "social" as a component of sustainability?
- a) Creating only opportunities to earn more money
 - b) Prioritizing only on resource utilization
 - c) Focusing only on human rights.
 - d) Creating equitable opportunities and justice.
67. Which of these is NOT a strategy that can help individuals in an agricultural community to cope with drought?
- a) Crop diversification
 - b) Growing drought-resistant crops
 - c) Increased deforestation
 - d) Water harvesting
68. Which of the following is not a direct output of data visualization in a GIS environment?
- a) A map that shows all hospitals in a region
 - b) A graph that shows the trend of temperature
 - c) A report that predicts a political instability in an area
 - d) A table that contains statistical data about the population in the region
69. Which of the following best describes the practice of "terracing"?
- a) Building of dams for water management
 - b) Planting specific plant species in mountains to control erosion

- c) Creation of flat platforms or ridges on slopes for agriculture
 - d) Building houses in the upper most side of a mountain.
70. The term "carrying capacity" is relevant in the study of population and environment as:
- a) It is used to show that humans are capable of expanding infinitely on earth.
 - b) It shows the amount of resources that a community can obtain
 - c) It is used to show that the earth has no limit to resource abundance.
 - d) It shows the ability of the earth to carry a limited number of organisms only.
71. What does the acronym "IPCC" stand for?
- a) International Panel on Climate Change
 - b) Intergovernmental Partnership for Climate Control
 - c) Intergovernmental Panel on Climate Change
 - d) International Partnership Council on Climate Change
72. Which of the following is the main goal of adaptation strategies in climate change?
- a) To promote industrialization in a more sustainable way
 - b) To increase the use of fossil fuels
 - c) To manage the unavoidable impacts of climate change.
 - d) To decrease greenhouse gas emission from industries
73. What is the primary concern of the "environmental stewardship" model?
- a) To treat existing diseases caused by pollution
 - b) To provide access to health services
 - c) To control disease causing agents
 - d) To address environmental problems and the effects it has on human lives
74. The "Bonn Agreements" which is a part of COP 6 is mainly focused on which issues?
- a) Developed new technologies for developing countries.
 - b) Creating new methods for mapping coastal zone erosion.
 - c) Carbon trading and emission reductions
 - d) Setting up new goals for energy production
75. What is meant by 'spatial interaction' when talking about network analysis?
- a) Finding the shortest route in the road system
 - b) The accessibility of a location and the interactions that occur between different locations
 - c) Finding the most efficient way of allocating a resource
 - d) The best location for creating a facility.
76. What is an important characteristic of a "cinder cone" volcano?
- a) High viscosity magma and gentle slopes
 - b) Large crater formed by an explosive eruption

- c) Ejected material forming a steep conical shape
 - d) Volcanic activity occurs due to tectonic plates divergence
77. How do scientists mainly confirm the existence of human influence on climate change?
- a) by examining fossils
 - b) By analyzing ice core records and atmospheric observations
 - c) By studying earth's orbit
 - d) By calculating the effect of greenhouse gases on the past.
78. In what way is a flood plain useful to human?
- a) It is usually prone to hazards such as flooding
 - b) It has rich fertile soil that makes it ideal for agriculture
 - c) It is used for building houses
 - d) It is a good place for commercial activities.
79. What is the central concept of "Mass Wasting"?
- a) The breaking of rock by weathering
 - b) The movement of materials down a slope under gravity
 - c) The shaping of landscape by wind
 - d) The transport of material by rivers
80. Which of these can be a cause of a "hydrological drought"?
- a) Below average rainfall over a long period of time
 - b) Reduction of groundwater recharge.
 - c) Increase in temperature of an area
 - d) Divergence of plate tectonics.
81. How is "social equity" related to sustainability?
- a) It refers only to increasing the financial status of all people.
 - b) It refers to a condition where everyone is free to use resources.
 - c) It emphasizes fair distribution of resource use
 - d) It is related to a system where everyone has equal access to education.
82. What does the concept of "entitlement" to food refer to?
- a) A system of distributing food for free
 - b) A right to access food irrespective of their socio-economic status
 - c) A mechanism for people to acquire food through different social means
 - d) A governmental mechanism to control food production and price.
83. Which of these is a primary component of a "sustainability" program?
- a) Maximizing the use of natural resources
 - b) Prioritizing the current needs over future generations
 - c) Balancing the environmental, social and economic aspect of development
 - d) Relying only on technological innovation to solve the challenges
84. Which of the following is an example of a "Secondary Data" for geographic study?

- a) Soil sample collected in the field by a student.
 - b) A survey that the researcher designed themselves
 - c) A weather report provided by a national meteorology agency
 - d) A photo taken using remote sensing techniques
85. What is the most important contribution of the 'Kyoto Protocol' to global climate change efforts?
- a) It promoted the use of renewable energy in developing countries.
 - b) It set legally binding emission reduction targets for many nations
 - c) It called for more scientific research on the climate change
 - d) It helped to create environmental awareness.
86. A region has high levels of poverty, inequality and frequent severe droughts. This can be characterized as?
- a) A socio-economic and political problem
 - b) Purely an environmental problem
 - c) A combination of environmental and social problems
 - d) A social problem only.
87. What makes 'volcanic eruptions' have a major impact on climate?
- a) The release of gases and particles into the atmosphere
 - b) The increase in the level of volcanic mountains
 - c) The change in the ocean level
 - d) The changing of soil conditions
88. What would you understand by the term "tacit knowledge"?
- a) Knowledge that is only available to certain types of scientists.
 - b) A scientific method of proving facts.
 - c) Knowledge gained from personal experience.
 - d) Knowledge gained from scientific research.
89. What is the main purpose of "public participation" in natural resource management?
- a) To reduce social responsibility in resource management
 - b) To ensure decisions are made without external pressure
 - c) To enable communities to have a say in policies and decisions that affect them
 - d) To prioritize the government power in resource management.
90. Why do some environmental problems require solutions on a global scale?
- a) Because it will reduce the work load for national governments
 - b) Because it is a complicated scientific research to deal with such problems
 - c) Because they can affect the whole planet irrespective of geographical boundaries.
 - d) Because it is the easiest way to access fund for the research.

91. What does the term “overgrazing” mainly refer to?
- a) The careful use of grasslands
 - b) A way of controlling soil erosion in grasslands
 - c) Grazing beyond the land's ability to replenish vegetation
 - d) The proper ways of feeding livestock
92. In the context of the 'Milankovitch Cycles', what does "precession" refer to?
- a) The shape of the earth's orbit
 - b) The tilt of the Earth on its axis
 - c) The wobble of the earth on its axis
 - d) The speed of the Earth's rotation
93. Which of the following best defines the purpose of a 'buffer' in GIS analysis?
- a) Creating boundaries for study area.
 - b) Creating a line of connection between different places.
 - c) An area with a measured distance around a spatial feature
 - d) An area of high altitude.
94. Why is the concept of sustainability important for our planet?
- a) To promote short-term profit.
 - b) To make sure that there are resources for the next generation.
 - c) To enable only the developed countries to use the available resources.
 - d) To make life easier for current generation without concern for future implications.
95. If the sea level rises, what effects will be most likely seen on coastal wetlands?
- a) They will expand with more biodiversity.
 - b) They will contract and possibly be lost entirely
 - c) They will have more freshwater content.
 - d) They will not be affected by sea level rise.
96. Which statement is most accurate about the 'standard of living' for the majority of developing nations?
- a) There is a sharp increase over the last decades
 - b) It has not improved significantly and remains mostly low
 - c) It increased significantly with no concern for resource utilization
 - d) It has increased because developing nations are importing all goods
97. What does the “Bonn Agreement” under COP 6 aims at?
- a) To reduce the level of carbon in the atmosphere
 - b) To create a new plan of adaptation strategies.
 - c) To implement clean development mechanism and emission trading system.
 - d) To develop climate change research facilities
98. Which of the following are main goals of “environmental justice” movements?
- a) To ensure that every group has access to healthy environment.
 - b) To provide environmental benefit without the burdens

- c) To control access to resource according to the existing power structure.
 - d) To prioritize the need of the majority over minority groups.
99. Which of the following does the concept "carrying capacity" indicate with respect to human population?
- a) The earth can support unlimited human population.
 - b) There is a certain limit to the number of people earth can support
 - c) That there should not be any kind of control on population.
 - d) That humans should be able to create technology to increase the limit.
100. Why is it difficult to have a universal definition of "meteorological drought"?
- a) Because droughts are predictable
 - b) Because of the difficulty to observe weather systems
 - c) Because the amount of rainfall is different depending on the regions.
 - d) Because every region has similar climatic conditions.

Answer Key

Multiple-Choice Questions (Advanced Level) with Explanations:

1. **b) A mantle plume.** Mantle plumes are localized upwellings of heat causing volcanic activity that are not at plate boundaries.
2. **d) The theory of plate tectonics.** Evidence was not the problem for Wegener, it was the lack of mechanism for movement which plate tectonic solved.
3. **b) Warming will amplify itself.** Positive feedback loops create a self-reinforcing cycle where warming causes more warming.
4. **b) Continental-continental convergent.** The Himalayas formed from a direct collision between India and the Eurasian plate.
5. **b) The depletion of shared resources due to individual self-interest.** This captures the core problem of overuse of resources when individuals act in their self-interest.
6. **c) Shifting to solar and wind energy.** These technologies greatly reduce greenhouse gas emissions which are main driver of climate change.
7. **b) Climate is long-term average weather pattern while weather is the short-term state of the atmosphere.** Climate is about the long-term trends and weather refers to daily conditions.
8. **d) The Raleigh waves.** Surface waves are the most destructive as they travel along the surface of the Earth, with greatest ground motions.
9. **b) High level of transparency, participation, and equity.** Good governance requires open and inclusive processes.

10. **c) Increased consumption and reduced supplies.** Overuse of resources and decreased replenishment are the main drivers of scarcity.
11. **c) Shield volcano.** They erupt effusively, rather than explosively.
12. **c) He could not provide a convincing mechanism for continental movement.**
Wegener lacked a scientific method for the "how" continents moved.
13. **b) water cycle.** Water cycle is very crucial in weather and climate regulation.
14. **d) Fissure eruptions form plateaus, while volcanic eruptions form conical hills.** This differences the type of landforms formed by these types of activity
15. **b) Reduce greenhouse gas emissions.** This was the core commitment to the first and second period of commitment of the Kyoto Protocol.
16. **d) Balancing the needs of the present with the needs of future generations.**
It implies we should use resources judiciously for present and for future generations.
17. **a) Tectonic forces increase height of the land, exogenic decrease it.** The interaction of these forces results in the creation of diverse features.
18. **d) Oceanic convergent.** Subduction occurs when one oceanic plate subduct under the other and create trenches
19. **c) Climate change is happening faster than previously predicted, making some impacts unavoidable.** Even if we drastically reduce the intensity of climate change, some impacts are unavoidable and it's best to adapt
20. **b) Deposition of minerals from dripping water.** Stalactites and stalagmites are formed by mineral deposition in cave environment.
21. **c) A specific atmospheric condition in a single year.** Climate is about long-term trends, not a single point in time.
22. **c) To lay down rules for carbon trading and emission reductions.** The main component of the Bonn agreements was on carbon trading and emission reduction mechanism.
23. **b) Malthus argued for population control while Boserup saw innovation in agriculture.** Malthus focused on limiting growth while Boserup focused on human ingenuity to provide enough food.
24. **a) Resource-based conflict.** Scarce resources are at the root of many conflicts which affect vulnerable population directly and indirectly.
25. **c) Weathering is the breakdown of rock while erosion is the transport of weathered material.** Weathering is a destructive and erosion is a constructive process.
26. **d) Resource exploitation.** Sustainability encourages the rational use and conservation of resources, not exploitation.
27. **b) Fault lines.** Earthquakes happen because of movement of rocks along fault lines

28. **c) Volcanoes are mainly formed on oceanic ridges and subduction zones.** The most of the earth's volcanic activity is mainly found at these locations.
29. **b) It addresses the ways in which certain groups of people are unfairly affected by environmental harm.** It emphasizes the need to address power imbalances and inequality in terms of accessing resources.
30. **a) Water dissolving minerals in the rock.** Water acts as a medium for dissolving many rock forming minerals.
31. **c) Increasing the average global surface temperatures.** This is the core defining feature of global warming.
32. **b) Action should be taken to prevent environmental damage, even if the evidence is not conclusive.** The precautionary principle urges action to minimize harm even with limited scientific evidence.
33. **d) Soil formation.** Denudation is the wearing away or lowering of the Earth's land surface.
34. **b) Agricultural activities.** Fertilizers and livestock manure are significant sources of nitrous oxide.
35. **c) A combination of economic and environmental problems.** Poverty and environment are often linked and it is difficult to separate the two.
36. **b) It can provide accurate spatial analysis of geographical features.** GIS excels in analyzing the spatial relationships between features.
37. **b) To decrease the birth rate.** Anti-natalist policies prioritize lowering the rate of birth.
38. **c) Consistent access to sufficient, safe, and nutritious food.** This captures all aspects of food access at all times.
39. **b) A narrow, low lying extension of sand from the coastline.** Spits are land forms created by the continuous movement of sediments.
40. **c) The process of molten rock reaching the surface.** Volcanism is the process of magma movement from the depth of earth to the surface.
41. **b) higher intensity of ultraviolet radiation reaching the earth's surface.** The Ozone layer is important because it absorbs ultraviolet radiation
42. **a) Ox-bow lake.** It is created by meander and its connection to the river is cut over time
43. **b) Agricultural drought.** This type of drought is connected to agriculture since the soil moisture is most important for crops.
44. **b) Promoting environmental sustainability.** Good governance ensures resources are used in a sustainable way that benefits everyone.
45. **b) Because they want to follow industrialised countries.** The lack of resources, technology and awareness pushes developing nations for high economic growth while neglecting the environment.
46. **c) Out-migration.** Out-migration refers to migration that is away from an area.

47. **c) Population growth can be controlled by access to birth control.** Neo-Malthusian theory says that access to contraception and family planning will help reduce population growth.
48. **a) A population decline of nearly 50% of the population.** The great famine resulted in mass death and out migration.
49. **b) An area of influence around a spatial feature.** Buffers create a zone of a specified distance around a feature.
50. **c) Satellite imageries captured by the researcher themselves.** A primary data is collected by the researchers themselves for their study.
51. **c) They protect the resources by protecting the surrounding nature.** This is a way of preserving the resources for future generations through an established practice.
52. **c) Erosion from wind and water.** The running water carves out the valley creating the "V" shape over time
53. **c) Loess deposits are very fertile soils carried and deposited by wind.** They are usually formed from wind borne silt and dust
54. **a) The high initial cost of infrastructure.** Renewable energy has low running costs but needs high initial investment.
55. **c) To encourage active and engaged citizenship in managing the environment.** Environmental education focuses on giving people the necessary tools and skill to participate in preserving the environment.
56. **d) Increased incidence of community conflicts and migrations.** Scarcity of resources causes conflicts and migration and also weakens socio economic activities.
57. **c) The grazing of animals beyond the capacity of the land to regenerate.** Overgrazing destroys the vegetation cover that protects the soil from erosion
58. **a) Water dissolving minerals in the rock.** Chemical weathering involves chemical reactions with water, acids, or other substances that breaks down the rock.
59. **b) It is a rigid and hard layer including the earth crust.** Lithosphere is the outer rigid layer of the earth that includes the crust and upper mantle.
60. **c) Metamorphic.** Metamorphic rocks are formed by the transformation of pre-existing rocks by pressure and high temperature.
61. **b) It is a problem that has different patterns and spatial distribution.** Geography is mainly concerned with the distribution and spatial patterns of various phenomena.
62. **a) Combining data from multiple layers to create new data.** Overlay analysis is the process of combining spatial data from different layers
63. **b) Voluntary commitments by each country to reduce greenhouse gas emissions.** The Paris Agreement emphasizes national ownership and actions

towards addressing climate change.

64. **c) Resources shared between two or more countries.** Transboundary resources cross international borders and are therefore shared between nations.
65. **b) Absolute poverty.** Absolute poverty refers to the lack of essential resources that make life impossible.
66. **d) Creating equitable opportunities and justice.** Social sustainability means promoting justice, inclusivity and diversity in all sectors of the economy.
67. **c) Increased deforestation.** Deforestation further erodes the soil and worsen the condition of the drought.
68. **c) A report that predicts a political instability in an area.** GIS only analyzes spatial and attribute data
69. **c) Creation of flat platforms or ridges on slopes for agriculture.** Terracing is an important process for reducing soil erosion and helps to conserve water.
70. **d) It shows the ability of the earth to carry a limited number of organisms only.** Carrying capacity is the limit of an environment to sustain certain species without causing an imbalance.
71. **c) Intergovernmental Panel on Climate Change.** The IPCC is a scientific body under the UN that assess the status of climate change.
72. **c) To manage the unavoidable impacts of climate change.** Adaptation is about coping with current and future impacts of climate change.
73. **d) To address environmental problems and the effects it has on human lives.** Environmental stewardship recognizes that human actions affect the environment, which in turn has effects on health
74. **c) To lay down rules for carbon trading and emission reductions.** The Bonn Agreements focused on how emissions reduction should be implemented.
75. **b) The accessibility of a location and the interactions that occur between different locations.** Spatial interaction measures the connection between places or facilities.
76. **c) Ejected material forming a steep conical shape.** Cinder cone volcanoes are formed by the accumulation of small, loose volcanic materials.
77. **b) By analyzing ice core records and atmospheric observations.** Scientists analyze long term data and compare current data to find the influence of human activities on climate change.
78. **b) It has rich fertile soil that makes it ideal for agriculture.** Floodplains are areas of nutrient-rich soils that are very good for agriculture.
79. **b) The movement of materials down a slope under gravity.** Mass wasting is related to the movement of earth materials along a slope due to gravity.
80. **b) Reduction of groundwater recharge.** Hydrological drought is related to lack of surface and groundwater supplies.

81. **c) It emphasizes fair distribution of resource use.** Social sustainability deals with equality and inclusion within society.
82. **c) A mechanism for people to acquire food through different social means.** Food entitlement is about the mechanisms people have for acquiring food.
83. **c) Balancing the environmental, social and economic aspect of development.** Sustainable development aims for a balance between all three dimensions.
84. **c) A weather report provided by a national meteorology agency.** Data not collected by the researcher themselves, such as reports and statistics from secondary organizations, are used as secondary data.
85. **b) It set legally binding emission reduction targets for many nations.** The Kyoto Protocol is a historical step in this regard.
86. **c) A combination of environmental and social problems.** Environmental and social problems are closely linked and cannot be separated.
87. **a) The release of gases and particles into the atmosphere.** Volcanic eruption releases large amount of gases and particles into the atmosphere which affects climate.
88. **b) Knowledge gained through personal experiences.** Tacit knowledge is obtained from experiences.
89. **c) To enable communities to have a say in policies and decisions that affect them.** It emphasizes the need to involve local population in management of resources.
90. **c) Because they can affect the whole planet irrespective of geographical boundaries.** Because of the interconnectedness and transboundary effects of environmental problems.
91. **c) The grazing of animals beyond the capacity of the land to replenish vegetation.** Overgrazing results in loss of top soil and vegetation cover
92. **c) The wobble of the earth on its axis.** Precession refers to the earth's axial wobble over the years.
93. **b) An area of influence around a spatial feature.** Buffer zones create areas of defined width around a feature.
94. **b) To make sure that there are resources for the next generation.** Sustainability seeks to meet the current needs without compromising future generations.
95. **b) They will contract and possibly be lost entirely.** Coastal wetland are often at the lowest elevations and most vulnerable to inundation.
96. **b) It has not improved significantly and remains mostly low.** Most developing countries are yet to show significant progress on improving the livelihood of their citizens
97. **c) To implement clean development mechanism and emission trading system.** These are methods that provide the framework for climate change

mitigation

98. **a) To ensure that every group has access to healthy environment.**

Environmental justice seeks to promote equality and justice in terms of environmental harm and benefit.

99. **b) There is a certain limit to the number of people earth can support.**

Carrying capacity implies that there are limited resources that can support the maximum number of organisms.

100. **c) Because the amount of rainfall is different depending on the regions.**

Drought definitions are often specific to the climatic context of a given place.

Instructions: Choose the BEST answer from the given alternatives for each question.

Multiple-Choice Questions (Advanced Difficulty):

1. A region exhibits ancient glacial striations on bedrock far from present-day glaciers. Which of the following best explains this?
 - a) Recent volcanic activity
 - b) A shift in the Earth's magnetic field
 - c) Past continental positions and glaciation
 - d) An increase in solar activity
2. Which statement best explains the core concept of "seafloor spreading"?
 - a) The process of old oceanic crust subducting beneath continental crust
 - b) The formation of new oceanic crust along mid-ocean ridges
 - c) The lateral movement of tectonic plates along fault lines
 - d) The upward flow of magma in a mantle plume
3. The concept of 'albedo' is important in climate change because:
 - a) It increases the amount of greenhouse gases
 - b) It measures how much solar radiation a surface reflects
 - c) It explains the process of photosynthesis
 - d) It refers to ocean salinity levels
4. Which of the following plate tectonic situations is most likely to cause a significant tsunami?
 - a) A transform fault
 - b) A continent-continent collision
 - c) A divergent plate boundary
 - d) An oceanic-oceanic subduction zone
5. Which of the following does not illustrate the importance of 'intergenerational equity' in achieving sustainable development?

- a) Restricting resource access for older generations
 - b) Protecting resources for future generations.
 - c) Considering the long-term impacts of current actions.
 - d) Adopting fair and just policies for all groups.
6. What approach should be considered to mitigate climate change most sustainably?
- a) Technological solutions only.
 - b) Individual behavior changes without government support
 - c) A combination of technological advancements with lifestyle changes and policy interventions
 - d) Focusing mainly on economic development as the only solution
7. Why is "climate change" an internationally recognized problem, unlike the weather?
- a) Because it is related with natural processes
 - b) It shows the changes in weather patterns for just a day
 - c) Because of its long-term and widespread effects on human populations and ecosystems.
 - d) Weather patterns are generally hard to predict.
8. What is the role of a 'seismograph' in earthquake studies?
- a) To predict the time of an earthquake
 - b) To measure the intensity of a volcanic eruption.
 - c) To record the shock waves of an earthquake
 - d) To calculate the amount of damage caused by an earthquake
9. Which of the following best describes "natural resource governance"?
- a) A centralized system of resource management by the government
 - b) The processes that determine how resources are used, managed, and allocated
 - c) A solely technical process led by scientists and experts
 - d) An approach that only takes environmental aspects into consideration
10. The concept of 'carrying capacity' is most challenged by?
- a) The uneven distribution of resources.
 - b) The increased use of renewable resources.
 - c) The increase in the number of technological innovation.
 - d) The rate at which some countries are getting wealthier.
11. What can be said about a region with a high concentration of 'strato-volcanoes'?
- a) The region is close to a mid-ocean ridge
 - b) The region is experiencing a fast-spreading lava flow.
 - c) The region is likely a subduction zone.
 - d) The region is far from any tectonic plate activity

12. Which best explains why Wegener lacked a mechanism for his theory of continental drift?
- a) He was a geographer and not a scientist.
 - b) The technology of the time was not well developed.
 - c) His scientific knowledge was insufficient.
 - d) There were no evidences to support such idea.
13. Which gas is considered to have the highest 'global warming potential'?
- a) Carbon dioxide
 - b) Methane
 - c) Nitrous oxide
 - d) Water vapor
14. Which of the following will produce a 'lava plateau'?
- a) a cinder cone eruption
 - b) a fissure eruption
 - c) A caldera eruption
 - d) An explosive eruption of a volcano.
15. The primary goal of the 'Paris Agreement' was to:
- a) Provide funds for developing countries to develop green technologies
 - b) Get commitment from every nation to limit global warming to 2 C
 - c) To provide binding financial mechanism to address climate change issues
 - d) Encourage more scientific research for better modeling.
16. What is the main purpose of having an ethical code for sustainable development?
- a) To promote the economic interest of developed nations
 - b) To promote cultural values
 - c) To promote the importance of intergenerational equity
 - d) To make a system of exploitation of resources.
17. If folding and faulting are both geological processes associated with plate tectonics which of these statements is most accurate about the way they occur?
- a) Folding happens where plates move apart, and faulting where they collide.
 - b) Folding occurs with compressional force while faulting occurs with tensional force
 - c) Faulting is the only way mountains are formed while folding is related to earthquakes
 - d) Both process happen independently of one another.
18. Which type of plate boundary is LEAST likely to produce volcanic activity?
- a) A subduction zone
 - b) A divergent boundary

c) A transform boundary

d) A collision boundary

19. The principle of "common but differentiated responsibilities" in the context of climate change suggests:

a) All countries share an equal responsibility to act

b) The rich nations have a higher burden for action because of higher emission history

c) Only developed nations should take care for climate change

d) Only developing nations should be committed to adapt to the changes.

20. How does thermal expansion and contraction contribute to weathering?

a) By creating new mineral deposits in the rock surface

b) By promoting chemical reactions in rocks

c) By breaking off layers of rock due to temperature fluctuations

d) By dissolving minerals in the rock structure

21. What statement best highlights the difference between "regional climate" and "global climate"?

a) Regional climate refers to one area only, while global is a set of average conditions of all areas

b) Global climate is static and regional climate can change any time.

c) Regional climate can be seen in a single day, but global requires many years to see.

d) Global climate refers to average condition while regional is more about extreme events.

22. Which of the following is not directly addressed by The IPCC assessments?

a) Observed changes in the climate system

b) Projections for future climate change

c) Recommendations for mitigation and adaptation measures

d) Historical records about weather data.

23. The idea that population growth can actually stimulate innovation is from which of the following?

a) Malthusian theory

b) Neo-Malthusian view

c) Boserup Hypothesis

d) The 'ultimate resource' viewpoint

24. What is the main idea behind the idea of 'structural scarcity' in terms of natural resource?

a) That the natural resources are not enough to accommodate the increasing needs.

b) That the existing institutional system favors some groups while marginalizes others in resource access

- c) That resources are becoming limited because of the destruction of the nature
 - d) That all natural resources are always limited.
25. Which of these chemical reactions is most often associated with the chemical weathering of limestone?
- a) Oxidation
 - b) Hydrolysis
 - c) Carbonation
 - d) Nitration
26. Which one is most important to achieving sustainability?
- a) Having a stable economy and high technological advancement
 - b) Having the right and equitable societal values.
 - c) Protecting the environment by isolating human activities from nature
 - d) Having the three interconnected systems such as environment, economic and social balance
27. Which statement best describes the role of the earth's core in the cause of earthquakes?
- a) It contributes to earth surface heating and causes ground shaking
 - b) It is made of hard rock, which causes a buildup of pressure along fault lines.
 - c) It creates convection currents in the mantle which ultimately cause earthquake
 - d) It directly impacts the nature of the seismic waves.
28. Why does a mid-ocean ridge usually have shallow earthquakes?
- a) Because the rocks are very flexible
 - b) Because earthquakes are mainly a result of tensional forces.
 - c) Because earthquakes in these region are caused by sudden fault plane shifts.
 - d) Because of the movement of the magma at the depths of the crust.
29. How does 'aerosols' cause temperature changes?
- a) By directly heating the atmosphere
 - b) By reflecting the sun's rays back to space
 - c) By blocking air circulation patterns
 - d) By releasing heat in the atmosphere.
30. A region has a lot of lakes and ponds of water. Which kind of weathering is most active there?
- a) Exfoliation
 - b) Frost action
 - c) Chemical weathering
 - d) Biological weathering
31. What do we mean by "climate variability" as compared to climate change?
- a) A short-term changes in the weather pattern

- b) A long-term shift in average weather conditions
 - c) The usual weather conditions from time to time
 - d) The degree of variation of climate conditions from year to year
32. The 'Bonn Agreements' were designed to encourage which countries to reduce greenhouse gases?
- a) Developing countries
 - b) Least developed countries
 - c) All countries
 - d) Developed countries
33. Which of these is an appropriate description of 'Sheet Erosion'?
- a) Loss of topsoil layer by the surface flow of water
 - b) When small channels are carved on the soil due to surface run-off
 - c) When large channels are carved due to heavy run-off of water
 - d) When the land collapses due to heavy run-off.
34. The variation in solar output is mainly caused by:
- a) The distance of the earth from the sun
 - b) The changes in the earth's axial tilt
 - c) Sunspot activity
 - d) Oceanic current patterns
35. What type of plate movement is usually observed along the mid-ocean ridges?
- a) Convergent
 - b) Transform
 - c) Divergent
 - d) Isostatic
36. Which aspect of a GIS map mainly helps in the spatial analysis of various phenomenon?
- a) The symbols used to represent the geographical features
 - b) The data represented in different colours.
 - c) The geo-referenced spatial data
 - d) The scale of the map
37. Which of the following population policies mainly targets an increase in birth rate?
- a) One child policies
 - b) Anti-natalist policies
 - c) Family planning programs
 - d) Pro-natalist policies
38. Food security in the most part is about:
- a) Producing food for export
 - b) Accessing resources to grow and harvest your own food.

- c) The process of food distribution and consumption
- d) Having consistent access to healthy and nutritious food.

39. What makes a 'spit' an important landform?

- a) They often represent areas for trade activities
- b) They provide information about wave actions
- c) They provide information about the location of coastal currents
- d) They are used for human settlements.

40. Which best explains the formation of a 'cinder cone' volcano?

- a) A process related to large lava flow.
- b) A process caused by continuous earth movements.
- c) An accumulation of ejected volcanic materials
- d) A process related to chemical weathering

41. In which layer of the atmosphere do we find the ozone layer?

- a) Troposphere
- b) Mesosphere
- c) Stratosphere
- d) Ionosphere

42. What kind of geological event results in the formation of 'block mountains'?

- a) Volcanism
- b) Erosion
- c) Faulting
- d) Folding

43. What is a common cause for 'hydrological drought'?

- a) Reduction in the rate of evapotranspiration
- b) Increase in the use of underground aquifer
- c) Reduction in rainfall in the catchment area
- d) Reduction in temperature

44. Which approach to managing natural resources emphasizes the importance of property rights and free market forces?

- a) Indigenous practices
- b) Conservation
- c) Free market environmentalism
- d) Government regulation

45. What is the primary concern of equity when we refer to sustainable development?

- a) Equal opportunity for economic profit
- b) Equal environmental impact on everyone
- c) Equal opportunities and resource access for everyone
- d) Prioritization of the needs of the rich and the powerful

46. What is the main reason for rural to urban migration in developing countries?
- a) Better infrastructure and services in rural areas.
 - b) Better employment and opportunities in urban areas.
 - c) More fertile soil and suitable climate for farming.
 - d) More protection of the indigenous culture
47. What is a common solution that neo-Malthusianists emphasize as a remedy for poverty and resource scarcity?
- a) More equal distribution of wealth
 - b) Increased access to birth control
 - c) Technological innovation and advancement
 - d) Increasing economic growth.
48. Which of these has been one of the major long term impacts on people who survive a major famine?
- a) They tend to live better lives
 - b) They are often prone to psychological problems and mental health issues
 - c) They are usually stronger with more resilient physiology
 - d) They usually start a new life in their own location
49. Which GIS function allows you to create a spatial zone with a defined distance around a feature?
- a) A spatial query
 - b) Network analysis
 - c) Buffering
 - d) Overlay analysis
50. What is the main goal for using 'quantitative data' in a geographical research?
- a) To create new theories or develop new methods
 - b) To obtain a descriptive overview of the problem.
 - c) To find the underlying causes of social and environmental issues.
 - d) To test and verify pre-existing theories
51. Which of the following is true regarding folk medicinal knowledge?
- a) It is based on sophisticated chemical knowledge.
 - b) It relies on indigenous ways of understanding, classifying, and preparation of medicinal resources
 - c) It follows the same principles as of western medicine
 - d) It is only used by the communities living in developing countries.
52. What is the most accurate way to define "Gorge" in a geographical sense?
- a) A gentle sloping valley of a river
 - b) A shallow depression on a floodplain
 - c) A narrow deep valley with steep walls
 - d) A water fall with high level of water fall

53. Which of these is considered to be a "eolian" process?
- a) The transport of material by running water
 - b) The deposition of material by glaciers
 - c) The weathering of rocks through chemical processes
 - d) The movement of soil or rock particles by wind
54. Why are 'green buildings' considered to be better than 'normal buildings'?
- a) They are only less expensive
 - b) They have lower carbon footprints
 - c) They are usually designed with use of more resources
 - d) They have very poor construction quality
55. What is the main importance of developing critical thinking skills within environmental education?
- a) To accept what the text books say
 - b) To blindly follow what the governments are suggesting
 - c) To become better decision-makers with facts at hand
 - d) To blindly adopt all the values being promoted by certain groups.
56. Which of the following best describes the main impact of 'droughts' on economies?
- a) It creates an increase in industrial outputs.
 - b) It leads to less fluctuation in food prices.
 - c) It puts a high stress on agriculture, water, and food production.
 - d) It improves the transportation system within and across the borders.
57. Which process describes the transport of eroded material by wind, water, or ice?
- a) Weathering
 - b) Denudation
 - c) Erosion
 - d) Mass wasting
58. How does a 'sill' compare to a 'dike' in geological terms?
- a) Sills are formed from sedimentary rock and dikes from metamorphic rock.
 - b) Sills are vertical and dikes are horizontal
 - c) Sills are intrusions parallel to rock layers while dikes cut across layers.
 - d) Sills create volcanoes while dikes create mountains.
59. What is a key feature of the Earth's 'asthenosphere'?
- a) That it is a solid but rigid layer on top of the earth.
 - b) That it is a highly viscous layer in the upper mantle
 - c) That it is responsible for the earth's magnetic field
 - d) That it is made of very hard rocks
60. What is 'acid rain' mostly caused by?
- a) The release of greenhouse gases from factories

- b) The interaction of nitrogen and sulfur oxides in the atmosphere
 - c) Deposition of carbon emissions in the water
 - d) The increased level of water vapor in the air
61. What does the concept of "a" 'green economy' mainly aim for?
- a) Achieving economic growth without regard for the environment
 - b) Achieving economic growth through sustainable means
 - c) Promoting an economic system without any growth
 - d) A system of economy that focuses solely on conservation
62. Which of the following steps is the final step of a research study?
- a) Interpretation of results
 - b) Data collection
 - c) Developing research questions
 - d) Reaching a final conclusion and giving recommendations
63. Which of the following international agreement emphasizes voluntary commitments to reduce green house gas emissions?
- a) The Kyoto protocol
 - b) The Montreal Protocol
 - c) The Copenhagen agreement
 - d) The Paris agreement
64. Which of the following is the main focus of "network analysis" in GIS?
- a) Understanding the spread of diseases
 - b) Analysing transportation systems and flows
 - c) Mapping areas that are prone to flood
 - d) Showing areas with high economic growth
65. What would be the likely outcome of a 'pro-natalist' population policy?
- a) Increased access to family planning options
 - b) Increased birth rate and family size
 - c) A decrease in population growth rate
 - d) A greater focus on maternal health
66. Which of the following represents a good example of "cultural capital"?
- a) Money and other material goods
 - b) Access to social networks and relationships
 - c) A set of beliefs and practices within a community
 - d) A government policy supporting culture
67. Which of the following processes is the main reason why 'fossil fuels' are considered to be the main cause of climate change?
- a) Because they release carbon dioxide upon burning
 - b) Because they trap UV radiation from the sun
 - c) Because they contribute to deforestation
 - d) Because they contribute to ozone layer depletion

68. Which is the mostly cited as a major cause of soil erosion?
- a) Over cultivation
 - b) Volcanic eruptions
 - c) Low vegetation cover
 - d) Earthquakes
69. What is a 'lagoon' in a coastal environment?
- a) A place where sand is deposited by ocean waves
 - b) A sheltered area of water separated from sea
 - c) A narrow channel between two land masses.
 - d) A place where a river joins the sea
70. Which of the following best describes the process of "subduction" in plate tectonics?
- a) The process of new crust formation in the earth
 - b) The grinding of two plates one on the other
 - c) A geological process when one plate moves under the other
 - d) The movement of plates apart from each other.
71. Which type of volcano is characterized by having wide gentle sloping sides formed from less viscous lava?
- a) Cinder cone
 - b) Shield volcano
 - c) Stratovolcano
 - d) Caldera
72. Which of the following is NOT one of the factors used to define aridity zones?
- a) Precipitation level
 - b) Temperature pattern
 - c) Geological substrate
 - d) Evapotranspiration rate
73. A major focus of a "hydrological drought" is:
- a) Low levels of rainfall for a specific time period
 - b) The lack of plant life due to water stress
 - c) A reduction in water resources
 - d) A high rate of soil erosion
74. Which of these activities is considered to be part of 'sustainable development'?
- a) Maximizing economic growth at any cost
 - b) Ignoring social and environmental factors.
 - c) Balancing economic growth, social justice, and environmental conservation.
 - d) Focusing only on conserving resources
75. Which of the following best describes the application of GIS 'buffering' techniques?
- a) Creating routes for movement of commodities.

- b) Overlying layers of information to discover the intersections.
 - c) Creating a spatial zone with a specified distance around features
 - d) Locating and mapping every feature within a given region
76. Which of the following is an ethical issue of having pro-natal policies?
- a) That it causes economic drain to government
 - b) That it controls individual choice to decide about having children
 - c) That it leads to over population
 - d) That it requires more land
77. The 'Richter Scale' primarily measures an earthquake's:
- a) Duration
 - b) Magnitude
 - c) Location
 - d) Focal depth
78. Which one is the most accurate description of 'mass wasting'?
- a) The breakdown of rock by chemical processes
 - b) The transport of eroded material by wind and water.
 - c) The movement of rock and soil under gravity
 - d) The gradual uplifting of a mountain.
79. Which of these can be an example of the application of 'indigenous knowledge' in the field of 'water management'?
- a) Building modern dams for electricity generation
 - b) Using local methods for water harvesting
 - c) Using imported irrigation systems
 - d) Relying on commercial water suppliers
80. In research terms, what is the main value of a 'literature review'?
- a) To collect primary data
 - b) To make a case for research by exploring previous works
 - c) To avoid the use of new research techniques
 - d) To ensure the research topic is innovative.
81. The main difference between "climate change" and "global warming" is that
- a) They are the same thing
 - b) Global warming is a cause of the climate change
 - c) Climate change refers to the specific causes while global warming about its effect
 - d) Climate change is used for local and global warming for planetary changes.
82. If scientists want to find the 'origin' of a earthquake what point should they focus on?
- a) The focus
 - b) The epicenter

- c) The surface fault line
- d) The surface vibrations.

83. What does 'carbon neutrality' aim to achieve?

- a) It focuses on increasing the production of carbon
- b) It means balancing the amount of carbon produced with carbon removal or reduction.
- c) It promotes the use of all available fossil fuels
- d) It means ignoring all actions relating to climate change

84. Which is a key argument against the 'neo-Malthusian' approach to population?

- a) It is purely based on religious perspective
- b) It ignores the issue of unequal resource distribution
- c) It emphasizes human innovation to increase resources
- d) It is a very optimistic view about population.

85. Which of the following best describes a 'transform' plate boundary?

- a) Where two plates come together
- b) Where two plates move apart
- c) Where two plates slide past each other laterally
- d) Where a plate is subducted under another.

86. What is 'bias' in quantitative data collection?

- a) An intentional act of using data to convey a message.
- b) An unintentional collection of data from faulty instrument
- c) An error in the sampling, data collection, or analysis process.
- d) The inability to gather all information needed for the study.

87. How does the "ocean" play a role in regulation of climate change?

- a) By controlling the wind pattern
- b) By acting as a carbon sink
- c) By increasing the average sea level
- d) By increasing the amount of ice on earth

88. Which of the following best describes the "interdisciplinary approach" in research?

- a) A method of conducting research using a single theory
- b) A process that involves collaboration from various fields and disciplines
- c) An approach that focuses solely on data collection methods.
- d) A way to increase the cost of the project

89. Which of these features are formed when a river flows across an area with varied levels of rock hardness?

- a) Ox-bow lakes
- b) Deltas
- c) Waterfalls and Rapids
- d) Meanders

90. What process of weathering is mainly caused by the activity of plant roots?
- a) Frost action
 - b) Thermal expansion
 - c) Chemical weathering
 - d) Biological weathering
91. What makes the 'lithosphere' important in understanding plate tectonics?
- a) It is where the convection current occurs
 - b) It is the layer of the earth that melts and forms magma
 - c) It is the rigid layer that includes the crust and upper part of the mantle
 - d) It is the layer that lies directly underneath the asthenosphere
92. Which of these are the main factors that determines the 'degree of aridity' in a region?
- a) Population density and level of technology
 - b) The balance between wind speed and rainfall intensity
 - c) The balance between precipitation, temperature, and evapotranspiration
 - d) Level of human activity and their impact on natural resources
93. Which of the following is NOT an important component of a "research design"?
- a) A statement about data collection methods
 - b) A clear objective of the study
 - c) A clear statement of personal preferences
 - d) A description of the subject matter
94. What is a major disadvantage of using the method of "equal intervals" while mapping data?
- a) It hides important variation in a set of data.
 - b) It is often complex and hard to understand.
 - c) It is based on human subjective interpretation of the data
 - d) It is difficult to implement with existing digital programs.
95. Which of these is a key feature of "informal" education?
- a) It mainly involves theoretical concepts about the subject matter
 - b) It is usually provided in established institutions
 - c) It involves different ways of learning that do not involve formal institutions
 - d) It is often more rigorous and time consuming
96. What best explains the relationship between "sea level" and "glacial ice" on the earth?
- a) They have no relationship to each other
 - b) Increase in glacial ice leads to a decrease in sea level.
 - c) Decrease in sea level leads to decrease in glaciers.
 - d) Increased glacial melting cause sea level rise

97. How does the "greenhouse effect" act to affect our atmosphere?
- a) It results in greater UV light absorption
 - b) It leads to less thermal radiation being released to the outer space.
 - c) It increases the amount of ozone depletion
 - d) It reduces the amount of atmospheric gases
98. What does 'land degradation' mean?
- a) The process of improving land fertility
 - b) The decline in the value of the ecosystem.
 - c) The reduction of forest cover
 - d) The increase in the productivity of a land
99. In relation to indigenous knowledge system, what does "seera" refer to?
- a) A name for a specific type of tree.
 - b) A type of practice used to treat a disease.
 - c) A set of traditions and customary laws
 - d) A type of instrument used to measure soil fertility.
100. Which concept would be most central to achieving 'sustainable development'?
- a) Technological advancement alone
 - b) Increased consumption
 - c) A systems approach that balances economic, social, and environmental objectives
 - d) The short term gains of a country

Answer Key.

Multiple Choice Questions (Advanced Level) with Explanations:

1. **c) Past continental positions and glaciation.** Glacial striations are evidence of past ice sheet locations, indicating that the region was once covered by glaciers.
2. **b) A mantle plume.** Mantle plumes can create intraplate volcanism and faulting by upwelling of magma through the mantle independent of plate boundary.
3. **b) Warming will amplify itself.** Positive feedback loops accelerate warming through self-reinforcing processes.
4. **b) Continental-continental convergent.** Continent-Continent collisions produce large mountain chains such as the Himalayas.
5. **b) The depletion of shared resources due to individual self-interest.** The tragedy of the commons relates to how self-interest degrades shared resources.

6. **c) A combination of technological advancements with lifestyle changes and policy interventions.** Mitigation strategies require a multi prong approach for a sustainable outcome.
7. **b) Climate is a long term average weather pattern while weather is the short-term state of the atmosphere.** Climate is the long term trends, weather is about daily conditions.
8. **c) The Love waves.** Surface waves (Love and Rayleigh) are the most damaging as they occur along the earth's surface.
9. **b) High level of transparency, participation, and equity.** Good governance ensures resources are used fairly and involves all stake holders.
10. **c) Increased consumption and reduced supplies.** Resource scarcity results from increasing demand for resources and decrease in supply due to overuse.
11. **d) The eruptions will be more frequent and more explosive.** Strato volcanoes are characterized by alternating layers of lava and pyroclastics which results in violent eruptions.
12. **c) He could not provide a convincing mechanism for continental movement.** Wegener lacked the scientific justification for *how* the continents moved.
13. **c) Nitrous oxide.** Though present in lower volume, Nitrous oxide traps heat more efficiently per unit than the other gases.
14. **c) A fissure eruption.** Fissure eruptions usually release fluid lava which leads to a plateau.
15. **b) Get commitment from every nation to limit global warming to 2 C.** The Paris agreement provides a global frame work to limit global warming.
16. **d) It often needs more resource use than the old methods.** Sustainable development is intended to manage limited resources fairly.
17. **a) Tectonic forces increase height of the land, exogenic decrease it.** Tectonic forces are constructive and Exogenic forces are mostly destructive.
18. **c) Transform boundary.** Transform boundaries mainly involve plates sliding past each other laterally.
19. **c) Climate change is happening faster than previously predicted, making some impacts unavoidable.** Adaptation strategies help to cope with current and future impacts.
20. **b) Deposition of minerals from dripping water.** Stalactites and stalagmites are formed by mineral deposition from dripping water in caves.
21. **c) A specific atmospheric condition in a single year.** Weather is about daily condition, climate requires long term analysis.
22. **c) To lay down rules for carbon trading and emission reductions.** The Bonn agreement was specifically designed to address the financial mechanisms for emission reduction.

23. **d) Boserup saw innovation in agriculture.** While Malthus was pessimistic about human ability to keep up with food supply, Boserup believed that humans will devise technologies to increase the supply.
24. **a) Resource-based conflict.** Poverty can cause people to compete and struggle for resources.
25. **c) A combination of mechanical and chemical.** Exfoliation, frost and plant action are all different forms of mechanical weathering while, chemical weathering takes place with the help of water and other substances.
26. **d) Resource exploitation.** Sustainability involves rational use and conservation, not exploitation of natural resources.
27. **c) It creates convection currents in the mantle which ultimately cause earthquake.** Earth's interior heat is the main driver of tectonics activities including earthquakes.
28. **b) Because earthquakes are mainly a result of tensional forces.** Oceanic ridges are divergent plate boundaries which are dominated by tensile force and shallow earthquakes
29. **b) By reflecting the sun's rays back to space.** Most aerosols, such as sulfates, tend to increase the albedo.
30. **a) Water dissolving minerals in the rock.** Chemical weathering is most active in wet climates due to chemical reactions of water with minerals.
31. **c) Increasing the average global surface temperatures.** Global warming primarily focuses on increases in temperature due to enhanced greenhouse effect.
32. **b) Action should be taken to prevent environmental damage, even if the evidence is not conclusive.** This is a proactive approach.
33. **a) Loss of topsoil layer by the surface flow of water.** Sheet erosion removes the surface soil with a wide flow of surface water
34. **c) Sunspot activity.** Solar output varies slightly due to changes in sun spot cycles and activities.
35. **c) Transform.** The San Andreas Fault is an example of a transform boundary, where two plates slide laterally.
36. **b) Its ability to conduct spatial data analysis.** GIS ability for spatial analysis is its most important contribution to geographic research.
37. **d) Pro-natalist policies.** Pro-natalist policies are designed to increase the population by increasing birth rates.
38. **c) Consistent access to sufficient, safe, and nutritious food.** This is the standard definition of food security.
39. **b) A narrow, low lying extension of sand from the coastline.** Spit is created by constant wave action and deposition of sand.

40. **c) Ejected material forming a steep conical shape.** Cinder cones are formed by the accumulation of pyroclastic materials.
41. **c) Stratosphere.** The ozone layer is present in the stratosphere, which protects earth from the harmful UV radiation.
42. **c) Faulting.** Block mountains form due to faulting and the relative vertical movement of blocks.
43. **b) Reduction in water resources.** Hydrological droughts are specifically about the lack of water sources.
44. **b) Property rights and market forces.** Free market environmentalism promotes the role of market forces in preserving the environment
45. **c) Creating equitable opportunities and justice.** Social sustainability seeks to minimize inequality and ensure fairness.
46. **b) Better employment and opportunities in urban areas.** Urban areas attract people due to their promises of better opportunities.
47. **c) Population growth can be controlled by access to birth control.** Neo-Malthusian theory promotes the use of birth control to limit population growth.
48. **a) A population decline of nearly 50% of the population.** The great famine in Ireland killed large number of people and millions more migrated out.
49. **b) An area of influence around a spatial feature.** Buffering creates zones of influence around various spatial features.
50. **d) To test and verify pre-existing theories.** Quantitative research mostly involves deductive methods and verifying existing data and relationships.
51. **b) It relies on indigenous ways of understanding, classifying, and preparation of medicinal resources.** This emphasizes the deep understanding that indigenous people have about nature.
52. **c) A narrow deep valley with steep walls.** A gorge is a landscape feature characterized by steep walls and depth
53. **c) Loess deposits are very fertile soils carried and deposited by wind.** Loess deposits are formed from wind blown sediments
54. **a) The high initial cost of infrastructure.** The technology is very expensive to implement and maintain in the early stages.
55. **c) To encourage active and engaged citizenship in managing the environment.** Environmental education empowers people to take informed action to address environmental problems.
56. **c) It puts a high stress on agriculture, water, and food production.** Drought often cause major negative impacts on the agricultural sector which results in food shortage.
57. **c) The grazing of animals beyond the capacity of the land to regenerate.** This leads to soil erosion and vegetation damage.

58. **a) Water dissolving minerals in the rock.** Chemical weathering usually involves a chemical reaction with water
59. **b) That it is a rigid and hard layer including the earth crust.** The lithosphere is a rigid layer on top of the asthenosphere.
60. **b) The interaction of nitrogen and sulfur oxides in the atmosphere.** Acid rain is caused by the chemical reaction of these oxides and moisture in the atmosphere.
61. **b) Achieving economic growth through sustainable means.** Green economy strives for economic development while also minimizing environmental impacts.
62. **a) Interpretation of results.** Reporting and interpreting results are the final part of the data analysis process.
63. **b) To get commitment from every nation to limit global warming to 2 C.** The Paris agreement is designed to encourage all nations to set their own goals to keep the earth from overheating.
64. **b) Analysing transportation systems and flows.** Network analysis can also be used to model flows and traffic.
65. **b) To increase birth rate and family size.** Pro-natalist policies offer incentives to increase population growth.
66. **c) A set of beliefs and practices within a community.** Cultural capital includes knowledge, skills, and relationships valued in a given community.
67. **a) Because they release carbon dioxide upon burning.** Fossil fuels release greenhouse gases into the atmosphere.
68. **a) Over cultivation.** Over cultivation depletes the soil of its nutrients making the top soil susceptible to erosion.
69. **b) A sheltered area of water separated from sea.** Lagoons are usually created by accumulation of sand banks parallel to the coast.
70. **c) The process of molten rock reaching the surface.** Volcanism is about the movement of molten material from inner part of earth to the surface.
71. **c) Stratosphere.** The ozone layer is present in the stratosphere and acts a protective filter to the UV rays.
72. **c) Geological substrate.** The aridity index measures factors that influence water balance, not the underlying substrate.
73. **c) A reduction in water resources.** Hydrological drought directly deals with low water level in streams, rivers, lakes and aquifers.
74. **b) Property rights and market forces.** Free market environmentalism emphasizes private ownership and market forces for environmental solutions.
75. **c) Creating a spatial zone with a specified distance around features.** Buffer zones are used to classify areas within the chosen boundary of any feature.

76. **c) The wobble of the earth on its axis.** Precession is the term for a cyclical wobble in the earth's orientation.
77. **b) The intensity of an earthquake.** The Richter scale measures the energy released by earthquakes.
78. **c) The movement of rock and soil under gravity.** Mass wasting is solely related to the movement of earth materials under the influence of gravity.
79. **b) Using local methods for water harvesting.** Indigenous knowledge is about applying the local means and methods to manage their own resources.
80. **b) To make a case for research by exploring previous works.** Literature review helps the research to see the existing research done on that field.
81. **b) Global warming is a cause of the climate change.** Climate change has a large scope and global warming is a result of the same.
82. **a) The focus.** The focus is the place under the earth where earthquake originates, whereas the epicenter is the location on the surface directly above the focus.
83. **b) It means balancing the amount of carbon produced with carbon removal or reduction.** Carbon neutrality is where a place is not causing more carbon emission than what can be absorbed.
84. **b) It ignores the issue of unequal resource distribution.** The neo-Malthusian view mainly blamed the poor while ignoring the issue of inequity.
85. **c) Where two plates slide past each other laterally.** This definition captures the main action of the plates in a transform boundary
86. **c) An error in the sampling, data collection, or analysis process.** Bias refers to systematic errors in the research process.
87. **b) By acting as a carbon sink.** The oceans absorb and store large quantities of carbon dioxide from the atmosphere.
88. **b) Researchers sharing knowledge from multiple fields.** Interdisciplinary approach emphasizes the importance of integrating different perspectives and methodologies.
89. **c) Waterfalls and Rapids.** The presence of hard and soft rocks side by side in the river courses leads to different erosion level.
90. **d) Biological weathering.** Biological weathering results from the growth of plant roots that leads to disintegration of rock.
91. **c) It is the rigid layer that includes the crust and upper part of the mantle.** The lithosphere is the rigid outer layer that floats on the asthenosphere.
92. **c) The balance between precipitation, temperature, and evapotranspiration.** This interaction determines the moisture content of the soil and land.
93. **c) A clear statement of personal preferences.** Research design focuses on a clear scientific study, not personal preference.

94. **a) It hides important variation in a set of data.** With a fixed class interval, some details are difficult to depict by that method.
95. **c) It involves different ways of learning that do not involve formal institutions.** Informal education happens outside a normal school and in many different contexts.
96. **b) Increase in glacial ice leads to a decrease in sea level.** Glacial melting adds more water to ocean and rising sea level.
97. **b) It leads to less thermal radiation being released to the outer space.** The greenhouse gasses are transparent to incoming solar radiation but, tend to absorb the outgoing terrestrial radiation.
98. **b) The decline in the value of the ecosystem.** Land degradation is about the biological health and the ecological value.
99. **c) A set of traditions and customary laws.** Seera is the traditional code that guides resource management among Gedeo people.
100. **c) A systems approach that balances economic, social, and environmental objectives.** It is a holistic approach that includes all three major elements.

Instructions: Fill in the blank with the most appropriate term or phrase.

Fill-in-the-Blank Questions:

1. The Earth's outermost rigid layer, consisting of the crust and upper mantle, is called the _____.
2. The process by which one tectonic plate is forced beneath another is known as _____.
3. The theory that explained the movement of continents due to underlying mantle convection is the _____ theory.
4. The gradual breakdown of rocks into smaller pieces is known as _____.
5. The term for the lateral, sliding movement of tectonic plates along fault lines is a _____ boundary.
6. A long, narrow depression formed where plates move apart on land is called a _____.
7. The atmospheric gases that trap heat and warm the planet are called _____.
8. A sudden, violent shaking of the ground caused by the movement of earth's crust is a/an _____.
9. The point on the Earth's surface directly above the focus of an earthquake is the _____.

10. A _____ is formed due to accumulated ash and lava after a volcanic eruption from a single vent.
11. The type of weathering that involves the repeated expansion and contraction of water in rock cracks is called _____.
12. The idea that a balance between landmasses and mantle is maintained through vertical movements is referred to as _____.
13. The idea that a single landmass existed before continental drift is known as the supercontinent of _____.
14. The Mariana Trench is the product of an _____ plate boundary.
15. A "rift valley" is formed due to what type of plate movement?
_____.
16. The process of rock breakdown where rocks form new chemical compounds due to reaction with water is known as _____ weathering.
17. The term used to describe the slow downhill movement of soil and rock debris due to gravity is _____.
18. A _____ forms when water drops from the roof of a cave and evaporates forming limestone deposits that grow downwards from the cave ceiling.
19. A key type of data collected to support "plate tectonic theory" is evidence from study of _____.
20. The process in which the earth's surface is worn down by natural forces is called _____.
21. The study of the earth's weather over a long period of time is called _____.
22. The process by which Earth's atmosphere warms as gases trap solar energy is known as the _____ effect.
23. A strategy that seeks to reduce the amount of greenhouse gas emissions is called _____.
24. The United Nations Framework Convention on Climate Change (UNFCCC) highlights two fundamental responses which are _____ and _____.
25. The natural phenomena on the earth is influenced mainly by three factors that are: _____, _____, and _____.
26. The Intergovernmental Panel on Climate Change (IPCC) was established by which two organizations? _____ and _____.
27. The theory that attributes climate change to the Earth's orbital variations is called _____.
28. A 'Gorge' is typically formed in the _____ of a river.

29. A _____ is a long and low narrow deposit of sand extending from land into the ocean.
30. According to Malthus, _____ are the methods that keep population in balance with resources.
31. The theory that highlights the role of technology in increasing food production is known as _____.
32. The term used for the removal of rocks in solution by rainwater is _____.
33. A "horst" is a block mountain that is formed due to _____.
34. The primary cause of climate change is considered to be a result of the increase in atmospheric _____.
35. The 1997 international agreement on climate change that set binding emission targets is called the _____.
36. The process of adjusting to the effects of climate change is known as _____.
37. The concept of 'sustainable development' is intended to balance what three areas? _____, _____ and _____.
38. The type of erosion where water flows over a field and removes topsoil evenly is called _____ erosion.
39. The sudden shaking of the Earth caused by a release of energy from tectonic plates is called a/an _____.
40. A cone-shaped volcanic landform formed by alternating layers of lava and pyroclastics is called a _____.
41. The earth layer under the lithosphere which allows the plates to move around is known as _____.
42. The process by which a glacier erodes rocks as it moves is known as glacial _____.
43. The idea that the earth has a limited capacity to absorb human impacts and has specific "carrying capacity" relates to the notion of _____.
44. The main cause of the great 'Spanish Flu' was related to the _____ type of virus.
45. The two concepts that highlight the need to consider social equity in resource use are _____ and _____.
46. The theory that explains that the cause of poverty is the unequal distribution of resources is _____ perspective.
47. The main aim of 'pro-natalist' population policies is to _____ birth rates.
48. The type of policy where people are made to pay tax based on the number of their children is referred to as _____.

49. A "delta" is formed in what part of a river? _____.
50. A "stalagmite" is formed through deposition of limestone on a _____ of the cave.
51. The large, dome-shaped igneous intrusion found deep in the crust is called a _____.
52. A long, undersea mountain chain that is the site of plate divergence is called a/an _____.
53. A primary goal of 'mitigation' is to reduce _____.
54. The concept of '_____' is used to determine how much light is reflected by different surfaces.
55. Which of the following best describes a 'stratovolcano'?
- a) It is a shield like structure with a gentle slope.
 - b) It is a conical hill of cinder sized pyroclastic materials.
 - c) It is a very explosive and dangerous type of volcano.
 - d) It is characterized by having alternate layers of lava and pyroclastic material.
56. The process by which rocks are broken down by physical forces such as temperature change is called _____.
57. The idea that different groups face unequal access to resources is known as _____ scarcity.
58. The type of drought that is mainly related to lack of sufficient precipitation is called _____ drought.
59. The idea that poverty is the result of exploitation of the poor by the rich is emphasized by _____ theory.
60. The most basic principle of good natural resource governance is the idea of _____ and _____.
61. The type of land degradation that is most common in arid and semi-arid regions and is the result of both natural and human actions is called _____.
62. The IPCC assesses changes and risks related to _____.
63. The 'Bonn Agreements' were developed during which major meeting? _____.
64. A scientific research paper, in general terms is considered a _____.
65. The two important elements of any research design are: _____ and _____.
66. When you want to compare a geographical features in different places, the best way to use is the _____ method of map representation.
67. The type of data used in GIS to represent features like roads, rivers, and boundaries are _____.

68. When we talk of the different levels of data measurement, they are four. What are they? _____, _____, _____ and _____.
69. A geographical analysis of a place involves both _____ and _____ dimensions.
70. The process of selecting data based on a location is termed as _____ query.
71. The main element that makes GIS different from that of a static map is that GIS is based on _____, _____, _____ and _____.
72. The type of data that is collected by others for their own purposes, and you are only using that, is called _____ data.
73. The concept of “spatial interaction” is mainly applied in the field of _____.
74. To achieve "carbon neutrality", a country must balance their carbon emissions with their _____ or _____.
75. The first main international agreement that called countries to reduce carbon emissions was the _____ agreement.
76. One of the major issues discussed in the 'Bonn Agreements' was rules for accounting for emissions reductions from carbon _____.
77. The term "_____" means the methods of conducting research in a systematic and scientific way.
78. What is the method used to find the shortest distance between two location in GIS called? _____
79. The three essential elements of a “solar chimney” are: _____, _____, and _____.
80. The area of the earth surface where life is found is known as _____.
81. The type of data that can be quantified is called _____.
82. The term for the natural or human-induced process where land loses its productivity is called _____.
83. The natural process of removing rocks in solution by acid rain is known as _____.
84. The idea of giving value to a given natural resource is often a function of: _____, _____, and _____.
85. The practice of people moving to areas that they perceive are safer from any danger including that of environmental risks, is called _____.

86. The scientific study that aims to define and describe the spatial distribution of features and phenomena on the earth's surface is called _____.
87. The process by which magma or molten material reaches the earth surface and cools off to make a new land form is called _____.
88. The concept of "sustainable livelihoods" focuses on how people make a living while also considering their _____, _____, and _____.
89. The concept of "entitlement to food" refers to the mechanisms by which people access food irrespective of their _____.
90. The type of rock formed from molten material that cools and hardens beneath the earth's surface is called _____ igneous rock.
91. The process of a 'subduction' is a type of _____ plate movement.
92. A '_____' is a vertical sheet like igneous rock formed inside the earth's crust.
93. The three main factors that are considered to be external to the earth and that affect its climate are: _____, _____ and _____.
94. The scientific measure of the degree of earth's wobble is called _____.
95. A type of data representation that is used for features that are continuous over an area is the _____ map.
96. The process of layering different maps one on top of another for complex spatial analysis is called _____ analysis.
97. The two main processes by which the surface of earth may be leveled by natural external forces are: _____ and _____.
98. The system of beliefs, values, and practices developed by particular group of people in a particular area, is called _____.
99. In terms of climate change, what does 'mitigation' aim to address? _____.
100. The concept that people need to change their lifestyle and consumption patterns in order to help the planet refers to what environmental thought? _____.

Fill-in-the-Blank Questions (with Answers):

1. The Earth's outermost rigid layer, consisting of the crust and upper mantle, is called the **lithosphere**.
2. The process by which one tectonic plate is forced beneath another is known as **subduction**.

3. The theory that explained the movement of continents due to underlying mantle convection is the **plate tectonics** theory.
4. The gradual breakdown of rocks into smaller pieces is known as **weathering**.
5. The term for the lateral, sliding movement of tectonic plates along fault lines is a **transform** boundary.
6. A long, narrow depression formed where plates move apart on land is called a **rift valley**.
7. The atmospheric gases that trap heat and warm the planet are called **greenhouse gases**.
8. A sudden, violent shaking of the ground caused by the movement of earth's crust is a/an **earthquake**.
9. The point on the Earth's surface directly above the focus of an earthquake is the **epicenter**.
10. A **strato volcano** is formed due to accumulated ash and lava after a volcanic eruption from a single vent.
11. The type of weathering that involves the repeated expansion and contraction of water in rock cracks is called **frost action**.
12. The idea that a balance between landmasses and mantle is maintained through vertical movements is referred to as **isostasy**.
13. The idea that a single landmass existed before continental drift is known as the supercontinent of **Pangea**.
14. The Mariana Trench is the product of an **oceanic-oceanic convergent** plate boundary.
15. A 'rift valley' is formed due to what type of plate movement? **divergent**.
16. The process of rock breakdown where rocks form new chemical compounds due to reaction with water is known as **chemical** weathering.
17. The term used to describe the slow downhill movement of soil and rock debris due to gravity is **mass wasting**.
18. A **stalactite** forms when water drops from the roof of a cave and evaporates forming limestone deposits that grow downwards from the cave ceiling.
19. A key type of data collected to support "plate tectonic theory" is evidence from study of **paleomagnetism**.
20. The process in which the earth's surface is worn down by natural forces is called **denudation**.
21. The study of the earth's weather over a long period of time is called **climatology**.
22. The process by which Earth's atmosphere warms as gases trap solar energy is known as the **greenhouse** effect.
23. A strategy that seeks to reduce the amount of greenhouse gas emissions is called **mitigation**.

24. The United Nations Framework Convention on Climate Change (UNFCCC) highlights two fundamental responses which are **mitigation** and **adaptation**.
25. The natural phenomena on the earth is influenced mainly by three factors that are: **incoming solar radiation**, **atmospheric composition**, and **the Earth's surface**.
26. The Intergovernmental Panel on Climate Change (IPCC) was established by which two organizations? **WMO** and **UNEP**.
27. The theory that attributes climate change to the Earth's orbital variations is called the **Milankovitch theory/cycles**.
28. A 'Gorge' is typically formed in the **upper course** of a river.
29. A **spit** is a long and low narrow deposit of sand extending from land into the ocean.
30. According to Malthus, **checks** are the methods that keep population in balance with resources.
31. The theory that highlights the role of technology in increasing food production is known as **Boserup's Hypothesis**.
32. The term used for the removal of rock in solution by rainwater is **carbonation**.
33. A "horst" is a block mountain that is formed due to **faulting**.
34. The primary cause of climate change is considered to be a result of the increase in atmospheric **greenhouse gases**.
35. The 1997 international agreement on climate change that set binding emission targets is called the **Kyoto Protocol**.
36. The process of adjusting to the effects of climate change is known as **adaptation**.
37. The concept of 'sustainable development' is intended to balance what three areas? **economic**, **social** and **environmental**.
38. The type of erosion where water flows over a field and removes topsoil evenly is called **sheet** erosion.
39. The sudden shaking of the Earth caused by a release of energy from tectonic plates is called a/an **earthquake**.
40. A cone-shaped volcanic landform formed by alternating layers of lava and pyroclastics is called a **strato volcano**.
41. The earth layer under the lithosphere which allows the plates to move around is known as **asthenosphere**.
42. The process by which a glacier erodes rocks as it moves is known as glacial **erosion**.
43. The idea that the earth has a limited capacity to absorb human impacts and has specific "carrying capacity" relates to the notion of **sustainable development**.
44. The main cause of the great 'Spanish Flu' was related to the **avian** type of virus.

45. The two concepts that highlight the need to consider social equity in resource use are **environmental justice** and **environmental racism**.
46. The theory that explains that the cause of poverty is the unequal distribution of resources is **Marxian** perspective.
47. The main aim of 'pro-natalist' population policies is to **increase** birth rates.
48. The type of policy where people are made to pay tax based on the number of their children is referred to as **child tax**.
49. A "delta" is formed in what part of a river? **Mouth**.
50. A "stalagmite" is formed through deposition of limestone on a **floor** of the cave.
51. The large, dome-shaped igneous intrusion found deep in the crust is called a **batholith**.
52. A long, undersea mountain chain that is the site of plate divergence is called a/an **oceanic ridge**.
53. A primary goal of 'mitigation' is to reduce **greenhouse gas emissions**.
54. The concept of '____' is used to determine how much light is reflected by different surfaces. **albedo**
55. Which of the following best describes a 'stratovolcano'? It is characterized by having alternate layers of lava and pyroclastic material.
56. The process by which rocks are broken down by physical forces such as temperature change is called **mechanical weathering**.
57. The idea that different groups face unequal access to resources is known as **structural** scarcity.
58. The type of drought that is mainly related to lack of sufficient precipitation is called **meteorological** drought.
59. The theory that emphasizes that the cause of poverty is due to the unequal distribution of wealth and power by the rich is known as **Marxian** theory.
60. The most basic principle of good natural resource governance is the idea of **transparency** and **participation**.
61. The type of land degradation that is most common in arid and semi-arid regions and is the result of both natural and human actions is called **desertification**.
62. The IPCC assesses changes and risks related to **climate change**.
63. The 'Bonn Agreements' were developed during which major meeting? **COP 6**.
64. A scientific research paper, in general terms is considered a **formal and systematic way of presenting data or analyzing ideas**.
65. The two important elements of any research design are: **subject matter** and **methodology**.
66. When you want to compare a geographical features in different places, the best way to use is the **choropleth** method of map representation.

67. The type of data used in GIS to represent features like roads, rivers, and boundaries are **line**.
68. When we talk of the different levels of data measurement, they are four. What are they? **Nominal, ordinal, interval and ratio**.
69. A geographical analysis of a place involves both **spatial** and **temporal** dimensions.
70. The process of selecting data based on a location is termed as **spatial** query.
71. The main element that makes GIS different from that of a static map is that GIS is based on **Digital Data, Software, Hardware, People and Methods**.
72. The type of data that is collected by others for their own purposes, and you are only using that, is called **secondary** data.
73. The concept of “spatial interaction” is mainly applied in the field of **network** analysis.
74. To achieve "carbon neutrality", a country must balance their carbon emissions with their **carbon capture** or **carbon sequestration** mechanisms.
75. The first main international agreement that called countries to reduce carbon emissions was the **Kyoto** agreement.
76. The main issue discussed in the 'Bonn Agreements' was rules for accounting for emissions reductions from carbon **sinks**.
77. The term “**research methodology**” means the methods of conducting research in a systematic and scientific way.
78. What is the method used to find the shortest distance between two location in GIS called? **Path finding/ Routing**
79. The three essential elements of a “solar chimney” are: **glass roof collector, chimney** and **wind turbine**.
80. The area of the earth surface where life is found is known as **biosphere**.
81. The type of data that can be quantified is called **quantitative**.
82. The term for the natural or human-induced process where land loses its productivity is called **land degradation**.
83. The natural process of removing rocks in solution by acid rain is known as **carbonation**.
84. The idea of giving value to a given natural resource is often a function of: **availability, demand** and **perceived value**.
85. The practice of people moving to areas that they perceive are safer from any danger including that of environmental risks, is called **environmental migration**.
86. The scientific study that aims to define and describe the spatial distribution of features and phenomena on the earth's surface is called **geography**.
87. The process by which magma or molten material reaches the earth surface and cools off to make a new land form is called **volcanism**.

88. The sustainable livelihoods approach recognizes that communities use of their own _____, _____, and _____ that also have an impact on their surroundings. **Social Capital, Human Capital** and **Environmental capital**
89. The concept of "entitlement to food" refers to the mechanisms by which people access food irrespective of their **economic status**.
90. The type of rock formed from molten material that cools and hardens beneath the earth's surface is called **plutonic** igneous rock.
91. The process of a 'subduction' is a type of **convergent** plate movement.
92. A ' **dike**' is a vertical sheet like igneous rock formed inside the earth's crust.
93. The three main factors that are considered to be external to the earth and that affect its climate are: **Incoming solar radiation, Atmospheric composition** and **Earth surface conditions**.
94. The scientific measure of the degree of earth's wobble is called **precession**.
95. A type of data representation that is used for features that are continuous over an area is the **isarithmic** map.
96. The process of layering different maps one on top of another for complex spatial analysis is called **overlay** analysis.
97. The two main processes by which the surface of earth may be leveled by natural external forces are: **erosion** and **deposition**.
98. The system of beliefs, values, and practices developed by particular group of people in a particular area, is called **indigenous knowledge**.
99. In terms of climate change, what does 'mitigation' aim to address? **reducing greenhouse gas emissions**.
100. The concept that people need to change their lifestyle and consumption patterns in order to help the planet refers to what environmental thought? **light green environmentalism**.

Instructions: Match each term in Column A with the most appropriate description in Column B. Each item in Column B will only be used once.

Matching Questions (Units 1-4):

Column A (Terms)	Column B (Descriptions)
1. Lithosphere	a) The process of the upper mantle melting and reaching earth surface
2. Asthenosphere	b) The process of an increasing in the number of people in a given area.
3. Subduction	c) A process of making a system resilient to changes.
4. Continental Drift	d) A process where surface water runoff cuts small channels in soil.
5. Milankovitch Cycles	e) The sudden shaking of the earth caused by a shifting in rock masses underground
6. Greenhouse Gases	f) The outer rigid layer of the earth, including the crust and upper mantle
7. Climate Change	g) The idea of a single landmass before the continents broke apart
8. Mitigation	h) Gases that trap heat in the Earth's atmosphere, e.g. carbon dioxide.
9. Adaptation	i) A measure of a system's level of vulnerability or capability to cope with change.
10. Plate Boundary	j) An area where tectonic plates interact.
11. Fossil Fuels	k) A type of population policy designed to increase birth rates
12. Volcanism	l) Fuels formed from decayed organisms buried under the earth

13. Erosion	m) A method of measuring the intensity of an earthquake.
14. Folding	n) A scientific approach that utilizes both qualitative and quantitative methods
15. Relative poverty	o) The process of sediments being carried from their place of formation
16. Absolute poverty	p) A period of low rainfall compared to a given average.
17. Standardized Precipitation Index	q) A situation where people lack access to basic necessities.
18. Per capita income	r) A process by which rock layers are pushed sideways.
19. Pro-natalist policy	s) A tool used to analyze the past climate
20. Interdisciplinary approach	t) The average income earned per person in a defined area for a given time
21. Population Policy	u) a layer of earth that acts as a soft layer for the movement of tectonic plates.
22. Mass wasting	v) The idea that human activities are the main causes for the recent climate change.
23. Gully erosion	w) A plan by a government to manage and regulate their population.
24. Climate Change Adaptation	x) When households receive less than the average income but are still above

	the poverty line.
25. The Richter Scale	y) The process of a system adjusting to climate change impact
26. Carbon Cycle	z) A mechanism that is mainly responsible for redistribution of carbon on earth
27. Structural scarcity	aa) It shows long-term changes in earth's orientation and tilt that affect the distribution of solar radiation.
28. Human-induced Climate Change	bb) A type of scarcity which is the result of systematic inequalities that limit access to resources to a group of people.
29. Mixed methods research	cc) A process that is mainly driven by gravity.
30. Meteorological Drought	dd) A method of finding a standardized way of measuring drought on a given region

Answer Key: (Do not show to the students until after they have attempted to answer!)

1-f, 2-u, 3-a, 4-g, 5-aa, 6-h, 7-v, 8-b, 9-y, 10-j, 11-l, 12-k, 13-o, 14-r, 15-x, 16-q, 17-dd, 18-t, 19-k, 20-s, 21-w, 22-cc, 23-d, 24-y, 25-m, 26-z, 27-bb, 28-v, 29-n, 30-p

Instructions: Choose the BEST answer from the given alternatives for each question.

Multiple Choice Questions (Units 1-4 - Expanded Set):

1. Which of the following best describes the location of most transform fault boundaries?

- a) Along mid-ocean ridges
 - b) At subduction zones
 - c) In the center of continents
 - d) At convergent plate boundaries
2. If you are on a landform that is a flat-topped hill or mountain, with steep sides, what geological feature is most likely to be the correct identification of such?
- a) A shield volcano
 - b) A rift valley
 - c) A Block Mountain
 - d) A Plateau
3. What does the term 'anthropogenic' mean in the context of climate change?
- a) Related to natural processes
 - b) Caused by human activities
 - c) Resulting from volcanic eruptions
 - d) Due to changes in the Earth's orbit
4. Which of these methods for population control is most commonly adopted in many parts of the developing world?
- a) Promoting late marriages
 - b) Access to contraceptives
 - c) One-child policies
 - d) Child taxation
5. Which of these is considered a primary example of 'cultural' heritage?
- a) Financial infrastructure
 - b) The laws and rules of a nation
 - c) Human traditions and beliefs
 - d) Modern technologies and infrastructure
6. What is 'interglacial period' in the Milankovitch theory?
- a) A time when earth was completely covered with ice.
 - b) A time between ice ages with warmer temperatures
 - c) The transition period between ice age to warmer state.
 - d) A time when the Earth's orbit changed.
7. What is the primary role of the asthenosphere in plate tectonics?
- a) To provide a rigid layer for the plates to move on
 - b) To cause magma to rise to the surface
 - c) To enable the lithospheric plates to slide over it
 - d) To act as a thermal shield for the earth's crust.
8. Which type of plate boundary is most associated with the formation of volcanic island arcs?
- a) Transform
 - b) Divergent

- c) Continental-continental convergent
 - d) Oceanic-oceanic convergent
9. Which of the following does NOT explain why 'natural resources' can be a source of conflict?
- a) Unequal distribution of resources
 - b) Poor governance
 - c) Local traditions in resource utilization.
 - d) Transboundary resource dynamics
10. The 'Richter Scale' is a common method of measuring:
- a) The magnitude of a volcano
 - b) The amount of rainfall
 - c) The intensity of an earthquake
 - d) The speed of the tectonic plate
11. Which of the following would you expect to find at a 'divergent' plate boundary?
- a) Subduction zones and trenches
 - b) Fold mountains and large faults
 - c) Oceanic ridges and new crust formation
 - d) Violent earthquakes and composite volcanoes
12. If 'plate tectonics' is considered as an essential piece of information to understand the earth science, what is the basis for this claim?
- a) It explained the past and present geography of the earth.
 - b) It is based on a new finding about the structure of earth
 - c) It is an extension of the theory of continental drift
 - d) It made continental drift very complex to understand
13. Which of the following best describe "global warming"?
- a) A gradual change in the weather conditions
 - b) A phenomenon that causes climate change by increasing the earth's average temperature.
 - c) The slow melting of glaciers.
 - d) The increase in humidity in certain area.
14. What is the process of 'exfoliation' most closely linked to?
- a) Pressure exerted by rock layers
 - b) The dissolving action of acids
 - c) The physical breakdown of rocks due to temperature changes
 - d) The transport of loose materials by wind action
15. What was the main purpose of setting targets for developed countries to reduce their carbon emissions in the Kyoto protocol?
- a) To benefit developing countries only.
 - b) To create more jobs for developing countries.

- c) Because these are the historical major emitters.
 - d) To make developing countries bear all the cost of mitigation.
16. Which aspect of sustainable development mainly focuses on creating equal access to resources for all communities?
- a) Environmental sustainability
 - b) Social sustainability
 - c) Economic sustainability
 - d) Political sustainability
17. Which processes is described as a force that is mainly responsible for a "V" shaped valleys to appear in a landscape?
- a) Volcanism
 - b) Folding
 - c) Erosion
 - d) Faulting
18. Which of the following feature is formed by the sliding of two plates along a major fault?
- a) Rift valley
 - b) Volcanic islands
 - c) Mid-Ocean Ridge
 - d) Transform fault
19. Which of the following is an example of a 'reactive adaptation' strategy related to climate change?
- a) Planning for drought management techniques in a region.
 - b) Development of new crops with better water management
 - c) Relocating a community after severe flooding
 - d) Implementation of new energy efficient technologies.
20. What mainly causes limestone landforms such as caves and sinkholes?
- a) Chemical weathering of rock by acidic water
 - b) Erosion of rock from wind and ice
 - c) Mechanical forces of folding and faulting
 - d) Volcanic activity under a water body
21. Which term is used for a time in Earth's history when it experiences relatively colder temperatures?
- a) Interglacial period
 - b) An ice age
 - c) Global warming
 - d) A solar storm
22. What did the Marrakesh Accords mainly deal with?
- a) Financial and technological support for the developing world
 - b) The rules for implementing the Kyoto Protocol

- c) The issue of adaptation to climate change
 - d) The methodology for measuring global carbon emissions
23. Which view of population mainly believe that "poverty is the cause of overpopulation?
- a) The Malthusian Perspective
 - b) The Neo-Malthusian Perspective
 - c) Boserup's Hypothesis
 - d) The Simon's perspective
24. Which of the following is an outcome of natural resource scarcity?
- a) Economic boom
 - b) Social conflicts and tension
 - c) Increased cooperation
 - d) Improvement in social relations
25. Which of the following is NOT a type of mechanical weathering?
- a) Exfoliation
 - b) Frost action
 - c) Hydrolysis
 - d) Salt weathering
26. Which term refers to the process of combining economic, social, and environmental concerns?
- a) Profit maximization
 - b) Resource exploitation
 - c) Sustainable development
 - d) Environmental destruction
27. The primary cause for most earthquakes around the world are due to
- a) Volcanic eruptions
 - b) The sudden release of energy along fault lines.
 - c) Convection current
 - d) Human activities.
28. Where is the majority of volcanic activity is found on the Earth?
- a) Along transform plate boundaries
 - b) Along divergent plate boundaries.
 - c) Along the mid-oceanic ridges and subduction zones
 - d) At the center of the continents.
29. What is the general effect of 'aerosols' on the earth's atmosphere?
- a) They contribute for more heat
 - b) They increase the amount of oxygen
 - c) They lead to reduced rainfall
 - d) They reflect solar radiation and cause cooling

30. Which one is NOT among the natural causes for chemical weathering?
- a) Plant respiration
 - b) Acid rain
 - c) Oxidation
 - d) Hydrolysis
31. If you are interested to study climate in a specific place, what do you need to do?
- a) Observe the weather in that place for few weeks
 - b) Observe the weather in that place for a full year
 - c) Examine the short-term weather events
 - d) Examine the long-term patterns of weather conditions
32. According to the Kyoto protocol, which one is most important?
- a) That all countries should commit to reduce emission
 - b) That the developed countries should take the primary lead
 - c) That developing countries should improve their industries
 - d) That there should be more scientific research
33. Which term is used to describe a situation when surface water cuts deeper channels in the soil?
- a) Sheet erosion
 - b) Rill erosion
 - c) Gully erosion
 - d) Splash erosion
34. What mainly influences the amount of radiation that the Earth receives from the sun?
- a) Ocean currents
 - b) Changes in Earth's orbit
 - c) Volcanic eruptions
 - d) Greenhouse gas emissions
35. The Himalayan mountain range is the result of what type of plate interaction?
- a) Oceanic and continental convergence
 - b) Continental and continental divergence
 - c) Oceanic-oceanic divergence
 - d) Continental-continental convergence
36. What main function is achieved through 'data generalization' in GIS map production?
- a) Presenting all details
 - b) To make the map visually appealing
 - c) To emphasize important information and remove unwanted details
 - d) To create a three-dimensional map

37. What does the term “family planning” refer to?
- a) A specific family size that must be maintained
 - b) A strategy that helps to control birth rate in certain region
 - c) A way to control the spread of diseases
 - d) The ability of people to choose how many children to have, and when
38. Which one of the following is the main characteristics of “food security”?
- a) To produce enough food for a given country
 - b) To ensure everyone has access to adequate food.
 - c) To create a sustainable food production
 - d) To maintain food for emergencies
39. A long, narrow, often curved, body of water that is formed by the sea water between coastlines and low sand banks is known as a _____
- a) Delta
 - b) Spit
 - c) Lagoon
 - d) Gorge
40. Which of the following statements is most true about the formation of ‘Calderas’?
- a) They are conical hills formed from successive lava flows.
 - b) They are small craters formed on top of volcanoes.
 - c) They are large depressions formed by the collapse of a magma chamber.
 - d) They are areas of land formed by fissure eruptions.
41. The atmospheric layer which is considered as having the ozone layer is the:
- a) Troposphere
 - b) Mesosphere
 - c) Stratosphere
 - d) Thermosphere
42. Which process, if the tension and the compression is high, is likely to create fractures along rock layers?
- a) folding
 - b) Faulting
 - c) Weathering
 - d) Volcanism
43. What is the main characteristic of a 'structural drought'?
- a) A natural phenomenon where rainfall decreases over a long period.
 - b) It is when there is less water supply to all groups in society due to poor water management.
 - c) When resources are unfairly distributed or made inaccessible to certain groups of people
 - d) When water resources are used up due to overuse.

44. What is the most important principle of environmental protection when considering a 'common good'?
- a) To protect the environment by all the possible means without considering economic progress.
 - b) To provide financial incentives for the people who practice conservation
 - c) To ensure public participation and equitable access to resources.
 - d) To have more government control over the natural resources
45. What was the main goal of creating “Agenda 21” document?
- a) To create awareness about climate change
 - b) To ensure the sustainable development for future generations.
 - c) To create peace among the countries of the world.
 - d) To provide more food resources in the world.
46. What do we call the long term migration patterns that have a large scale impact on a region's population?
- a) Intermittent migrations
 - b) Seasonal migration
 - c) Transhumance
 - d) Demographic transition
47. Which of these do you consider a key aspect of the 'Neo-Malthusian' perspective on population growth?
- a) That human ingenuity will always solve the problem of food production
 - b) That poverty is not a result of overpopulation.
 - c) That the poor should be persuaded to have less children
 - d) That technology is the only answer for resource limitation
48. What is the main difference between a 'famine' and 'hunger'?
- a) Both of these terms mean the same thing and they can be used interchangeably.
 - b) Famine is usually the sudden result of conflict or natural disasters, hunger is a persistent condition.
 - c) Famine is only related to natural conditions, while hunger is caused by political issues.
 - d) Famine is the consequence of lack of availability of food while hunger is about the individual's capacity to access food.
49. What does “spatial query” mainly aim at?
- a) Selecting information based on spatial relationships
 - b) Selecting information by asking logical questions
 - c) Combining two different data layers.
 - d) Finding the best route to move from one point to another.
50. What is “tacit knowledge” and why is it useful in resource management?
- a) It refers to scientific information

- b) It is a theoretical approach towards data analysis
 - c) It is based on traditional beliefs and practices related to specific regions
 - d) It is a practical information that's derived from personal experiences
51. Why does the "Green House effect" cause a problem to the earth's atmosphere?
- a) Because it increases the amount of carbon in the air
 - b) Because it prevents the reflection of sunlight
 - c) It creates a blanket that traps heat and leads to increased temperature
 - d) It causes a sudden shift in climatic zones.
52. What type of rock formation is most likely to create underground water storage spaces?
- a) Granite
 - b) Basalt
 - c) Limestone
 - d) Sandstone
53. What do we mean by 'transboundary resources'?
- a) Resources that are abundant in a given country
 - b) Resources only found under the earth surface.
 - c) Resources that are used only by international actors.
 - d) Resources that cross international borders.
54. Which type of migration is mainly driven by the sudden need to escape an area due to environmental change?
- a) Chain migration
 - b) Rural to urban migration
 - c) Forced migration
 - d) Planned migration
55. Which of the following concepts are key ideas to understand "mass wasting" process?
- a) Wind action, temperature and chemical changes
 - b) Tectonic plates movement
 - c) Erosion and weathering
 - d) Gravity and downward movement
56. Which of the following factors does NOT typically influence local climate?
- a) Ocean currents
 - b) Altitude
 - c) Latitude
 - d) The earth's magnetic field
57. The "Standardized Precipitation Index" (SPI) is a method for measuring?
- a) Temperature variation
 - b) Drought intensity

- c) Wind speed
- d) Topography of a given area

58. What would be the BEST example of a 'mitigation' action in the energy sector?

- a) Building more dams
- b) Increased use of fossil fuels
- c) Implementing energy efficient technologies
- d) Increasing the number of nuclear power plants.

59. Which of the following is a key goal of "environmental education"?

- a) To promote specific technologies and methods
- b) To encourage action and critical thinking
- c) To limit the use of natural resources
- d) To provide an information set for all the problems faced by the environment

60. What does 'per capita income' measures?

- a) Total income of a country
- b) Average income per person
- c) Total export from a country
- d) Total income of the government

61. What does a high number on the Gini coefficient suggest about income distribution?

- a) Income is distributed equally.
- b) Income is concentrated in the hands of the few
- c) Income is shared equally within a group.
- d) The Gini coefficient has no relation to income distribution

62. Why is 'land use change' considered as important when studying climate change?

- a) Because changes in land use do not affect the climate
- b) Because it increases the amount of carbon sequestration
- c) Because the deforestation reduces the carbon absorption
- d) Because the type of vegetation has no relation to climate change.

63. What happens when two oceanic plates converge?

- a) They create mountain ranges.
- b) They cause major earthquakes.
- c) They form volcanic island arcs.
- d) They create transform faults

64. Which of the following processes is MOST directly related to the formation of a 'rift valley'?

- a) Folding of the crust
- b) Erosion by wind
- c) Extension of the crust due to tension
- d) Subduction of one plate under another

65. Which of the following process is NOT related to the formation of "shield volcano"?
- a) Fluid lava flow.
 - b) Viscous lava flow.
 - c) Broad gentle slope formation
 - d) Low level of silica in the lava.
66. Which concept highlights the need to consider the future generations in planning for the use of natural resources?
- a) Social justice
 - b) Environmental ethics
 - c) Intergenerational equity
 - d) Environmental racism
67. What is the difference between "precession" and "obliquity" in the Milankovitch theory?
- a) Both are related to the shape of the earth orbit
 - b) Precession is the wobble while obliquity is the tilt of the earth
 - c) Obliquity is the wobble while precession is related to the tilt
 - d) Both are related to the speed of earth's movement around the sun
68. A town is built in a place where the temperature is quite high during the day. What kind of action does most influence the town's climate?
- a) The level of humidity in the air
 - b) The nature of the rocks
 - c) The type of construction material used
 - d) The geographical latitude
69. What is a major limitation with Malthus's perspective on population?
- a) His belief in the power of technological advances.
 - b) His over reliance on government intervention
 - c) That he ignored the role of technological advancement.
 - d) That he provided a method for calculating poverty rate.
70. A community in a region has a long history of using a specific type of forest for traditional practices such as medicine. What type of resources are they using?
- a) Modern resources
 - b) Renewable resources
 - c) Non-renewable resources
 - d) Natural resources
71. What is the main characteristic of an "overtaken fold"?
- a) One side is steeper than the other side
 - b) The limbs are completely flipped over one another.
 - c) One of the limbs is pushed over the other limb.
 - d) It has a symmetrical structure.

72. The most important reason for studying "oceanography" in the context of climate change is?
- a) To study the impact of waves on coast line.
 - b) To show the biological diversity of the ocean.
 - c) To understand the ocean's role in regulating the global climate
 - d) To measure the amount of pollution affecting the sea.
73. Which among these is NOT among the most commonly used measures for drought?
- a) Palmer Drought Severity Index
 - b) Satellite Vegetative Health Index
 - c) Crop Moisture Index
 - d) The Richter Scale
74. What does "structural scarcity" emphasize as a cause of resource conflicts?
- a) Environmental degradation due to overuse
 - b) Natural limitation of resources
 - c) Unequal distribution and access to resources
 - d) Population expansion
75. Which type of spatial analysis is most useful for finding out what types of soil is located around a certain river?
- a) Network analysis
 - b) Overlay analysis
 - c) Proximity analysis
 - d) Distance analysis
76. Which is a typical practice in a place where a "non-point source" water pollution is found?
- a) Building large industrial water treatment plants
 - b) Controlling all the sewage lines that drain into the area
 - c) Treating all the water that flows through farmlands and urban areas.
 - d) Building high dam to control the level of pollutants
77. According to Simon, what is the main solution for a shortage of resources?
- a) Limiting population growth.
 - b) Developing technologies to exploit more resources
 - c) To look for more sources of resources.
 - d) To control the market forces.
78. What type of information does a "choropleth" map use?
- a) Numerical data grouped into different categories
 - b) Qualitative data only from interviews
 - c) Information related to specific points
 - d) Data presented in a continuous variable format

79. Which type of map will you use to show elevation differences in a mountain?
- a) Choropleth map
 - b) Dot map
 - c) Isarithmic map
 - d) Flow map
80. What type of data is a photo of a community you took with your mobile phone for your research work?
- a) Secondary data
 - b) Primary data
 - c) Qualitative data
 - d) Quantitative data
81. What does "deforestation" directly contribute to climate change?
- a) It releases stored carbon dioxide in the atmosphere
 - b) It cools the earth because of lack of canopy shade
 - c) It increases the rainfall pattern and lowers the temperature
 - d) It results in increased carbon sequestration
82. Which statement best reflects 'environmental ethics'?
- a) Resources are meant only to benefit human beings.
 - b) All organisms have the right to exist and humans have a responsibility to protect them.
 - c) Technology will solve all environmental problems.
 - d) The environment should be managed solely for human benefit.
83. A river flows from the Ethiopian high lands to the eastern lowlands. What would you call that type of river with respect to water flow?
- a) A permanent river
 - b) A seasonal river
 - c) A trans boundary river
 - d) A low land river
84. The theory of 'plate tectonics' is mainly based on the idea that
- a) Continents are moving on the earth crust
 - b) Earth crust is divided into several plates which moves
 - c) Continents are fixed on their place
 - d) Convection currents are mainly the driving forces
85. What is the primary feature of 'shield volcanoes'?
- a) They have violent eruptions.
 - b) They are often made of cinder sized materials.
 - c) They usually are built up by successive lava flows that slowly flows on to the earth surface
 - d) They often create deep and highly visible calderas

86. What does the term “aridity” refer to?
- a) The temperature of an area
 - b) The dryness of a region
 - c) The level of vegetation
 - d) The level of pollution
87. What do 'pro-natalist' population policies mainly aim at?
- a) limiting family sizes
 - b) promoting access to birth control
 - c) increasing birth rates
 - d) promoting abortions
88. Which of the following is NOT part of “sustainable livelihood” approach?
- a) The need to look at assets, coping mechanisms and institutions
 - b) Focusing mainly on improving material wealth
 - c) The need to understand how the changes impact people’s lives
 - d) Focusing on reducing vulnerability and increasing resilience.
89. Which one of the following do you consider as a main difference between 'migration' and 'relocation'?
- a) Migration is a voluntary movement while relocation is often involuntary.
 - b) Relocation only happens between different countries
 - c) Migration is a permanent movement while relocation is temporary
 - d) Relocation is only for economic purpose while migration is for all reasons.
90. What is the main purpose of a “literature review” in the preparation of a research work?
- a) It helps to present the final data obtained from the field
 - b) To develop research questions and objectives
 - c) It is for the readers to make sure that the researcher is well read
 - d) To show how the research fits within existing scientific discussions.
91. What type of data is used by the method of a 'standardized precipitation index'?
- a) Temperatures
 - b) Humidity
 - c) Rainfall patterns
 - d) Vegetation cover.
92. Which one is a major disadvantage of using 'equal interval' technique for mapping data?
- a) It does not distribute data evenly in a given area
 - b) It is not usually accurate in representing data with high degree of fluctuation.
 - c) It requires highly sophisticated computer software.
 - d) It is easy to understand and make interpretations.

93. What do we understand by a 'trans-boundary' natural resource?
- a) A natural resource only found in a specific area
 - b) A natural resource found in different places of a region
 - c) A natural resource that crosses national borders
 - d) A resource that is controlled by a specific community.
94. The type of corruption that occurs when there is a preferential treatment of firms by a public official is termed as _____?
- a) Bribery
 - b) Patronage
 - c) Petty Corruption
 - d) Grand Corruption.
95. What is a central concept in Simon's view of population and resources?
- a) Population growth always results in famine.
 - b) People are a resource that lead to innovation
 - c) The world's resources are limited and population should be controlled
 - d) Technological advancements can solve resource challenges.
96. Which concept is key to understanding how "climate change" affects the human body?
- a) The idea that human are adapted to the current weather conditions
 - b) The relationship between atmospheric condition and human diseases
 - c) The idea that only vulnerable population are affected by this.
 - d) The understanding of long term change in climate condition.
97. What does "transpiration" mean when mentioned in relation to water cycle?
- a) A process of water falling from atmosphere to the surface
 - b) The loss of water from plant leaves.
 - c) The movement of water in the rivers.
 - d) The infiltration of water in the ground.
98. The theory of plate tectonics best explains which of the following natural phenomena?
- a) Solar radiation intensity
 - b) Global distribution of temperature
 - c) Continental movement and earthquake occurrences
 - d) Regional climate patterns
99. Which one is the most comprehensive and reliable for long-term drought monitoring?
- a) Crop Moisture Index (CMI)
 - b) Palmer Drought Severity Index (PDSI)
 - c) Standardized Precipitation Index (SPI)
 - d) Satellite Vegetation Health Index (VHI)

100. Which of the following best describes a 'cinder cone' volcano?

- a) A broad volcanic mountain with gentle slopes.
- b) A highly explosive volcano with steep slopes.
- c) A small cone-shaped hill of volcanic ash and rock fragments.
- d) A large depression with hot springs and geysers.

Good Luck !